

Northern Inactive Waste Site Remediation Project

Phillips 66 Santa Maria Refinery

Biological Resources Technical Report



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Sign-off Sheet

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Executive Summary

The Northern Inactive Waste Site (NIWS) operated at the Phillips 66 (formerly Unocal) Santa Maria Refinery (SMR) from approximately 1955 to 1974 and was reportedly used for the disposal of refinery byproducts and domestic waste, including petroleum hydrocarbons and potential asbestos containing materials. In support of the closure and remediation of the NIWS, Stantec has submitted a Conceptual Closure Plan (CCP) to the Regional Water Control Board (RWQCB) to remediate the site that, among other actions, recommends the excavation of impacted soils to depths ranging from 3 to 10 feet below ground surface as required to meet the proposed soil cleanup goals.

To assess the potential impacts to biological resources resulting from the NIWS Remediation Project (Project) in support of the regulatory permitting process, Stantec biologists investigated the environmental conditions within the NIWS and surrounding areas to characterize the resources observed or potentially occurring in areas that may be affected by the Project. The investigation included a search of available literature and database resources and reconnaissance-level surveys within the NIWS and a surrounding 300-foot buffer, known as the Biological Survey Area (BSA), on 12 July 2019 and 12 September 2019. The field surveys were conducted on foot within the BSA and included vegetation community classification and mapping; and non-protocol surveys for special-status plants, wildlife, and nesting or otherwise listed birds.

Based on the results of the field investigation, the BSA supports one native plant community, Silver dune lupine – mock heather scrub, considered as a sensitive community by the California Department of Fish and Wildlife (CDFW). The Project is expected to temporarily impact approximately 1.53 acres of land within the BSA, including approximately 1.38 acres of disturbed silver dune lupine – mock heather scrub (Lupinus chamissonis - Ericameria ericoides Shrubland Alliance, Ericameria ericoides Association), and 0.15 acre of Disturbed/developed land.

No designated critical habitat occurs within the BSA; however, critical habitat for La Graciosa thistle (*Cirsium scariosum* var. *Ioncholepis*), with a California Rare Plant Rank of 1B.1, has been designated approximately 500 feet to the west of the BSA and multiple occurrences of this species have been noted in the region, the nearest being approximately 3,000 feet from the BSA. The marsh/dune wetland habitat for this species is not present within the BSA but may be in adjacent areas. Based on the definition outlined in the Coastal Act, there are no Environmentally Sensitive Habitat Areas present within the BSA and no defined wildlife corridors have been identified in the vicinity.

Although a formal delineation was not conducted, no potentially jurisdictional features were observed during the surveys, nor were any hydric soils expected to occur based on database research.

The following special-status animal and plant species, respectively, are known to occur within the BSA based on available data and the field investigations:

- Blainville's horned lizard (Phrynosoma blainvillii) CDFW Species of Special Concern (SSC)
- Nipomo Mesa lupine (Lupinus nipomensis) State and federally listed as Endangered
- Sand almond (Prunus fasciculata var. punctata) California Rare Plant Rank 4 species.

In addition, the following special status plants and animals have a moderate to high potential to occur within the BSA based on the database research and habitat conditions observed:



Scientific Name	Common Name
Plants	·
Ceanothus impressus var. nipomensis	Nipomo Mesa ceanothus
Chenopodium littoreum	coastal goosefoot
Cirsium rhothophilum	surf thistle
Cirsium scariosum var. loncholepis	La Graciosa thistle
Delphinium parryi ssp. blochmaniae	dune larkspur
Dithyrea maritima	beach spectaclepod
Erigeron blochmaniae	Blockman's leafy daisy
Monardella undulata ssp. crispa	crisp mondardella
Monardella undulata ssp. undulata	San Luis Obispo monardella
Nemacaulis denudata var. denudata	coast wooly-heads
Scrophularia atrata	black-flowered figwort
Wildife	
Plebejus icarioides moroensis	Morro bay blue butterfly
Anniella pulchra	Northern California legless lizard
Athene cunicularia	Burrowing owl
Falco peregrinus anatum (foraging)	American peregrine falcon
Taxidea taxus	American badger



Abbreviations

ACM asbestos containing materials

BSA Biological Study Area

BGS below ground surface

CCH Consortium of California Herbaria

CCP Conceptual Closure Plan

CDFG California Department of Fish and Game

CDFW California Department of Fish and Wildlife

CEQA California Environmental Quality Act

CNDDB California Natural Diversity Database

CNPS California Native Plant Society

CRPR California Rare Plant Rank

CWA Clean Water Act

ESA Endangered Species Act

GPS Global Positioning System

Hr hour

km kilometer

MBTA Migratory Bird Treaty Act

NEPA National Environmental Policy Act

NIWS Northern Inactive Waste Site

NPPA Native Plant Protection Act

NRCS Natural Resources Conservation Service

Project Northern Inactive Waste Site Remediation Project



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RWQCB Regional Water Quality Control Board

SMR Santa Maria Refinery

USACE United States Army Corps of Engineers

USFWS U.S. Fish & Wildlife Service

USGS U.S. Geological Survey

WDR Waste Discharge Requirements



1.0 INTRODUCTION

This report is intended to document the biological resources that are associated with the Northern Inactive Waste Site (NIWS) Remediation Project (Project) at the Phillips 66 Santa Maria Refinery (SMR) in Arroyo Grande, CA (refer to Appendix A, Figure 1). The surveys and discussions presented in this report were conducted/prepared to support regulatory agency permitting and California Environmental Quality Act (CEQA) documentation. Surveys were conducted within the Project site as well as a 300-foot buffer (Biological Survey Area or BSA); refer to Appendix A, Figure 1 for a depiction of the location of the BSA.

1.1 PURPOSE OF THE REPORT

The goals of this report are to document the current environmental conditions that occur within and adjacent to the BSA, which include areas within the Project site and a 300-foot survey buffer. This report describes existing biological resources that occur within or adjacent to the BSA (with special emphasis on special-status plant and wildlife species, wildlife corridors, and special-status/sensitive natural communities), and evaluates the potential for these species to occur within the BSA.

1.2 PROJECT DESCRIPTION

Stantec has conducted site assessment activities to support the preparation and submittal of a Conceptual Closure Plan (CCP) for the NIWS. The purpose of the site assessment activities was to define the extent of petroleum hydrocarbons and asbestos containing materials (ACM) impacts to the soil. The SMR was owned and operated by Unocal from 1955 to 1997. According to Unocal personnel, the NIWS was constructed and used from approximately 1955 to 1974. The NIWS is located within the SMR, in a topographic low spot between two sand dunes near the entrance of the facility. Although records of NIWS operations are not available, the NIWS was reported to potentially contain refinery trash, nonhazardous debris, slop oil emulsion, API separator sludge, ACM, and domestic waste from local residents.

For the purposes of the CCP, three remedial alternatives were considered to obtain closure for the NIWS including No Further Action, Soil Containment/Capping In Place, and Soil Excavation/Off-Site Disposal. Stantec has recommended excavation of impacted soils as the preferred remedial action based on an evaluation of these alternatives. Soil remedial excavation will extend to depths ranging from approximately 3 to 10 feet below ground surface (bgs) to meet the proposed soil cleanup goals. Construction activities will be limited to the NIWS footprint and the existing asphalt/dirt access road. Excavation activities are proposed to start in the Third Quarter of 2020 for a duration of approximately two months. Waste management includes transportation by rail and disposal at an out-of-state facility.

2.0 METHODOLOGIES

Stantec biologists conducted two habitat assessments and biological resource surveys within the BSA on 12 July 2019 and 12 September 2019. A preliminary literature review of readily available resources was conducted prior to each



survey. The field investigations included reconnaissance-level surveys, non-protocol surveys to detect the presence of special-status plant and wildlife species, and non-protocol avian surveys to detect the presence of listed birds. Surveys were conducted on foot within the BSA, where accessible based on terrain and vegetative cover.

Survey Date/Time	Biologist	Weather
12 July 2019, 0730 – 1200	Bret Reiman, Staff Biologist	57 - 70 °F, Clear/Light Wind
12 September 2019, 0800 – 1100	Jared Varonin, Principal Biologist	61 – 80 °F, Clear/Light Wind

2.1 LITERATURE REVIEW

A literature search focused on the BSA was conducted prior to the field surveys. The BSA is located within the U.S. Geological Survey's (USGS) Oceano, California, 7.5-minute topographic quadrangle. Queries of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was conducted for this quadrangle to determine special-status plants, wildlife, and vegetation communities that have been documented in the vicinity of the Project Area (CDFW, 2019a). The following eight adjacent quadrangles were also included in the database search to encompass potential occurrences of special-status species in the region surrounding the BSA:

- Pismo Beach
- Arroyo Grande NE
- Tar Spring Ridge
- Nipomo

- Santa Maria
- Guadalupe
- Point Sal
- Oceano OE W

Additional data regarding the potential occurrence of special-status species and policies relating to these special-status natural resources were gathered from the following sources:

- State and federally listed endangered and threatened animals of California (CDFW, 2019b);
- Special Animals List (CDFW, 2019c);
- Inventory of Rare and Endangered Vascular Plants of California (California Native Plant Society [CNPS], 2019); and
- Consortium of California Herbaria (CCH, 2019).

2.2 BIOLOGICAL SURVEYS AND HABITAT ASSESSMENTS

2.2.1 Site Reconnaissance and Wildlife Surveys

To document the existing biological resources that are present within and adjacent to the BSA, on 12 July 2019 and 12 September 2019, Stantec conducted a habitat assessment and reconnaissance-level survey, focused non-protocol surveys for special-status plant and wildlife species, and an evaluation of potentially jurisdictional aquatic resources. The primary goals of the reconnaissance survey were to identify and assess habitat that may be capable of supporting special-status wildlife species and to document the presence/absence of special-status biological resources.

The BSA was investigated on foot by experienced field biologists. Biologists conducted the survey by walking meandering transects through the entirety of the BSA at an average pace of approximately 1.5 km/hr while visually searching for and listening to wildlife songs, calls, or other signs. The walking survey was halted approximately every



50 meters to listen for wildlife or as necessary to identify, record, or enumerate any other detected species. Terrestrial insects and other invertebrates were searched for on flowers and leaves, under loose bark, and under stones and logs on the ground throughout the BSA. Randomly selected areas within appropriate micro habitats (e.g., leaf litter, woody debris piles, etc.) were hand raked or visually inspected to determine the presence/absence of gastropods, reptiles, small mammals, and amphibians. Species present were identified and recorded through direct visual observation, sound, or their sign (e.g., scat, tracks, etc.) and all potential refugia sites search were returned to their original state upon completion of inspection. Species identifications conform to the most up-to-date field guides and technical literature.

To the extent possible, surveys were conducted during a season and time of day when migratory birds were expected to be present, resident bird species were nesting and fledging, small mammals were active and detectable visually or by sign, and above-ground amphibian and reptile movement would generally be detectable. However, it should be noted that some wildlife species and/or individuals may have been difficult to detect due to their elusive nature, cryptic morphology, or nocturnal behavior. Surveys were conducted during daylight hours when temperatures were such that reptiles and other wildlife would be active (i.e., between 75-95° Fahrenheit).

All plant species identified during the surveys are listed in Table 2 in Section 4.2.2 and a list of special-status plant species that have the potential to occur in each region (based on the database queries) is presented in Table 5 in Section 5.4. A list of wildlife observed is presented in Table 3 in Section 4.3 and a list of special-status wildlife species that have the potential to occur in the region (based on the database queries) is presented in Table 6 in Section 5.5.

2.2.2 Vegetation Mapping

Vegetation descriptions and names are based on Sawyer et al. (2009) and have been defined at least to the alliance level. Vegetation maps were prepared by recording tentative vegetation type boundaries over recent aerial photograph base maps using the Esri® Collector for ArcGIS app on an Apple® iPad® coupled with a Bad Elf® GNSS Surveyor sub-meter external global positioning system (GPS) unit. Mapping was further refined in the office using ArcGIS (version 10.4) with aerial photograph base maps with an accuracy of one foot. Most boundaries shown on the maps are accurate within approximately three feet; however, boundaries between some vegetation types are less precise due to difficulties interpreting aerial imagery and accessing stands of vegetation. Vegetation communities are discussed further in Section 4.2 and are depicted in Figure 2 in Appendix A.

Vegetation communities can overlap in many characteristics and over time may shift from one community type to another. Note also that all vegetation maps and descriptions are subject to variability for the following reasons:

- In some cases, vegetation boundaries result from distinct events, such as wildfire or flooding, but vegetation types usually tend to intergrade on the landscape, without precise boundaries between them. Even distinct boundaries caused by fire or flood can be disguised after years of post-disturbance succession. Mapped boundaries represent best professional judgment, but usually should not be interpreted as literal delineations between sharply defined vegetation types.
- Natural vegetation tends to exist in generally recognizable types, but also may vary over time and geographic
 region. Written descriptions cannot reflect all local or regional variation. Many (perhaps most) stands of natural
 vegetation do not strictly fit into any named type. Therefore, a mapped unit is given the best name available



in the classification system being used, but this name does not imply that the vegetation unambiguously matches written descriptions.

Vegetation tends to be patchy. Small patches of one named type are often included within larger stands
mapped as units of another type. For this Study Area, the minimum mapping unit was approximately three
feet.

2.2.3 Jurisdictional Delineation

A formal jurisdictional waters delineation per US Army Corps of Engineers (USACE) guidelines was not conducted as part of this assessment. However, during the field reconnaissance, the BSA was evaluated for potential wetlands and/or waters subject to federal and/or state jurisdiction pursuant to Section 404 and 401 of the Clean Water Act (CWA) and/or Section 1600 et seq. of the California Fish and Game Code. Prior to conducting the field assessment, Stantec reviewed current and historic aerial imagery, topographic maps, soil maps (USDA, 2019), local and state hydric soils lists, and the National Wetlands Inventory (USFWS, 2019) to evaluate the potential active channels and wetland features that occur within the BSA. During the field assessment, hydrologic features were mapped using the same data collection equipment described above for vegetation mapping.

3.0 REGULATORY FRAMEWORK

3.1 FEDERAL REGULATIONS

3.1.1 Federal Endangered Species Act

Federal Endangered Species Act (ESA) provisions protect federally listed threatened and endangered species and their habitats from unlawful take and ensure that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Under the ESA, "take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." The U.S. Fish & Wildlife Service's (USFWS) regulations define harm to mean "an act which actually kills or injures wild-life." Such an act "may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR § 17.3). Critical habitat is defined in Section 3(5)(A) of the ESA as "(i) the specific areas within the geographical area occupied by the species on which are found those physical or biological features (I) essential to the conservation of the species, and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species upon a determination by the Secretary of Commerce or the Secretary of the Interior (Secretary) that such areas are essential for the conservation of the species." The effects analyses for designated critical habitat must consider the role of the critical habitat in both the continued survival and the eventual recovery (i.e., the conservation) of the species in question, consistent with the Ninth Circuit judicial opinion, Gifford Pinchot Task Force v. USFWS. Activities that may result in "take" of individuals are regulated by the USFWS. The USFWS produced an updated list of candidate species December 6, 2007 (72 FR 69034). Candidate species are not afforded any legal protection under ESA; however, candidate species typically receive special attention from Federal and State agencies during the environmental review process.



3.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) makes it unlawful to possess, buy, sell, purchase, barter or "take" any migratory bird listed in Title 50 of the Code of Federal Regulations Part 10. "Take" is defined as possession or destruction of migratory birds, their nests or eggs. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. The MBTA prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary. This act encompasses whole birds, parts of birds, and bird nests and eggs.

3.1.3 Bald and Golden Eagle Protection Act of 1940 (16 USC 668)

The Bald Eagle Protection Act of 1940 (16 U.S.C. 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. Take of bald and golden eagles is defined as follows: "disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior" (72 FR 31132; 50 CFR 22.3).

The USFWS is the primary federal authority charged with the management of golden eagles in the United States. A permit for take of golden eagles, including take from disturbance such as loss of foraging habitat, may be required if this Project affects such resources. USFWS guidance on the applicability of current Eagle Act statutes and mitigation is currently under review. On November 10, 2009, the USFWS implemented new rules (74 FR 46835) governing the "take" of golden and bald eagles. The new rules were released under the existing Bald and Golden Eagle Act which has been the primary regulation protection unlisted eagle populations since 1940. All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this act. The definition of disturb (72 FR 31132) includes interfering with normal breeding, feeding, or sheltering behavior to the degree that it causes or is likely to cause decreased productivity or nest abandonment. If a permit is required, due to the current uncertainty on the status of golden eagle populations in western United States, it is expected permits would only be issued for safety emergencies or if conservation measures implemented in accordance with a permit would result in a reduction of ongoing take or a net take of zero.

3.1.4 Federally Regulated Habitats

Areas meeting the regulatory definition of "Waters of the U.S." (Jurisdictional Waters) are subject to the jurisdiction of the USACE under provisions of Section 404 of the CWA (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "Waters of the U.S.," tributaries of waters otherwise defined as "Waters of the U.S.," the territorial seas, and wetlands (termed Special Aquatic Sites) adjacent to "Waters of the U.S." (33 CFR, Part 328, Section 328.3). Wetlands on non-agricultural lands are identified using the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987). The Project Area falls within the South Pacific Division of the USACE and is under the jurisdiction of the Los Angeles District.



Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit would be effective in the absence of State water quality certification pursuant to Section 401 of the CWA. As a part of the permit process, the USACE works directly with the USFWS to assess potential Project impacts on biological resources.

3.1.5 National Environmental Policy Act

The National Environmental Policy Act of 1969 (NEPA) requires all Federal agencies to examine the environmental impacts of their actions, incorporate environmental information, and utilize public participation in the planning and implementation of all actions. Federal agencies must integrate NEPA with other planning requirements and prepare appropriate NEPA documents to facilitate better environmental decision making. NEPA requires Federal agencies to review and comment on Federal agency environmental plans/documents when the agency has jurisdiction by law or special expertise with respect to any environmental impacts involved (42 U.S.C. 4321- 4327) (40 CFR 1500-1508).

3.1.6 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) was passed in 1972, creating three national programs: the National Coastal Zone Management Program, the National Estuarine Research Reserve System, and the Coastal and Estuarine Land Conservation Program (CELCP). While the National Estuarine Research Reserve System and CELCP programs were designed to fund and promote protection and study of estuarine systems, the National Coastal Zone Management Program aimed to coordinate State and Federal management of coastal resources by taking a comprehensive approach to resource use, economic development and natural resource conservation.

Participation is voluntary, but significant federal resources are made available to states that develop and implement federally approved coastal zone management plans. In addition, the CZMA authorizes states with approved plans to review certain Federal actions to ensure they are consistent with those plans.

For a state coastal management program to receive approval from the National Oceanic and Atmospheric Administration (NOAA), it must contain a land use component. In terms of land use requirements, at a minimum the state must include within their plan "a definition of what shall constitute permissible land uses and water uses within the coastal zone which have a direct and significant impact on the coastal waters", "an inventory and designation of areas of particular concern", and "broad guidelines on priorities of uses in particular areas" (16 U.S.C § 1445(d)(2) (B), (C), (E)).

States wishing to improve their coastal management programs can receive technical assistance and funding from NOAA's Office of Ocean and Coastal Resource Management (OCRM). OCRM, through the Coastal Zone Enhancement Program, provides funds, known as § 309 grants, to help states develop and implement program changes in nine coastal zone enhancement areas of national significance, which include coastal hazards.

There is considerable variation from state to state in how these elements are addressed. States with strong planning traditions, such as Florida, incorporate land use planning into their coastal management programs. In most of the Gulf States, however, only the minimum requirements are met; i.e. a list of permissible activities and broad designations of sensitive areas.



3.2 STATE REGULATIONS

3.2.1 California Environmental Quality Act

CEQA establishes State policy to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures. CEQA applies to actions directly undertaken, financed, or permitted by State lead agencies. Regulations for implementation are found in the State CEQA Guidelines published by the Resources Agency. These guidelines establish an overall process for the environmental evaluation of projects.

3.2.2 California Endangered Species Act

Provisions of the California Endangered Species Act protect State-listed Threatened and Endangered species. The CDFW regulates activities that may result in "take" of individuals ("take" means "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code. Additionally, the California Fish and Game Code contains lists of vertebrate species designated as "fully protected" (California Fish & Game Code §§ 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], 5515 [fish]). Such species may not be taken or possessed.

In addition to Federal and State-listed species, the CDFW also has produced a list of Species of Special Concern to serve as a "watch list." Species on this list are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Species of Special Concern may receive special attention during environmental review, but they do not have statutory protection.

Birds of prey are protected in California under the State Fish and Game Code. Section 3503.5 states it is "unlawful to take, possess, or destroy any birds of prey (in the order *Falconiformes* or *Strigiformes*) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. Under Sections 3503 and 3503.5 of the State Fish and Game Code, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory nongame bird as designated in the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to Fish and Game Code Section 3800 are prohibited.

3.2.3 Native Plant Protection Act (Fish & Game Code 1900-1913)

California's Native Plant Protection Act (NPPA) requires all State agencies to utilize their authority to carry out programs to conserve endangered and rare native plants. Provisions of NPPA prohibit the taking of listed plants from the wild and require notification of the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The Applicant is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.



3.2.4 Section 3503 & 3503.5 of the Fish and Game Code

Under these sections of the Fish and Game Code, the Applicant is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory non-game bird as designated in the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to Fish and Game Code Section 3800.

3.2.5 Porter-Cologne Water Quality Control Act

Regional water quality control boards (RWQCBs) regulate the "discharge of waste" to "waters of the State." All projects proposing to discharge waste that could affect waters of the State must file a waste discharge report with the appropriate regional board. The board responds to the report by issuing waste discharge requirements (WDR) or by waiving WDRs for that project discharge. Both of the terms "discharge of waste" and "waters of the State" are broadly defined such that discharges of waste include fill, any material resulting from human activity, or any other "discharge." Isolated wetlands within California, which are no longer considered "waters of the United States" as defined by Section 404 of the CWA, are addressed under the Porter-Cologne Act.

3.2.6 State-Regulated Habitats

The State Water Resources Control Board is the State agency (together with the RWQCBs) charged with implementing water quality certification in California. The Project Area falls under the jurisdiction of the Central Coast RWQCB.

The CDFW extends the definition of stream to include "intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS-defined), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife" (CDFW, 1994).

Activities that result in the diversion or obstruction of the natural flow of a stream; or which substantially change its bed, channel, or bank; or which utilize any materials (including vegetation) from the streambed, may require that the project Applicant enter into a Streambed Alteration Agreement with the CDFW.

3.2.7 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) establishes national policy to preserve, protect, develop, and, where possible, restore or enhance the resources of the nation's coastal zones. In accordance with Section 307(c) of the CZMA, after approval by the Secretary of Commerce of a state's management program, any applicant for a required Federal license or permit to conduct an activity in or outside of the coastal zone affecting any land or water use or natural resource of the coastal zone of that state shall provide in the application to the licensing or permitting agency a certification that the proposed activity complies with the enforceable policies of the state's approved program and that such activity will be conducted in a manner consistent with the program. The Federal government certified the California Coastal Management Program (CCMP) in 1977. The enforceable policies of that document are Chapter 3 of the California Coastal Act of 1976. All consistency documents are reviewed for consistency with these policies.



3.3 LOCAL REGULATIONS

3.3.1 San Luis Obispo County General Plan – Conservation and Open Space Element

The Conservation and Open Space Element is a tool to protect and preserve these unique community resources. Conservation is the planned management, preservation, and wise utilization of natural resources and landscapes to ensure their availability in the future. Conservation means using less energy or water, using efficient technologies, and changing wasteful habits. Conserving, renewing, and restoring natural resources will assure their greatest ecologic, economic, or social benefit over time. This is necessary in order to enjoy scenic beauty and recreation, eliminate or minimize premature and unnecessary conversion of open space to urban uses, maintain public health and safety, and support a vital economy. The Conservation and Open Space Element contains goals, policies, and strategies to conserve, protect, and restore biodiversity and open space.

3.3.2 Title 23 of the San Luis Obispo County Code, Coastal Zone Land Use Ordinance

This title is known as the Coastal Zone Land Use Ordinance of the County of San Luis Obispo, Title 23 of the San Luis Obispo County Code. These regulations are hereby established and adopted to protect and promote the public health, safety and welfare, and more particularly:

- To implement the San Luis Obispo County General Plan and the San Luis Obispo County Local Coastal Program, and to guide and manage the future growth of the county in accordance with those plans; and
- To regulate land use in a manner that will encourage and support the orderly development and beneficial use of lands within the county; and
- To minimize adverse effects on the public resulting from the inappropriate creation, location, use or design of building sites, buildings, land uses, parking areas, or other forms of land development by providing appropriate standards for development; and
- To protect and enhance the significant natural, historic, archeological and scenic resources within the county as identified by the county general plan.
- To assist the public in identifying and understanding regulations affecting the development and use of land.

Title 23 of the San Luis Obispo County (SLO Co) Code, Coastal Zone Land Use Ordinance, Local Coastal Program (SLO Co 2018) defines Unmapped ESHA as:

A type of Sensitive Resource Area where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily be disturbed or degraded by human activities and development. They include, but are not limited to, known wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats that may not be mapped as Land Use Element combining designations. The existence of Unmapped ESHA is determined by the County at or before the time of application acceptance and shall be based on the best available information. Unmapped ESHA includes but is not limited to:



- Areas containing features or natural resources when identified by the County or County approved expert as having equivalent characteristics and natural function as mapped other environmental sensitive habitat areas;
- Areas previously known to the County from environmental experts, documents or recognized studies as containing ESHA resources; and
- c. Other areas commonly known as habitat for species determined to be threatened, endangered, or otherwise needing protection.

3.4 OTHER APPLICABLE REGULATIONS, PLANS, AND STANDARDS

3.4.1 California Native Plant Society Rare Plant Program

The mission of the CNPS Rare Plant Program is to develop current, accurate information on the distribution, ecology, and conservation status of California's rare and endangered plants, and to use this information to promote science-based plant conservation in California. Once a species has been identified as being of potential conservation concern, it is put through an extensive review process. Once a species has gone through the review process, information on all aspects of the species (e.g., listing status, habitat, distribution, threats, etc.) are entered into the online CNPS Inventory and given a California Rare Plant Rank (CRPR). In 2011, the CNPS officially changed the name "CNPS List" to "CRPR." The Program currently recognizes more than 1,600 plant taxa (species, subspecies and varieties) as rare or endangered in California.

Vascular plants listed as rare or endangered by the CNPS, but which might not have a designated status under State endangered species legislation, are defined by the following CRPR:

- CRPR 1A Plants considered by the CNPS to be extinct in California
- CRPR 1B Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2 Plants rare, threatened, or endangered in California, but more numerous elsewhere
- CRPR 3 Plants about which we need more information a review list
- CRPR 4 Plants of limited distribution a watch list

In addition to the CRPR designations above, the CNPS adds a Threat Rank as an extension added onto the CRPR and designates the level of endangerment by a 1 to 3 ranking, with 1 being the most endangered and 3 being the least endangered and are described as follows:

- 0.1 Seriously threatened in California (high degree/immediacy of threat)
- 0.2 Fairly threatened in California (moderate degree/immediacy of threat)
- 0.3 Not very threatened in California (low degree/immediacy of threats or no current threats known.



4.0 EXISTING CONDITIONS

4.1 **SETTING**

The BSA is situated within the Phillips 66 SMR, located at 2555 Willow Road, Arroyo Grande, California 93420. SMR was constructed in 1955 and occupies approximately 2.5 square miles on the Arroyo Grande Mesa. The parcel is zoned for industrial use and currently includes an operating refining facility plus areas of coastal dunes supporting coastal dune vegetation. The NIWS is located inside the fenced portion of the refinery property and is situated at the northeastern region of the property. Bordering the SMR property are agriculture fields to the south, residential development to the north and east, and undeveloped coastal dunes to the west.

The NIWS was formed by filling a topographic low spot between sand dunes. The surface of the waste facility is at an approximate elevation of 120 feet above mean sea level and is covered in sparse vegetation. Occasional pieces of trash and debris (i.e., glass bottles, metal scrap and other debris) are present on the landfill surface. The surrounding dunes are covered by vegetation typical to the coastal dune environment. The NIWS was constructed on a portion of the SMR for disposal of the facility's waste. It was operated from approximately 1955 to 1974.

The BSA and its vicinity have a coastal Mediterranean climate, with long, dry, summers and short, wet, mild winters. During the late spring and summer months, dense fog is common in the morning and acts to moderate summer temperatures. Average daily high temperatures during the summer months are in the mid-60s°F and average daily lows in the low to mid-50s°F. Average daily winter temperatures range from highs in the low 60s°F to lows in the mid-40s °F. Average monthly temperatures in the site vicinity are around 61°F during the summer months and 53 °F during the winter months. On average, the warmest month is September and the coolest month is December. Rainfall is highly variable within and between winter seasons with an average of 44 days with measurable precipitation annually (Western, 2005). Annual precipitation ranges from 13 to 17 inches with an average annual precipitation of 15 inches per year (CDWR, 2004).

4.2 VEGETATION AND LAND COVERS

Biological resources observed within the BSA during the field survey were comprised primarily of common plant species and vegetation communities characteristic of the coastal dunes of Central California. Habitat conditions within the BSA were noted to be of good quality, with well-established communities comprised primarily of native shrub and non-native grasslands. Within the BSA, Stantec biologists mapped one plant community defined by Sawyer et al. (2009), one undefined community, and one additional land cover type. These are described further in Section 4.2.1 below, summarized in Table 1, and depicted in Figure 2 in Appendix A.



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4.2.1 Vegetation Communities and Land Cover Types

4.2.1.1 Vegetation Communities

Lupinus chamissonis - Ericameria ericoides Shrubland Alliance, Ericameria ericoides Association (silver dune lupine - mock heather scrub)

Approximately 20.31 acres of this community occurs throughout the BSA. This shrub community is dominated with mock heather (*Ericameria ericoides*) with the occasional silver dune lupine (*Lupinus chamissonis*) present in some locations. The understory of this community is solely dominated by the non-native veldt grass (*Ehrharta calycina*). Sparsely interspersed within this community are native herbaceous species such as pink sand verbena (*Abronia umbellate*), California croton (*Croton californicus*), sand almond (*Prunus fasciculata var. punctata*), and telegraph weed (*Heterotheca grandiflora*) along with non-native species such as wild oats (*Avena fatua*) and false iceplant (*Conicosia pugioniformis*). Although not observed during the surveys, this community within the BSA is known to support Nipomo Mesa lupine (*Lupinus nipomensis*); refer to Figure 5 for the location of known occurrences within the BSA.

Disturbed Lupinus chamissonis - Ericameria ericoides Shrubland Alliance, Ericameria ericoides Association (silver dune lupine - mock heather scrub)

Approximately 1.38 acres of this community occurs within the landfill footprint in the central portion of the BSA. This shrub community is dominated with mock heather, albeit in much lower numbers than the surrounding, undisturbed habitats; more than half of the area mapped as Disturbed *Lupinus chamissonis - Ericameria ericoides* Shrubland Alliance, *Ericameria ericoides* Association is unvegetated. The understory of this community, where vegetated, is dominated by the non-native veldt grass (*Ehrharta calycina*). Sparsely interspersed within this community are native herbaceous species such as pink sand verbena (*Abronia umbellate*), California croton (*Croton californicus*), and telegraph weed (*Heterotheca grandiflora*) along with non-native species such as wild oats (*Avena fatua*). The entire footprint of this community is underlain by a historic landfill which is the root cause of the disturbed title for the community.

4.2.1.2 Other Land Cover Types

Disturbed/Developed

This classification was used to map portions of the BSA that are developed, primarily existing paved roadways and road shoulders and unvegetated earthen areas. The paved areas are limited to the refinery entrance road in the western portion of the BSA. The remaining areas mapped as disturbed/developed, are located within the fenced parcel containing the landfill, and include an unvegetated earthen access road and unvegetated staging/open area west of the landfill itself. Approximately 1.21 acres of this land cover type occur within the BSA.



Table 1 Vegetation Communities and Land Cover Types Occurring within the BSA

Vegetation Community/Land Cover Types	Area within BSA (acres)	Proposed Temporary Impacts
Lupinus chamissonis - Ericameria ericoides Shrubland Alliance, Ericameria ericoides Association	20.31	0.00
Disturbed <i>Lupinus chamissonis</i> - <i>Ericameria ericoides</i> Shrubland Alliance, <i>Ericameria ericoides</i> Association	1.38	1.38
Disturbed/Developed	1.21	0.15
Total	22.90	1.53

4.2.2 Plant Species Observed

The BSA was assessed for common and rare vascular plants during the 2019 surveys, though a focused, floristic-level survey was not conducted. The survey resulted in the documentation of 26 species of native and non-native plants within the BSA. Table 2, below, presents a list of all plants observed within the BSA.

Table 2 Plant Species Observed in the BSA

Scientific Name	Common Name
Abronia umbellate	pink sand verbena
Avena fatua*	wild oat
Bromus diandrus	ripgut brome
Ceanothus cuneatus	buck brush
Conicosia pugioniformis*	false iceplant
Croton californicus	California croton
Dudleya caespitosa	coast dudleya
Ehrharta calycina*	perennial veldt grass
Baccharis pilularis	coyote bush
Ericameria ericoides	coast goldenbush (mock heather)
Eriogonum parvifolium	dune buckwheat
Erodium cicutarium*	redstem filaree
Eschscholzia caespitosa	tufted poppy
Eucalyptus spp.	gum tree
Heterotheca grandiflora	Telegraph weed
Hordeum murinum*	foxtail barley
Horkelia cunteata var. cunteata	coast horkelia
Lamrckia aurea*	goldentop grass
Lotus scoparius	deerweed
Lupinus chamissonis	silver dune lupine



Scientific Name	Common Name
Lupinus nipomensis**	Nipomo Mesa Iupine
Penstemon centranthifolius	scarlet bugler
Pholisma arenarium	scaly stemmed sand plant
Plantago lanceolate**	English plantain
Prunus fasciculata var. punctata	Sand almond
Raphanus sativus*	wild radish

^{*} Non-native Species

4.3 COMMON WILDLIFE

4.3.1 Invertebrates and Gastropods

A focused insect survey within the boundaries of the BSA was not performed during the two survey events; however, a variety of common insects are known to occur in the area. Habitat conditions in the BSA provides a suite of microhabitat conditions for a wide variety of terrestrial insects and other invertebrates. As in all ecological systems, invertebrates in the BSA play a crucial role in a number of biological processes. They serve as the primary or secondary food source for a variety of bird, reptile, and mammal predators; they provide important pollination vectors for numerous plant species; they act as efficient components in controlling pest populations; and they support the naturally occurring maintenance of an area by consuming detritus and contributing to necessary soil nutrients. The reconnaissance surveys of the BSA detected a variety of common and non-native invertebrates. Some of the orders identified in the BSA included *Odonata* (dragonflies, damselflies), *Hemiptera* (true bugs), *Coleoptera* (beetles), *Diptera* (flies), *Lepidoptera* (moths and butterflies), *Hymenoptera* (wasps, bees and ants), and *Orthoptera* (grasshoppers).

4.3.2 Fish

No aquatic habitat occurs within or adjacent to the BSA; therefore, fish do not occur.

4.3.3 Amphibians

Amphibians often require a source of standing or flowing water to complete their life cycle. However, some terrestrial species can survive in drier areas by remaining in moist environments found beneath leaf litter and fallen logs, or by burrowing into the soil. Amphibian species were not observed during the reconnaissance surveys within the BSA; suitable aquatic habitat capable of supporting amphibian species is not present within or adjacent to the BSA. Species not observed in the BSA but known to occur in the general area include the Pacific treefrog [chorus frog] (*Pseudacris regilla*), western toad (*Anaxyrus boreas*), and the non-native bullfrog (*Lithobates catesbeiana*). These species all require aquatic habitat for all or part of their life cycle, which is not present in the BSA. These species are highly cryptic and often difficult to detect. Downed logs, bark, and other woody material, which provide shelter and feeding sites for a variety of wildlife, including amphibians and reptiles (Maser and Trappe, 1984; Aubry et al., 1988), was generally lacking within the BSA.



^{**} Not observed during surveys conducted by Stantec in 2019. Known from the BSA from surveys conducted by the San Luis Obispo Land Conservancy (refer to Figure 5)

4.3.4 Reptiles

The number and type of reptile species that may occur at a given site is related to a number of biotic and abiotic features. These include the diversity of plant communities, substrate, soil type, and presence of refugia such as rock piles, boulders, and native debris. Weather conditions were favorable during the surveys for reptile activity.

Western fence lizard (*Sceloporus occidentalis*) and Blainville's horned lizard (*Phyrnosoma blainvilli*) were the only reptile species observed in the BSA during the surveys. Many reptile species, even if present, are difficult to detect because they are cryptic and their life history characteristics (e.g., foraging, thermoregulatory behavior, fossorial nature, camouflage etc.) limit their ability to be observed during most surveys. Further, many species are only active within relatively narrow thermal limits, avoiding both cold and hot conditions, and most take refuge in microhabitats that are not directly visible to the casual observer, such as rodent burrows, in crevices, under rocks and boards, and in dense vegetation where they are protected from unsuitable environmental conditions and predators (USACE and CDFG, 2010). In some cases, they are only observed when flushed from their refugia. Although not observed, several other common reptiles likely occur within the BSA. These include California alligator lizard (*Elgaria multicarinata multicarinata*), California kingsnake (*Lampropeltis getula californiae*), Pacific gopher snake (*Pituophis catenifer catenifer*), and side-blotched lizard (*Uta stansburiana elegans*).

4.3.5 Birds

Birds were identified by sight and sound and were observed throughout the BSA. Some of these included mourning dove (*Zenaida macroura*), California gull (*Larus californicus*) and turkey vulture (*Cathartes aura*). All avian species identified in the BSA during the 2019 surveys are listed in Table 3. It is possible that many other birds use the BSA either as wintering habitat, seasonal breeding, or as occasional migrants. Although the following species were not detected in the BSA during the surveys, suitable habitat conditions were observed within the BSA for a number of common birds including black phoebe (*Sayornis nigricans*), Brewers blackbird (*Euphagus cyanocephalus*), American crow (*Corvus brachyrhynchos*), and lesser goldfinch (*Spinus psaltria*).

4.3.6 Mammals

Generally, the distribution of mammals on a given site is associated with the presence of factors such as access to perennial water, topographical and structural components (e.g., rock piles, vegetation) that provide cover and support for a prey base, and the presence of suitable soils for fossorial mammals (e.g., sandy areas). Black-tailed jack rabbit (*Lepus californicus*) and coyote (*Canis latrans*) were detected in the BSA during surveys in 2019; coyotes were detected by sign (scat). Given the habitat conditions within the BSA, other mammal species including California ground squirrel (*Spermophilus beecheyi*), Audubon's cottontail (*Sylvilagus audubonii*), Virginia opossum (*Didelphis virginiana*), and raccoon (*Procyon lotor*), while not detected, may occur within the BSA. No special-status mammal species were observed in the BSA.

Although bats were not detected in the BSA, they likely forage and roost within the riparian areas located north and south of the BSA. Many bats tend to concentrate foraging activities in riparian habitats similar to those likely present within these areas, outside the BSA, where insect abundance is high (CDFW, 2000).



Table 3 Wildlife Species Observed in the BSA

Scientific Name	Common Name	Status
Apodemia mormo	Mormon metlemark	
Bos taurus	cattle	
Buteo jamaicensis	Red-tailed hawk	
Canis latrans*	coyote	
Cathartes aura	turkey vulture	
Falco sparverius	American kestrel	
Larus californicus	California gull	
Lepus californicus	black-tailed jackrabbit	SSC
Passerculus spp. or Melospiza spp.	unidentified sparrow	
Phyrnosoma blainvilli	Blainville's horned lizard	SSC
Sceloporus occidentalis	western fence lizard	
Zenaida macroura	mourning dove	

State Rankings:

4.4 JURISDICTIONAL WATERS/WETLANDS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California: the USACE Regulatory Program regulates activities pursuant to Section 404 of the federal CWA; the CDFW regulates activities under the Fish and Game Code Section 1600-1607; and the RWQCB regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act. A formal delineation was not conducted as part of the surveys within the BSA. During the two survey events, biologists did not observe any aquatic features within or adjacent to the BSA that would meet the jurisdictional requirements of the above noted agencies.

4.5 SOILS

Prior to conducting the field reconnaissance, historic soils data from the Natural Resources Conservation Service (NRCS) was used to determine potential soil types that may occur within the BSA, including where hydric soils may have historically occurred (refer to Appendix A, Figure 3). Characteristics of soils present on the site are summarized in Table 4. None of the soils listed in below appear on the NRCS hydric soils list.

Table 4 Historic Soil Units Occurring in the BSA

Map Unit Symbol	Map Unit Name	Description	Acres Within BSA
184	Oceano sand, 0 to 9 percent slopes	An excessively drained soil that is associated with dunes from 10-500 feet in elevation; parent material is eolian deposits; depth to water table is more than 80 inches; sand (0-60 inches).	19.43



SSC = Species of Special Concern

^{*} observed via sign (scat, tracks, etc.)

Map Unit Symbol	Map Unit Name	Description	Acres Within BSA
185	Oceano sand, 9 to 30 percent slopes	An excessively drained soil that is associated with dunes from 10-500 feet in elevation; parent material is eolian deposits; depth to water table is more than 80 inches; sand (0-60 inches).	3.32

5.0 SPECIAL-STATUS BIOLOGICAL RESOURCES

The background information presented above, combined with field observations taken during the surveys, was used to generate a list of special-status natural communities and special-status plant and animal taxa that either occur or may have the potential to occur within the BSA and/or adjacent habitats. For the purposes of this report, special-status taxa are defined as plants or animals that:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under either the California or Federal ESAs;
- Are candidate species being considered or proposed for listing under these same acts;
- Are recognized as Species of Special Concern by the CDFW;
- Are ranked as CRPR 1, 2, 3 or 4 plant species;
- Are fully protected by the California Fish and Game Code, Sections 3511, 4700, 5050, or 5515; or
- Are of expressed concern to resource/regulatory agencies, or local jurisdictions.

5.1 SPECIAL-STATUS NATURAL COMMUNITIES

Special-status natural communities are defined by CDFW (2009) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." All vegetation within the state is ranked with an "S" rank, however only those that are of special concern (S1-S3 rank) are generally evaluated under CEQA. Lupinus chamissonis - Ericameria ericoides Shrubland Alliance, Ericameria ericoides Association is listed with a rank of S3 and approximately 20.31 acres of this habitat type occur within the BSA; and a rank of S3 which means it is vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. This ranking was not afforded to the disturbed portions of this community (limited to the landfill footprint) due to the lack of substantial vegetation and less suitable soil conditions due to the underlying landfill.

5.2 DESIGNATED CRITICAL HABITAT

Literature review conducted prior to conducting field surveys determined that there is no critical habitat mapped within the BSA. However, critical habitat for La Graciosa thistle (*Cirsium scariosum var. loncholepis*), while not mapped within the BSA, occurs approximately 500 feet to west. The CNDDB reports multiple occurrences of this species in the region to the north and southwest of the BSA, with the closest approximately 3,000 feet from the BSA. However, this species



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is generally found in marshes and dune wetlands which do not occur in the BSA, but it may be present in adjacent areas.

5.3 ENVIRONMENTALLY SENSITIVE HABITAT AREAS

Environmentally Sensitive Habitat Areas (ESHAs) are defined in Title 23 of the San Luis Obispo County Code, Coastal Zone Land Use Ordinance as: "A type of Sensitive Resource Area where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily disturbed or degraded by human activities and development. They include wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats and are mapped as Land Use Element combining designations."

Based on the guidelines presented in Title 23 of the San Luis Obispo County (SLO Co) Code, Coastal Zone Land Use Ordinance, Local Coastal Program (SLO Co 2018), all areas mapped as *Lupinus chamissonis - Ericameria ericoides* Shrubland Alliance, *Ericameria ericoides* Association (silver dune lupine - mock heather scrub), disturbed or not, meet the requirements to be considered unmapped ESHA. Based on the description of proposed Project activities, the Project would be considered a restoration project and would be allowed within an ESHA area as per Section 23.07.170 (e)(1)(v) of Title 23 of the San Luis Obispo County Code, Coastal Zone Land Use Ordinance (CZLUO), Local Coastal Program (SLO County 2018).

5.4 SPECIAL-STATUS PLANTS

Table 5 presents a list of special-status plants, including federally- and state listed species and CRPR 1-4 species that are known to occur in the vicinity of the BSA. No special-status plants were observed within the BSA during surveys conducted in 2019. However, surveys conducted by the San Luis Obispo Land Conservancy in previous years have documented Nipomo Mesa lupine within the boundaries of the BSA.

A records search of the CNDDB, the CNPS Online Inventory, and the CCH was performed for special-status plant taxa and non-protocol plant surveys were conducted within the BSA (refer to Appendix A, Figures 4a and 4b). Each of the taxa identified in the record searches was assessed for their potential to occur within the BSA based on the following criteria:

- Present: Taxa were observed within the BSA during recent botanical surveys or population has been acknowledged by CDFW, USFWS, or local experts.
- High: Both a documented recent record (within 10 years) exists of the taxa within the BSA or immediate vicinity (approximately 5 miles) and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- Moderate: Both a documented recent record (within 10 years) exists of the taxa within the BSA or the
 immediate vicinity (approximately 5 miles) and the environmental conditions associated with taxa presence
 are marginal and/or limited within the Project Area or the BSA is located within the known current distribution
 of the taxa and the environmental conditions (including soil type) associated with taxa presence occur within
 the BSA.



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- Low: A historical record (over 10 years) exists of the taxa within the BSA or general vicinity (approximately 10 miles) and the environmental conditions (including soil type) associated with taxa presence are marginal and/or limited within the BSA.
- Not Likely to Occur: The environmental conditions associated with taxa presence do not occur within the BSA.

Table 5 Known and Potential Occurrences of Special-Status Plant Taxa within the BSA

Species	Status	Habitat and Distribution	Blooming Period*	Potential to Occur
A <i>bronia maritima</i> Red sand verbena	4.2	Coastal dunes; 0-100 m.	Feb-Dec	Low: Suitable habitat is present within the BSA; there are multiple historical occurrences 2 -3 miles north, west, and southwest of the BSA.
<i>Agrostis hooveri</i> Hoover's bent grass	1B.2	Usually sandy; closed-cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland; 6-610 m.	Apr-Jul	Not Likely to Occur: Suitable habitat for this species does not occur in the BSA; the closest CNDDB record is approximately 1.2 miles to the north from 1988.
<i>Aphanisma blitoides</i> Aphanisma	1B.2	Coastal scrub, bluffs, saline sand; 0-200 m	Mar-Jun	Not Likely to Occur: Suitable habitat for this species does not occur in the BSA; there historic records 5 – 7 miles southwest of the BSA.
Arctostaphylos pilosula Santa Margarita manzanita	1B.2	Sometimes sandstone; broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland; 75-1100 m.	Dec-May	Not Likely to Occur: Suitable habitat for this species does not occur in the BSA; the closest CNDDB record is approximately 1 mile to the northeast from 1985.
<i>Arctostaphylos purissima</i> La Purisima manzanita	1B.1	Chaparral (sandy) and coastal scrub; 60-555 m.	Nov-May	Low: Limited suitable habitat occurs within the BSA; the closest CNDDB record is approximately 9 miles to the south from 1996.
A <i>rctostaphylos rudis</i> Sand mesa manzanita	1B.2	Sandy; chaparral (maritime) and coastal scrub; 25-322 m	Nov-Feb	Moderate: Limited suitable habitat occurs within the BSA; the closest CNDDB record is approximately 1.5 miles to the east from 2010.



Species	Status	Habitat and Distribution	Blooming Period*	Potential to Occur
Arenaria paludicola Marsh sandwort	FE, SE, 1B.1	Sandy, openings; marshes and swamps (freshwater or brackish); 3- 170 m	May-Aug	Not likely to occur: Suitable habitat for this species does not occur in the BSA; there are multiple CNDDB records from approximately 0.5 – 1.5 miles around the BSA.
Astragalus nuttallii var. nuttallii Ocean bluff milk-vetch	4.2	Rock, sandy areas, bluffs; 0-250 m.	Jan-Nov	Low: Suitable habitat is present within the BSA; there are multiple historic occurrences within 0.5 – 2 miles of the BSA.
Atriplex serenana var. davidsonii Davidson's saltscale	1B.2	Alkaline; coastal bluff scrub and coastal scrub; 10-200 m	Apr-Oct	Low: Limited suitable habitat occurs within the BSA; the closest CNDDB record is approximately 4 miles to the south from 1965.
<i>Calochortus obispoensis</i> San Luis mariposa-lily	1B.2	Often serpentinite; chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland; 50- 730 m.	May-Jul	Low: Limited suitable habitat occurs within the BSA; the closest CNDDB record is approximately 6.5 miles to the south from 1995.
Castilleja densiflora var. obispoensis San Luis Obispo owl's- clover	1B.2	Sometimes serpentinite; meadows and seeps, valley and foothill grasslands; 10-430 m.	Mar-May	Low: Limited suitable habitat may be present within pockets of the BSA; the closest CNDDB record is approximately 2 miles to the east from 2005.
Ceanothus impressus var. nipomensis Nipomo Mesa ceanothus	1B.2	Sandy; chaparral; 30-245 m.	Feb-Apr	High: Suitable habitat is present within the BSA; the nearest CNDDB record is approximately 0.5 miles to the north from 2010.
Chenopodium littoreum Coastal goosefoot	1B.2	Coastal dunes; 10-30 m	Apr-Aug	High: Suitable habitat is present within the BSA; the nearest CNDDB record is approximately 0.2 miles to the north from 2011.
Chlorogalum pomedridianum var. minus Dwarf soaproot	1B.2	Chaparral (serpentinite); 305-1000 m	May-Aug	Not likely to occur: Suitable habitat for this species does not occur in the BSA; the nearest CNDDB record is approximately 8.25 miles to the north from 2015.



Species	Status	Habitat and Distribution	Blooming Period*	Potential to Occur
Chorizanthe breweri Brewer's spineflower	1B.3	Serpentinite, rocky, or gravelly; closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub; 45-800 m.	Apr-Aug	Not likely to occur: Suitable habitat for this species does not occur in the BSA; the nearest CNDDB record is approximately 10 miles to the north from 1977.
Chorizanthe rectispina Straight owned spineflower	1B.3	Chaparral, cismontane woodland, coastal scrub; 85-1035 m	Apr-Jul	Low: Limited suitable habitat may be present within pockets of the BSA; the closest CNDDB record is approximately 6.0 miles to the east from 2003.
Cirsium occidentale var. compactum Compact cobwebby thistle	1B.2	Chaparral, coastal dunes, coastal prairie, coastal scrub; 5-150 m	Apr-Jun	Low: Suitable habitat is present within the BSA; the closest CNDDB record is approximately 8.5 miles to the south from 1962.
Cirsium rhothophilum Surf thistle	ST, 1B.2	Coastal bluff scrub, coastal dunes; 3-60 m	Apr-Jun	Moderate: Suitable habitat is present within the BSA; the nearest CNDDB record is approximately 2.25 miles to the west from 1998.
Cirsium scariosum var. Ioncholepis La Graciosa thistle	FE. ST, 1B.1	Mesic, sandy; cismontane woodland, coastal dunes, coastal scrub, marshes and swamps (brackish), valley and foothill grassland; 4-220 m	May-Aug	High: Suitable habitat is present in the BSA; there are multiple recent CNDDB records from within approximately 0.7 – 1 mile to the west of the BSA.
Cladium californicum California saw-grass		Meadows and seeps. Marshes and swamps (alkaline or freshwater); 60- 1600 m	Jun-Sep	Not likely to occur: Suitable habitat for this species does not occur in the BSA; the nearest CNDDB record is approximately 0.5 miles to the north from the 1990.
<i>Clarkia speciose</i> ssp. <i>immaculata</i> Pismo clarkia	EE QD 1B1	Sandy; chaparral (margins, openings), cismontane woodland, valley and foothill grassland; 25-185 m	May-Jul	Moderate: Limited suitable habitat may be present within pockets of the BSA; the closest CNDDB record is approximately 2.25 miles to the east from 2000.



Species	Status	Habitat and Distribution	Blooming Period*	Potential to Occur
Corethrogyne leucophylla Branching beach aster	3.2	Coastal dunes; 0 – 60 m.	iway-Dec	Low: Suitable habitat is present within the BSA; there are multiple historic occurrences within 2 - 3 miles of the BSA
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i> Dune larkspur	1B.2	Chaparral (maritime) and coastal dunes; 0-200 m	Apr-Jun	High: Suitable habitat is present within the BSA; there are CNDDB records for this species within and immediately adjacent to the BSA from 1998.
<i>Dithyrea maritima</i> Beach spectaclepod	ST, 1B.1	Coastal dunes, coastal scrub (sandy); 3-50 m	Mar-May	High: Suitable habitat is present within the BSA; the nearest CNDDB record is approximately 2 miles to the west from 2019.
<i>Dudleya blockmaniae</i> ssp. <i>blochmani</i> ae Blochman's dudleya	1B.1	Rocky, often clay or serpentinite; coastal bluff scrub, chaparral, coastal scrub, valley and foothill grassland; 5-450 m	Apr-Jun	Low: Limited suitable habitat may be present within pockets of the BSA; the closest CNDDB record is approximately 10 miles to the south from 1991.
<i>Erigeron blochmaniae</i> Blockman's leafy daisy	1B.2	Coastal dunes and coastal scrub; 3- 45 m	Jun-Aug	High: Suitable habitat is present within the BSA; there are multiple CNDDB records for this species within approximately 0.25 – 3.5 miles of the BSA.
Erysimum suffrutescens Suffrutescent wallflower	4.2	Stabilized coastal dunes, coastal scrub; 0-150 m.	Jan-July	Moderate: Suitable habitat is present within the BSA; there are multiple historic records within 1 – 2 miles north and west of the BSA.
Horkelia cuneata var. puberula mesa horkelia	1B.1	Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. 15-1645 m.	Feb-Jul (Sep)	Low: Limited suitable habitat may be present within pockets of the BSA; the closest CNDDB record is approximately 1.5 miles to the west from 1973.
<i>Horkelia cuneata var. sericea</i> Kellogg's horkelia	1B.1	Old dunes, coastal sandhills; 0-200 m.	Feb-Jul	Low: Suitable habitat is present within the BSA; There are multiple historic occurrences north and west of the BSA.



Species	Status	Habitat and Distribution	Blooming Period*	Potential to Occur
<i>Lupinus Iudovicianus</i> San Luis Obispo County Iupine	1B.2	Sandstone or sandy; chaparral, cismontane woodland; 50-525 m	Apr-Jul	Not likely to occur: Suitable habitat for this species does not occur in the BSA; the nearest CNDDB record is approximately 8.25 miles to the north from 1986.
<i>Lupinus nipomensis</i> Nipomo Mesa lupine	FE, SE, 1B.1	Coastal dunes; 10-50 m.	Dec-May	Present: This species has been observed within the BSA but is outside of any proposed impact areas.
<i>Malacothamnus gracilis</i> Slender bush-mallow	1B.1	Usually rocky; chaparral; 190-575 m	May-Oct	Not likely to occur: Suitable habitat for this species does not occur in the BSA; the nearest CNDDB record is approximately 6.5 miles to the north from 1927.
<i>Malacothrix incana</i> Dunedelion	4.3	Dunes; 0-300m	Jan-Oct	Low: Suitable habitat is present within the BSA; there are multiple historic occurrences within 1 mile of the BSA.
<i>Monardella sinuata</i> ssp. <i>sinuata</i> Southern curly-leaved monardella	1B.2	Sandy; chaparral, cismontane woodland, coastal dunes, coastal scrub (openings); 0-300 m	Apr-Sep	Low: Suitable habitat is present within the BSA; the closest CNDDB record is approximately 0.25 miles to the east from 1948.
<i>Monardella undulata</i> ssp. <i>crispa</i> Crisp monardella	1B.2	Coastal dunes, coastal scrub; 10- 120 m	Apr-Aug (Dec)	High: Suitable habitat is present within the BSA; there are multiple CNDDB records for this species within approximately 0.5 miles of the BSA.
<i>Monardella undulata</i> ssp. <i>undulata</i> San Luis Obispo monardella	1B.2	Coastal dunes, coastal scrub (sandy); 10-200 m	May-Sep	High: Suitable habitat is present within the BSA; there are CNDDB records from within the BSA from 2012.
<i>Mucronea californica</i> California spineflower	4.2	Sandy areas; 0-1000 m.	May-Jul	Low: Suitable habitat is present within the BSA; there are multiple historic occurrences within 0.25 – 1.0 miles west of the BSA.



Species	Status	Habitat and Distribution	Blooming Period*	Potential to Occur
<i>Nasturtium gambelii</i> Gambel's watercress		Marshes and swamps (freshwater or brackish); 5-330 m	Apr-Oct	Not likely to occur: Suitable habitat for this species does not occur in the BSA; the nearest CNDDB record is approximately 0.75 miles to the north from 2005.
Nemacaulis denudata var. denudata Coast wooly-heads	1B.2	Coastal dunes; 0-100 m	Apr-Sep	High: Suitable habitat is present within the BSA; the nearest CNDDB record is approximately 0.5 miles to the west from 2000.
Orobanche parishii ssp. brachyloba Short-lobed broomrape		Sandy; coastal bluff scrub, coastal dunes, coastal scrub; 3-305 m	Apr-Oct	Low: Limited suitable habitat may be present within pockets of the BSA; the closest CNDDB record is approximately 2 miles to the west from 1967.
Prunus fasciculata var. punctate Sand almond		Sandy soils, scrubland, oak woodland, 0-200 m.	Mar-Apr	Present: Multiple occurrences of this species were observed within the BSA; on the slopes above the NIWS and in areas immediately west. Not occurrences were noted within the disturbed areas of the NIWS.
Scrophularia atrata Black-flowered figwort	1B.2	Closed-cone coniferous forest; chaparral, coastal dunes, coastal scrub, riparian scrub; 10-500 m	Mar-Jul	Moderate: Suitable habitat is present within the BSA; the closest CNDDB record is approximately 3.5 miles to the south from 2005.
Senecio aphanactis chaparral ragwort	2B.2	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 20-855 m.	Jan-Apr (May)	Low: Limited suitable habitat may be present within pockets of the BSA; the closest CNDDB record is approximately 8.5 miles to the northeast from 2015.



Species	Status	Habitat and Distribution	Blooming Period*	Potential to Occur
Senecio blochmaniae Blochman's ragwort	4.2	Coastal sand dunes, sandy floodplains.0 – 150 m.	May - Nov	Moderate: Suitable habitat is present within the BSA. There are multiple occurrences approximately 1.0 mile from the BSA however they are from the 1960's. There is a single occurrence from 2006 approximately 1.5 mile west of the BSA.
S <i>ymphyotrichum</i> <i>defoliatum</i> San Bernardino aster	1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 3-2045 m.	Jul-Nov	Low: Limited suitable habitat may be present within pockets of the BSA; the closest CNDDB record is approximately 2.25 miles to the north from 1993.

Source: Baldwin et al. 2012; CDFW, 2019a; CNPS, 2019.

* Months appearing in parenthesis listed under blooming periods above indicates and additional but uncommon blooming period for that specific species.

Status Codes

US Fish and Wildlife Service (Fed.) Designations:

END: Federally listed, endangered.
THR: Federally listed, threatened.

California Department of Fish and Wildlife (Calif.) Designations:

END: State listed, endangered.
THR: State listed, threatened.

California Rare Plant Rank (CRPR) designation

1A Plants presumed extinct in California.

1B Plants rare, threatened, or endangered in California and elsewhere.

2A Plants rare, threatened, or endangered in California, but more common elsewhere.

2B Plants presumed extinct in California but more common elsewhere.

Plants about which we need more information – a review list.

Plants of limited distribution – a watch list.

- .1 Seriously threatened in California (high degree/immediacy of threat).
- .2 Fairly threatened in California (moderate degree/immediacy of threat).
 - Not very threatened in California (low degree/immediacy of threats or no current threats known).

5.5 SPECIAL-STATUS WILDLIFE

Special-status taxa include those listed as threatened or endangered under the federal or California ESAs, taxa proposed for such listing, Species of Special Concern, and other taxa that have been identified by the USFWS, CDFW, or local jurisdictions as unique or rare and which have the potential to occur within the BSA. No special-status wildlife species were either observed within or immediately adjacent to the BSA during the survey conducted in 2019.

The CNDDB was queried for occurrences of special-status wildlife taxa within the USGS topographical quadrangles in which the BSA occurs and the eight surrounding quadrangles, as discussed above in Section 2.0 (refer to Appendix A, Figures 4a and 4c). The specific habitat requirements and the locations of known occurrences of each special-status wildlife taxa were the principal criteria used for inclusion in the list of taxa potentially occurring within the BSA. Table 6 summarizes the special-status wildlife taxa known to regionally occur and their potential for occurrence in the BSA;



refer to Appendix A, Figures 4a and 4c for a graphical depiction of species locations. Each of the taxa identified in the database reviews/searches were assessed for its potential to occur within the BSA based on the following criteria:

- Present: Taxa (or sign) were observed in the BSA or in the same watershed (aquatic taxa only) during the
 most recent surveys, or a population has been acknowledged by CDFW, USFWS, or local experts.
- High: Habitat (including soils) for the taxa occurs on site and a known occurrence occurs within the BSA or adjacent areas (within 5 miles of the Project Area) within the past 20 years; however, these taxa were not detected during the most recent surveys.
- Moderate: Habitat (including soils) for the taxa occurs on site and a known regional record occurs within the
 database search, but not within 5 miles of the BSA or within the past 20 years; or a known occurrence occurs
 within 5 miles of the BSA and within the past 20 years and marginal or limited amounts of habitat occurs on
 site; or the taxa's range includes the geographic area and suitable habitat exists.
- Low: Limited habitat for the taxa occurs on site and no known occurrences were found within the database search and the taxa's range includes the geographic area.
- Not Likely to Occur: The environmental conditions associated with taxa presence do not occur within the BSA.



Table 6 Known and Potential Occurrence of Special-Status Wildlife within the BSA

Та	xa				Occurrence
Scientific Name	Common Name	Status	Habitat Type	Comments	Potential
INVERTEBRATES	1	1	Known from sand dunes in the general	Suitable dune habitat is present within the	T
Ablautus schlingeri	Oso Flaco robber fly	SA	vicinity of Oso Flaco Lake in San Luis Obispo County.	BSA and there is a historical CNDDB record approximately 1.5 miles to the west.	Low
Areniscythris brachypteris	Oso Flaco flightless moth	SA	Known from sand dunes in the general vicinity of Oso Flaco Lake in San Luis Obispo County.	Suitable dune habitat is present within the BSA and there are historical CNDDB records approximately 1.5 miles to the northwest and southwest.	Low
Bombus obscure bumble bee SA			Coastal areas from Santa Barbara County to north to Washington state. Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.	Suitable habitat and food plants are present within the BSA. The nearest CNDDB records are from approximately 1.5 miles to the southwest (1968) and 0.75 miles to the northwest (1973).	Low
Chlosyne leanira elegans	Oso Flaco patch butterfly	SA	Sand dune habitat around Oso Flaco Lake, San Luis Obispo County.	While suitable dune habitat for this species occurs within the BSA, the foodplant for this species (coast Indian paintbrush [Castilleja affinis ssp. affinis]), has not been observed; this plant species is known to occur in adjacent areas. The CNDDB reports an occurrence approximately 1 mile to the southwest from 1983.	Low
Cicindela hirticollis gravida	sandy beach tiger beetle	SA	Habitat preference is moist sand near the ocean; often found in depressions behind sand dunes or along the upper portions of sandy beaches beyond the normal high tide mark.	This species prefers moist sand, closer to the beach, that is not present within the BSA. The nearest CNDDB record is approximately 1.5 miles to the west from 1969.	Not Likely to Occur
Danaus plexippus pop. 1	monarch - California overwintering population	SA	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Suitable roosting habitat is not present in the BSA but does occur in adjacent areas. Suitable nectar sources may be present in the BSA There is a CNDDB record from 1983 approximately 0.25 miles to the east.	Not Likely to Occur (roosting)/Moderate (foraging)
Lichnanthe albipilosa	white sand bear scarab beetle	SA	Inhabits coastal dunes of San Luis Obispo County, generally in the vicinity of dune lakes.	While sand dunes are the preferred habitat for his species all known occurrences have near some kind of dune lake/aquatic feature which is lacking within the BSA. The nearest CNDDB record for this species is approximately 1.5 miles to the northwest from 2004.	Low



Та	xa	Ctatura	Habitat Tura	Comments	Occurrence
Scientific Name	Common Name	Status	Habitat Type	Comments	Potential
Plebejus icarioides moroensis	Morro bay blue butterfly	SA	Inhabits coastal areas of San Luis Obispo and Santa Barbara Counties; requires Lupinus chamissonis as a host plant.	Suitable habitat for this species occurs throughout the BSA. The nearest CNDDB record is approximately 1.5 miles to the west from 2004.	High
Tryonia imitator	mimic tryonia (California brackishwater snail)	SA Habitat preference includes brackish water marshes, coastal lagoons, and estuaries; species can occur in a wide range of salinities.		Suitable habitat for this species does not occur within the BSA. The nearest CNDDB record for this species is approximately 4 miles to the north from 1979.	Not Likely to Occur
FISH					
Eucyclogobius newberryi	tidewater goby	FE, SSC	Brackish water habitats along the California Coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	The nearest CNDDB record for this species is approximately 4 miles to the north from 2008 however, there is no suitable habitat within or adjacent to the BSA.	Not Likely to Occur
Gila orcuttii	arroyo chub	ssc	Native to streams from Malibu creek to San Luis Rey river basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	Although there is a CNDDB record approximately 6 miles to the south, from 1996, no suitable aquatic habitat occurs within or adjacent to the BSA.	Not Likely to Occur
Oncorhynchus mykiss irideus pop. 9	steelhead - southern California DPS	FT	Federal listing refers to populations from Santa Maria river south to southern extent of range (San Mateo creek in San Diego County). Southern steelhead likely have greater physiological tolerance to warmer water and more variable conditions.	Although there is a CNDDB record approximately 3 miles to the north, from 2008, no suitable aquatic habitat occurs within or adjacent to the BSA.	Not Likely to Occur
AMPHIBIANS	T	1			I
Ambystoma californiense	California tiger salamander	FT. ST, WL	Grasslands and foothills will aquatic habitat for breeding and abundant small mammal activity for burrows.	Suitable habitat for this species does not occur within the BSA. The nearest CNDDB record is approximately 9 miles to the south.	Not Likely to Occur
Rana boylii	foothill yellow- legged frog	SC, SSC	Inhabits shallow, small to medium-sized, rocky streams, from sea level to about 6,365 feet	Suitable habitat for this species does not occur within the BSA. The nearest CNDDB record (historic) is approximately 7.75 miles to the north.	Not Likely to Occur
Rana draytonii	California red- legged frog	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation; requires 11-20 weeks of permanent water for larval development; must have access to aestivation habitat.	Suitable habitat for this species does not occur within the BSA. There are multiple CNDDB records from within 0.5 – 1.5 miles to the west and southwest.	Not Likely to Occur



Та	xa	21.1	11.15.4.7	2	Occurrence
Scientific Name	Common Name	Status	Habitat Type	Comments	Potential
Spea hammondii	western spadefoot	ssc	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Suitable habitat for this species does not occur in the BSA. The nearest CNDDB record is approximately 6.5 miles to the southeast from 1995.	Not Likely to Occur
REPTILES		1		To 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Anniella pulchra	Northern California legless lizard	ssc	Sandy or loose loamy soils under sparse vegetation; soil moisture is essential; prefer soils with high moisture content.	Suitable habitat is present within the BSA. There are multiple CNDDB records from within approximately 1 mile, including several in adjacent areas.	High
Emys marmorata	western pond turtle	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Suitable aquatic habitat is not present within or adjacent to the BSA. There is a CNDDB record for this species approximately 0.5 miles to the west from 2006.	Low
Phrynosoma blainvillii	coast horned lizard	SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Suitable habitat is present within the BSA and this species was observed in the BSA during the surveys conducted in 2019.	Present
Thamnophis hammondii	two-striped gartersnake	SSC	Coast California form vicinity of Salinas to northwest Baja California. From sea to about 7000 ft. elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Suitable aquatic habitat for this species does not occur in the BSA. The nearest CNDDB record is approximately 5 miles to the southwest from 2008.	Not Likely to Occur
BIRDS					
Accipiter striatus	sharp-shinned hawk	WL	Prefers, but not restricted to riparian habitats; breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats; requires north-facing slopes with perches.	Suitable nesting habitat is not present in the BSA but may be available in adjacent areas. This species may forage within the BSA. The nearest CNDDB record is approximately 2.25 miles to the south from 2003.	Not Likely to Occur (nesting)/Moderate (foraging)
Athene cunicularia	burrowing owl	SSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Limited suitable nesting habitat is present in the BSA; limited foraging habitat is available as small mammal activity within the BSA was noted as minimal during the 2019 surveys. The nearest CNDDB record is approximately 5 miles to the southwest from 2006. eBird reports multiple occurrences within approximately 2 miles of the BSA to the west and south.	Moderate



Та	xa	01.1	H-121-4 T	Q	Occurrence
Scientific Name	Common Name	Status	Habitat Type	Comments	Potential
Buteo swainsoni	Swainson's hawk	ST, BCC	Breeds in stands with few trees in junipersage flats, riparian areas, and oak savannahs.	Suitable nesting habitat is not present in the BSA but may be available in adjacent areas. This species may forage within the BSA. The nearest CNDDB record is approximately 4.0 miles to the south from the late 1800's. eBird reports a recent occurrence approximately 2 miles to the west of the BSA.	Not Likely to Occur (nesting)/Low (foraging)
Charadrius alexandrinus nivosus	western snowy plover	FT, SSC, BCC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Suitable nesting habitat is not present within the BSA but is known to occur further west along the coastal beaches. The CNDDB reports multiple occurrences of this species ranging from approximately 1.5 – 4 miles to the west and northwest. Multiple occurrences of this species are reported in eBird from approximately 1 – 2 miles to the west, northwest, and southwest of the BSA.	Not Likely to Occur (nesting)/Low (foraging)
Falco mexicanus	prairie falcon	WL, BCC	Resident and winter visitor. Inhabits dry, open terrain, including grasslands, scrub and desert. Breeding sites typically located on remote cliffs. Forages widely.	Suitable nesting habitat is not present in the BSA but may be available in adjacent areas. This species may forage within the BSA. The nearest CNDDB record for this species is approximately 7.5 miles to the northeast of the BSA from the 1970's. eBird reports a recent occurrence approximately 2 miles to the west of the BSA.	Not Likely to Occur (nesting)/Low (foraging)
Falco peregrinus anatum	American peregrine falcon	CFP, BCC	Occurs in various open habitats, especially where suitable nesting cliffs present.	Suitable nesting habitat is not present in the BSA but may be available in adjacent areas. This species may forage within the BSA. The nearest CNDDB record for this species is approximately 3.75 miles to the southwest of the BSA from 2013. eBird reports multiple occurrences approximately 1.5 – 2 miles to the west along the coastline.	Not Likely to Occur (nesting)/Moderate (foraging)
Laterallus jamaicensis coturniculus	California black rail	ST, CFP, BCC	Inhabits tidal emergent wetlands dominated by Salicornia pacifica and brackish marshes supporting Schoenoplectis species. Forages on invertebrates found on the surface of mud or other vegetation.	Suitable nesting habitat for this species does not occur in the BSA. There are multiple CNDDB records for this species approximately 0.75 – 1.75 miles to the northwest and southwest of the BSA.	Not Likely to Occur (nesting)/Low (foraging)



Та	xa	Ctatus	Habitat Tuna	Comments	Occurrence
Scientific Name	Common Name	Status	Habitat Type	Comments	Potential
Sternula antillarum browni	California least tern	FE, SE, CFP	Prefers coastal areas; generally, nests on beach areas in loose sandy soils.	Suitable nesting habitat is not present in the BSA but may be available in adjacent areas. The nearest CNDDB record for this species is approximately 1.5 miles to the southwest of the BSA from 2016. eBird reports multiple occurrences approximately 1.5 – 2.0 miles to the west along the coastline.	Not Likely to Occur (nesting)/Low (foraging)
MAMMALS	MMALS				
Corynorhinus townsendii	Townsend's big- eared bat	SSC	Coastal conifer and broadleaved forests, oak and conifer woodlands, arid grasslands and deserts, and high-elevation forests and meadows. Primarily roosts in caves and abandoned mines, but may roost in buildings, bridges, rock crevices, and hollow trees in many habitat types.	Suitable roosting habitat does not occur in the BSA but may occur in adjacent areas; suitable foraging may be present within portions of the BSA. The nearest CNDDB record is approximately 8miles to the north from 1992.	Not Likely to Occur (roosting)/Low (foraging)
Lepus californicus bennettii	San Diego black- tailed jackrabbit	ssc	Intermediate canopy stages of shrub habitats and shrub, tree, herbaceous edges; primarily coastal sage scrub habitats.	This species was observed during surveys within the BSA.	Present
Taxidea taxus	American badger	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Suitable habitat is present in the BSA. There was a badger den observed on SMR property in 2018 several miles from the BSA. The nearest CNDDB record is approximately 0.25 miles to the southwest from 2006.	High

Federal Rankings:
FE = Federally Endangered
FT = Federally Threatened
FP = Federally Protected
FC = Federal Candidate for Listing
BCC = USFWS Bird of Conservation Concern

State Rankings:
SE= State Endangered
ST = State Threatened
SC = State Candidate for Listing
CFP = California Fully Protected
CPF = California Protected Fur-bearer
SA = CDFW Special Animal
WL = CDFW Watch List
SSC = Species of Special Concern SSC = Species of Special Concern



5.6 WILDLIFE CORRIDORS AND SPECIAL LINKAGES

Linkages and corridors facilitate regional animal movement and are generally centered in or around waterways, riparian corridors, flood control channels, contiguous habitat, or upland habitat. Drainages generally serve as movement corridors because wildlife can move easily through these areas and fresh water is available. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals.

As the movements of wildlife species are more intensively studied using radio-tracking devices, there is mounting evidence that some wildlife species do not necessarily restrict their movements to some obvious landscape element, such as a riparian corridor. For example, recent radio-tracking and tagging studies of amphibians and reptiles found that long-distance dispersal involved radial or perpendicular movements away from a water source with little regard to the orientation of the assumed riparian "movement corridor" (Hunt, 1993; Rathbun et al., 1992; Bulger et al., 2002; Trentham, 2002; Ramirez, 2002, 2003a, 2003b). Likewise, carnivores do not necessarily use riparian corridors as movement corridors, frequently moving overland in a straight line between two points when traversing large distances (Newmark, 1995; Beier, 1993, 1995; Noss, et al., 1996; Noss et al., no date). In general, the following corridor functions can be utilized when evaluating impacts to wildlife movement corridors:

- Movement corridors are physical connections that allow wildlife to move between patches of suitable habitat. Simberloff et al. (1992) and Beier and Loe (1992) correctly state that, for most species, we do not know what corridor traits (length, width, adjacent land use, etc.) are required for a corridor to be useful. But, as Beier and Loe (1992) also note, the critical features of a movement corridor may not be its physical traits but rather how well a particular piece of land fulfills several functions, including allowing dispersal, plant propagation, genetic interchange, and recolonization following local extirpation.
- Dispersal corridors are relatively narrow, linear landscape features embedded in a dissimilar matrix that links
 two or more areas of suitable habitat that would otherwise be fragmented and isolated from one another by
 rugged terrain, changes in vegetation, or human-altered environments. Corridors of habitat are essential to
 the local and regional population dynamics of a species because they provide physical links for genetic
 exchange and allow animals to access alternative territories as dictated by fluctuating population densities.
- Habitat linkages are broader connections between two or more habitat areas. This term is commonly used as
 a synonym for a wildlife corridor (Meffe and Carroll, 1997). Habitat linkages may themselves serve as source
 areas for food, water, and cover, particularly for small- and medium-size animals.
- Travel routes are usually landscape features, such as ridgelines, drainages, canyons, or riparian corridors
 within larger natural habitat areas that are used frequently by animals to facilitate movement and provide
 access to water, food, cover, den sites, or other necessary resources. A travel route is generally preferred by
 a species because it provides the least amount of topographic resistance in moving from one area to another
 yet still provides adequate food, water, or cover (Meffe and Carroll, 1997).
- Wildlife crossings are small, narrow areas of limited extent that allow wildlife to bypass an obstacle or barrier.
 Crossings typically are manmade and include culverts, underpasses, drainage pipes, bridges, and tunnels to provide access past roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent "choke points" along a movement corridor because useable habitat is physically constricted at the crossing by human-induced changes to the surrounding areas (Meffe and Carroll, 1997).



5.6.1 Wildlife Movement in the BSA

There has been no known widespread analysis on wildlife movement conducted on the BSA; the 2015 Final Environmental Impact Report for the nearby Phillips SMR Rail Project did not identify any wildlife corridors within the vicinity of the SMR (Marine Research Specialists, 2015). Terrestrial wildlife, such as coyote and badger, are known from the area and may use portions of the BSA as a pathway around the adjacent development. The presence of larger mammals, such as coyote, within the BSA indicates that wildlife is able to navigate the existing fencing.

5.7 SUFFIENCY OF BIOLOGICAL DATA

Surveys and data collected to support the analysis presented in this BRTR was sufficient in terms of analyzing impacts special-status wildlife as they were done during appropriate times of the year when wildlife known to occur in the general area would have been present and active. Surveys for botanical resources, however, were not floristic in nature, and may not have captured the blooming periods for all special-status species that have the potential to occur in the BSA. Therefore, as described below under Section 6.5, focused floristic surveys will be conducted in the spring/summer of 2020 and a survey report submitted to the County of San Luis Obispo for review and approval as an addendum to this BRTR.

6.0 IMPACTS AND AVOIDANCE/MINIMIZATION MEASURES

Construction of the Project would temporarily impact both native and non-native vegetation communities that support a variety of common and sensitive species. The Project proposes to excavate and remove soils and debris from within portions of the NIWS and transport them off-site. During construction activities, if present, direct impacts to special-status plants include trampling or crushing from heavy equipment, vehicles, or foot traffic; alterations to the native seed bank due to soil compaction; and modifications to existing hydrological conditions. Indirect impacts could include the disruption of native seed banks through soil alterations, the accumulation of fugitive dust, increased erosion and sediment transport, and the colonization of non-native and invasive plant species. Excessive dust can decrease or limit plant survivorship by decreasing photosynthetic output, reducing transpiration, and adversely affecting reproductive success. Ground-disturbing activities that would occur during the Project can result in the proliferation and spread of non-native invasive plants to new areas. Because noxious weeds can permanently degrade rare plant and animal habitats, their proliferation could adversely affect sensitive plant species if they are present.

Table 5 (Section 5) lists special-status plants that have the potential to occur within the BSA due to the presence of suitable habitat and known occurrences within five miles of the BSA or are known to be present within the BSA. Nipomo Mesa lupine and sand almond, while present in the BSA, have not been documented within the proposed excavation/impact areas nor are they expected to occur due to the disturbed soils associated with the landfill proposed for removal.

Other special-status species such as sand mesa manzanita (*Arctostaphylos rudis*), Nipomo Mesa ceanothus (*Ceanothus impressus* var. *nipomensis*), Coastal goosefoot (*Chenopodium littoreum*), surf thistle (*Cirsium rhothophilum*), La Graciosa thistle (*Cirsium scariosum* var. *loncholepis*), Pismo clarkia (*Clarkia speciose* ssp. *immaculata*), dune larkspur (*Delphinium parryi* ssp. *blochmaniae*), beach spectaclepod (*Dithyrea maritima*),



Blockman's leafy daisy (*Erigeron blochmaniae*), suffrutescent wallflower (*Erysimum suffrutescens*), Crisp monardella (*Monardella undulata* ssp. *crispa*), San Luis Obispo monardella (*Mondardella undulata* ssp. *undulata*), coast woolyheads (*Nemacaulis denudate* var. *denudata*), black-flowered figwort (*Scrophularia atrata*), and Blochman's ragwort (*Senecio blochmaniae*) were determined to have a high or moderate potential of occurrence within the BSA (based on the presence of potentially suitable habitat and known occurrences within five miles of the BSA). Although suitable habitat is present and there are known occurrences within five miles these species have not been observed to date within the BSA during surveys to support this report or surveys conducted by the San Luis Obispo Land Conservancy within the BSA over the last approximately 10 years. Therefore, while they meet the criteria for the high or moderate potential of occurrence, based on multiple years of survey data these species are not expected to occur within proposed Project excavation area or the entirety of the BSA.

Impacts to federally and/or state listed plant species from Project related activities, should they occur, would be significant. The avoidance and minimization measures (AMM), presented below, would require pre-construction floristic surveys to document the presence/absence of all listed plant species and require avoidance of all listed plant species, with a minimum 25-foot no activity buffer. Therefore, with implementation of the proposed AMM, impacts to listed plant species would less than significant.

Impacts to non-listed, CRPR species, would be significant if Project activities would result in impacts to more than 10% of the on-site population of a particular species; conversely, impacts to less than 10% of an on-site population of a CRPR species would not be considered significant. The avoidance and minimization measures (AMM), presented below, would require pre-construction floristic surveys to document the presence/absence of all CRPR species and require avoidance of all CRPR species, with a minimum 25-foot no activity buffer, where feasible. Where avoidance is not possible the plants will be salvaged (e.g., entire plant transplanted to a nursery pot and/or seed collection for propagation). If more than 10% of the on-site population of a CRPR species is impacted, compensatory mitigation will be required as detailed below under Section 6.7. Therefore, with implementation of the proposed AMM, impacts to CRPR species would less than significant.

Construction activities associated with the Project could result in the direct loss of sensitive wildlife such as horned lizards. Direct impacts could result from potential mechanical crushing during construction, fugitive dust, and general disturbance due to increased human activity. Indirect impacts could include compaction of soils and the introduction of exotic plant species. Direct impacts to special-status birds, should they occur, include ground-disturbing activities associated with construction, increased noise levels from heavy equipment, increased human presence, and exposure to fugitive dust. Construction during the breeding season could result in the displacement of breeding birds and the abandonment of active nests. Indirect impacts include human disturbance, the spread of noxious weeds, and disruption of breeding or foraging activity. Ongoing weed management could also affect nesting.

Impacts to special-status wildlife from Project related activities, should they be present during construction, would be significant. The AMM presented below would require pre-construction wildlife surveys, biological monitoring, implementation of wildlife specific best management practices, and environmental awareness training would reduce impacts to special-status wildlife to less than significant levels.

To avoid and minimize impacts to both common and special-status plants and wildlife, the following AMM are proposed:



6.1 WILDLIFE PRE-CONSTRUCTION CLEARANCE SURVEYS AND BIOLOGICAL MONITORING

Prior to ground disturbance or vegetation clearing within the proposed Project site, a qualified biologist shall conduct pre-construction clearance surveys for wildlife (no more than 7 days prior to site disturbing activities) where suitable habitat is present and directly impacted by construction activities. Wildlife found within the proposed Project site or in areas potentially affected by the proposed Project would be relocated to the nearest suitable habitat that would not be affected by the proposed Project prior to the start of construction. Special-status species found within a proposed Project impact area shall be relocated by an authorized biologist to suitable habitat outside the impact area.

Phillips 66 shall retain a qualified lead biologist(s) to oversee compliance with the avoidance and minimization measures outlined in this document. The lead biologist shall be onsite during all initial ground disturbance activities and then occasionally throughout the construction phase. The lead biologist(s) shall have the right to halt all activities that are in violation of special-status species protection measures. Work shall proceed only after hazards to special-status species are removed, the species are allowed to leave, or are removed (if allowed) and the species is no longer at risk. The lead biologist(s) shall have a copy of all the compliance measures in their possession while work is being conducted onsite. Construction activity may also be monitored by biological monitors under the lead biologist's supervision to ensure compliance with mitigation measures.

6.2 ENVIRONMENTAL AWARENESS TRAINING

Phillips 66 shall submit proof to the County of San Luis Obispo that all proposed Project personnel have attended an environmental awareness and compliance training program. The training program shall present the environmental regulations and applicable permit conditions that the proposed Project team shall comply with. The training program shall include applicable measures established for the proposed Project to minimize impacts to water quality and avoid sensitive resources, habitats, and species. Subsequent training events shall be scheduled to support the training of new personnel. Dated sign-in sheets for attendees at these meetings shall be maintained and submitted to the County.

6.3 IMPLEMENT BEST MANAGEMENT PRACTICES

Prior to the issuance of any grading permits and/or notice to proceed, the Applicant shall submit grading plans and specifications to the County of San Luis Obispo, which indicate that the proposed Project shall implement the following Best Management Practices:

- Restrict non-essential equipment to the existing roadways and/or ruderal areas to avoid disturbance to native vegetation.
- All excavation, steep-walled holes or trenches shall be provided with one or more escape ramps constructed
 of earth dirt fill or wooden planks. Trenches would also be inspected for entrapped wildlife each morning
 prior to onset of construction activities. Before such holes or trenches are filled, they would be thoroughly
 inspected for entrapped wildlife. Any wildlife discovered would be allowed to escape before construction
 activities are allowed to resume or removed from the trench or hole by a qualified biologist holding the
 appropriate permits (if required).



- Minimize mechanical disturbance of soils to reduce impact of habitat manipulation on small mammals, reptiles, and amphibians.
- Removal or disturbance of vegetation shall be minimized to the greatest extent feasible.
- Implementation of a 15-miles-per-hour speed limit within all proposed Project areas.
- To avoid impacts to undisturbed habitat within the BSA, no vehicles will be allowed to travel outside of existing asphalt/dirt roads within the BSA; refer to Figure 2 (Appendix A) for a depiction of the existing roads.

6.4 NESTING BIRD SURVEYS AND AVOIDANCE MEASURES

If initial site disturbance is scheduled to begin during the avian nesting season (February 15 through September 15; January 1 through August 15 for raptors), breeding/nesting bird surveys shall be conducted by a qualified biologist no more than 3 days prior to the start of site disturbance. Surveys shall be conducted within 500 feet of all proposed Project activities.

If endangered or threatened species are observed, consultation with U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife is required. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest, and no activities would be allowed within the buffer(s) until the young have fledged from the nest or the nest fails; initial buffers for nesting raptors shall be 500 feet. The prescribed buffers for common species may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors; for example, buffers for common passerines, often found to be habituated to human activity, may be adjusted down to 25 - 50 feet depending on the disturbance tolerance of each specific species. Buffer adjustments for listed and/or other special-status species shall be done in coordination with the United States Fish and Wildlife Service and California Department of Fish and Wildlife as applicable. The qualified biologist shall conduct regular monitoring of the nest to determine success or failure and to ensure that proposed Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails.

6.5 SPECIAL-STATUS PLANT SURVEYS AND AVOIDANCE MEASURES

Prior to the start of proposed Project activities, a qualified biologist/botanist shall conduct focused floristic surveys within the entirety of the BSA in the spring of 2020. A minimum of three survey events should be conducted and timed to account for the variance in blooming periods for special-status plans known or with the potential to occur in the BSA. Upon completion of the surveys a detailed survey report shall be prepared and submitted to the County of San Luis Obispo, as an addendum to this BRTR, for review and approval. This report shall include, at a minimum, a description of survey methodologies, a compendium of all species observed, and detailed GIS based maps showing locations of all mapped species.

All occurrences of special-status plants will be mapped and occurrences within 100 feet of proposed Project activities flagged in the field. A minimum of a 25-foot buffer shall be placed around all known locations of special-status species within 100-ft of Project activities to avoid potential impacts to seed banks and microhabitats that support the species. These buffers shall be flagged/fenced and avoided during construction. All occurrences of Nipomo Mesa lupine, or any other federal or state listed species, will be avoided. Occurrences of CRPR species will be avoided to the extent possible. If CRPR species (e.g., sand almond) cannot be avoided the individual plants shall be salvaged (e.g., plant placed in large nursery pot and/or seed collection) for use in habitat restoration activities (refer to Section 6.6 below)



once Project related construction activities are complete. Details of the proposed salvage activity will be presented in the Habitat Restoration Plan (refer to section 6.6 below). All plants directly salvaged or propagated from collected seed shall be monitored and must survive in good health or demonstrate stable or expanding populations, for a minimum of three years, post planting, for salvage to be considered successful. Details of the salvage methodology will be presented in the Habitat Restoration Plan (HRP) detailed under Section 6.6 below.

6.6 VEGETATION REMOVAL AND REPLACEMENT

Construction activities shall be done in such a manner as to minimize the removal of native vegetation. If native vegetation removal cannot be avoided, and the removal is approved by the County of San Luis Obispo, the impacted plant communities shall be replaced at a mitigation ratio of 1:1. Sensitive communities (e.g., silver dune lupine – mock heather scrub) shall be replaced at a mitigation ration of 2:1. The compensation for the loss of habitats may be achieved either by a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to construction, b) off-site creation or enhancement of dune scrub communities, or c) participation in an established mitigation bank program.

Prior to the removal of native vegetation, if on- or off-site mitigation is required, a HRP shall be prepared that will guide all restoration and monitoring activities. This plan shall include, at a minimum, the following:

- · Proposed species list for creation/enhancement;
- Planting/seeding methodology;
- · Details on methodologies for salvage of CRPR species;
- Irrigation plan;
- · Weeding schedule;
- · Success criteria;
- · Monitoring methodology and schedule;
- Reporting requirements; and
- Contingency plan.

6.7 COMPENSATION FOR IMPACTS TO CRPR SPECIES

If Project-related impacts result in the loss of more than 10% of the on-site (BSA) population of any CRPR plant species, compensatory mitigation will be required. Compensation will be required for all impacts that exceed the 10% threshold (e.g. impacts to 15% of a population will only require compensation for 5% or the amount of impacts that exceed the 10% threshold). Compensation for permanent impacts to CRPR species may be achieved either by a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to construction, b) off-site creation or enhancement of dune scrub communities, or c) participation in an established mitigation bank program.at a 1:1 mitigation ratio (one acre preserved for each acre impacted).



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Compensation for temporary impacts will be at a 0.5:1 ratio. Enhanced/restored habitat for an impacted plant species shall be of equal or greater habitat quality to the impacted areas in terms of soil features, extent of disturbance, and vegetation structure.

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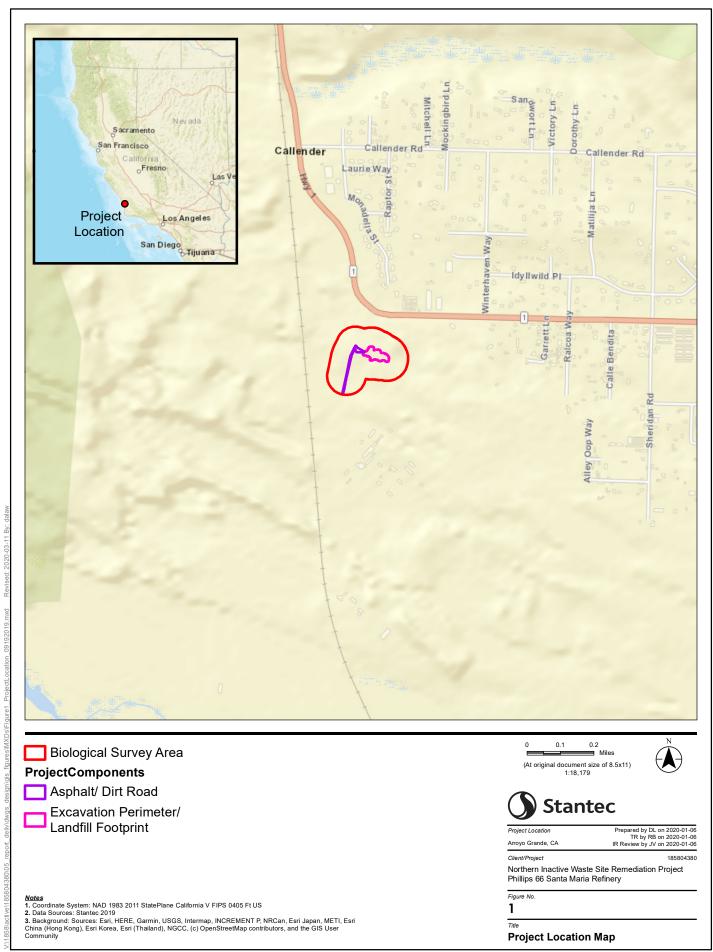
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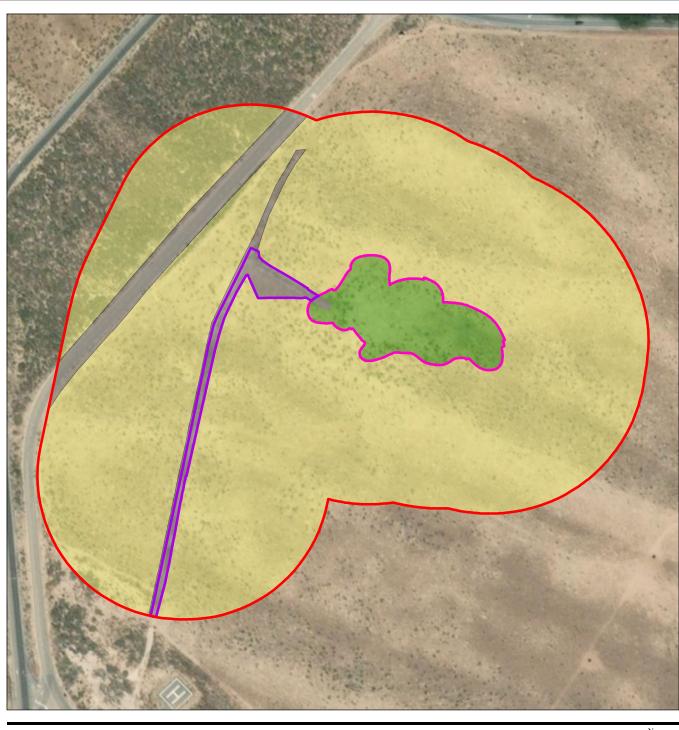


Appendix A Figures March 10, 2020

Appendix A FIGURES







Biological Survey Area

Project Components

Asphalt/ Dirt Road

Excavation Perimeter/ Landfill Footprint

Vegetation Communities & Land Cover Types

Lupinus chamissonis-Ericameria ericoides Shrubland Alliance, Ericameria ericoides Association

Disturbed Lupinus chamissonis-Ericameria ericoides Shrubland Alliance, Ericameria ericoides Association

Disturbed/ Developed

Stantec



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Arroyo Grande, CA

Prepared by DL on 2020-01-06 TR by RB on 2020-01-06 IR Review by JV on 2020-01-06

Northern Inactive Waste Site Remediation Project Phillips 66 Santa Maria Refinery

2

Vegetation Communities & Land Cover Types

Notes
1. Coordinate System: NAD 1983 2011 StatePlane California V FIPS 0405 Ft US
2. Data Sources:Stantec 2019
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN,



Biological Study Area

Project Components

Asphalt/ Dirt Road

Excavation Perimeter/ Landfill Footprint

MUSYM, Soil_Name

184, Oceano Sand 0 to 9 percent slopes

185, Oceano Sand 9 to 30 percent slopes

Notes
1. Coordinate System: NAD 1983 2011 StatePlane California V FIPS 0405 Ft US
2. Data Sources:Stantec 2019, NRCS 2019.
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, GS, and the GIS User Community
4. Refer to section 4.5 in Biological Resources Technical Report.

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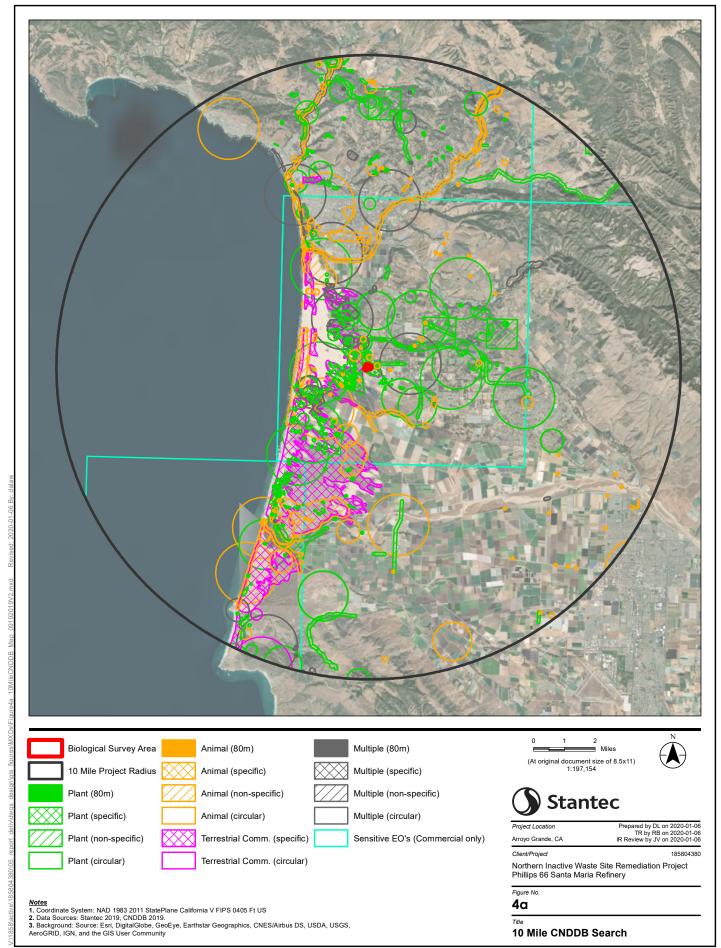
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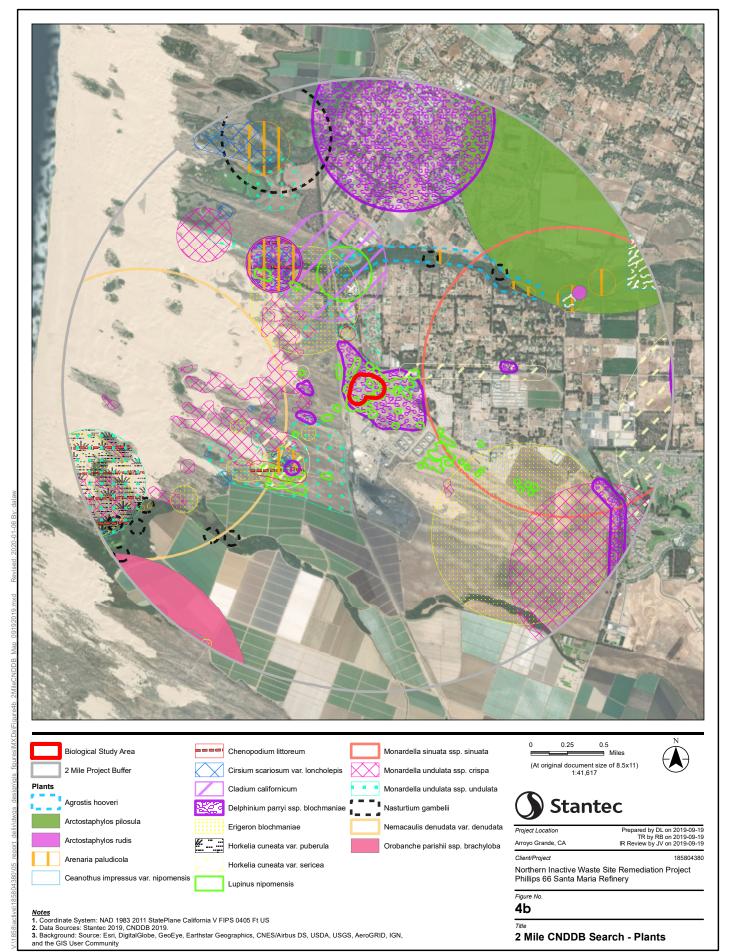
Northern Inactive Waste Site Remediation Project Phillips 66 Santa Maria Refinery

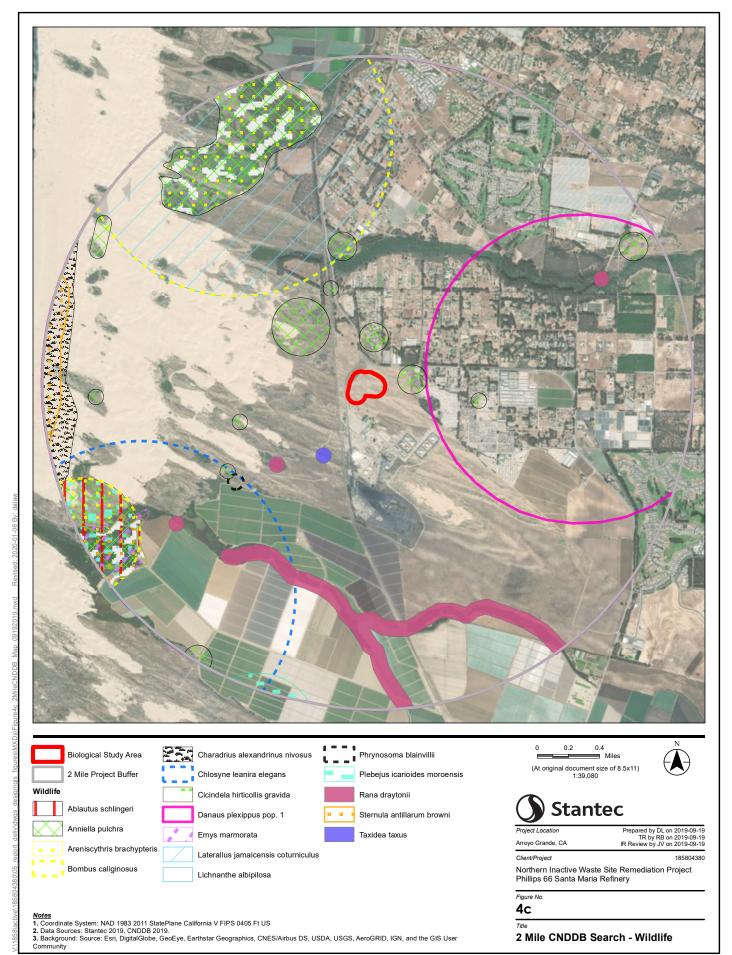
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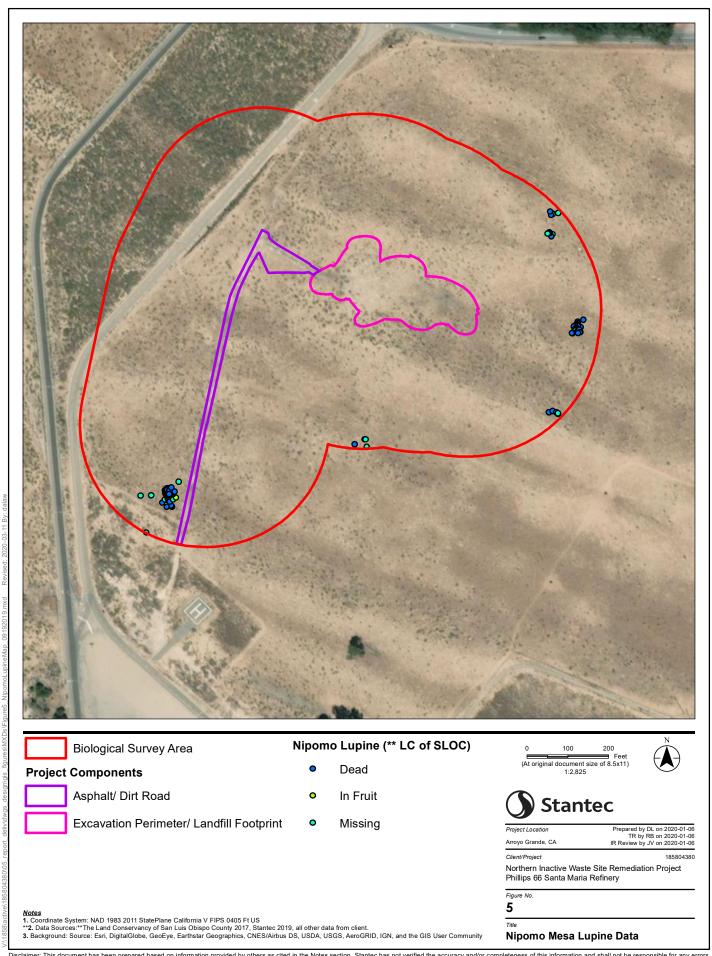


Title **Historical Soils**









Appendix B Photographic Log March 10, 2020

Appendix B PHOTOGRAPHIC LOG



STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC LOG

Client: P66 **Job Number:** 185804380

Site Name: NIWS Photographer: J. Varonin

Photo 1: July 12, 2019



View looking northeast at the Project area.

Photo 2: September 12, 2019



View looking north at the Project area from the southern portion of the BSA.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC LOG

Client: P66 Job Number: 185804380
Site Name: NIWS Photographer: J. Varonin

Photo 3: September 12, 2019



View looking east at the Project area from the center of the BSA.

Photo 4: September 12, 2019



View looking west at the Project area from the center of the BSA.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC LOG

Client: P66 Job Number: 185804380
Site Name: NIWS Photographer: J. Varonin

Photo 5: September 12, 2019



View looking west at the existing access road in the northern portion of the BSA.

Photo 6: September 12, 2019



View looking east at the access road to the Project area from Willow Road.

Appendix C DECLARATIONS OF BIOLOGIST QUALIFICATIONS March 10, 2020

Appendix C DECLARATIONS OF BIOLOGIST QUALIFICATIONS



APPENDIX E - DECLARATIONS OF BIOLOGIST QUALIFICATIONS

General Biological Report Decl	<u>aration</u>
PROJECT NAME/NUMBER: P66 N	lorthern Inactive Waste Site Remediation Proejct
NAME OF BIOLOGIST: Jared Varonii	n, Principal Biologist FIRM: Stantec Consulting Services Inc.
following minimum qualifications to	for the above referenced project. I have the comply with the County of San Luis Obispo's or this type of biological report (General):
resources, ecology conservation be; from (specify school & year	
California Polytechnic State Universit	y San Luis Obispo, San Luis Obispo, California, 1999
 I have previously conducted indep following: 	endent field work and reporting, and demonstrated the
 Knowledge and experience in found in San Luis Obispo Cou 	identification of habitats and vegetation associations inty;
 General knowledge of local pl 	ant and wildlife species;
 General knowledge of sensitive 	e habitats and plant and wildlife species;
 Ability and experience in identification 	tifying potential impacts to plants, animals, and habitats;
 Ability and experience in reco plants, animals, and habitats; 	mmending mitigation measures to minimize impacts to
 Experience in monitoring for c 	compliance with biological mitigation measures; and
 Ability and experience in writing County Guidelines for Prepara 	ng complete, well-written technical reports as per the ation of Technical Reports.
Check one:	
Attached is a representative co	py (electronic) of a recent report I authored.
X I previously submitted a repres	entative copy of a report I authored.
	meet all of the above qualifications and that I was a provided field oversight and/or conducted a vey work.
	30 March 2020
Signature of Biologist	Date

Appendix D $\,$ CNPS Rare Plant Inventory Database Search Results March 10, 2020

Appendix D CNPS RARE PLANT INVENTORY DATABASE SEARCH RESULTS



Scientific Name	Common	CRPR	GRank	SRank CESA	FESA	Blooming Period	Habitat	Counties	Quads	Notes	Element Code	Date Added	Last Update
	red sand- verbena	4.2	G4	S3? None	None		Coastal dunes	SDG, SLO,	Imperial Beach (3211751), Point Loma (3211762), La Jolla (3211772), Del Mar (3211782), San Clemente Island North (3211885), Encinitas (3311713), Oceanside (3311724), Las Pulgas Canyon (3311734), Newport Beach (3311768), Santa Catalina North (3311844), Venice (3311884), San Nicolas Island (3311924), Anacapa Island (3311983), Santa Cruz Island D (3311984), Santa Cruz Island C (3311985), Santa Cruz Island A (3311987), San Miguel Island East (3312083), San Miguel Island West (3312084), Triunfo Pass (3411818), Point Mugu (3411911), Ventura (3411933), Dos Pueblos Canyon (3411948), Point Conception (3412044), Point Arguello (3412056), Lompoc (3412064), Surf (3412065), Casmalia (3412075), Point Sal (3412086), Oceano (3512015), Morro Bay South (3512037), Morro Bay North (3512047), Cayucos (3512048)	Nearly extirpated in southern CA; more common to north? Field surveys needed. Hybridizes with A. latifolia and A. umbellata. See Botany of California 2:4 (1880) for original description.	PDNYC010E0		2/8/2019
Aphanisma blitoides	aphanisma		G3G4				Coastal bluff scrub, Coastal dunes, Coastal scrub	SDG,	Imperial Beach (3211751), National City (3211761), Point Loma (3211762), La Jolla (3211772), Del Mar (3211782), San Clemente Island South (3211873), San Clemente Island Central (3211874), San Clemente Island North (3211885), San Onofre Bluff (3311735), Dana Point (3311746), Laguna Beach (3311757), Newport Beach (3311768), Santa Catalina East (3311833), Santa Catalina South (3311834), Santa Catalina North (3311844), Santa Catalina West (3311845), Santa Barbara Island (3311848), San Pedro (3311863), Redondo Beach (3311874), San Nicolas Island (3311924), Anacapa Island (3311983), Santa Cruz Island A (3311987), Santa Rosa Island South (3312071), Ventura (3411933), Casmalia (3412075), Point Sal (3412086)	In steep decline on mainland, and also declining on islands. May occur on ANA Island. Threatened by urbanization, recreational development, foot traffic, and nonnative plants. Threatened by feral herbivores on SCT, SCZ, and SRO Islands.		1/1/1980	
Astragalus nuttallii	ocean bluff milk- vetch	4.2	G4T4	S4 None	None		Coastal bluff scrub, Coastal dunes	ALA, MNT, MRN, SBA, SFO, SLO, SMT	Surf (3412065), Casmalia (3412075), Point Sal (3412086), Oceano (3512015), Morro Bay South (3512037), Cambria (3512151), Pico Creek (3512152), San Simeon (3512162), Piedras Blancas (3512163), Cape San Martin (3512184), Lopez Point (3612115), Big Sur (3612137), Soledad (3612143), Soberanes Point (3612148), Monterey (3612158), Marina (3612167), Pigeon Point (3712224), San Gregorio (3712234), Montara Mountain (3712254), San Francisco South (3712264), San Francisco North (3712274), Point Bonita (3712275)	Possibly threatened by foot traffic and road maintenance. See Leaflets of Western Botany 5(6):107 (1948) for revised nomenclature.	PDFAB0F641	1/1/2001	8/17/2016

Scientific Name	Common	CRPR	GRank	SRank CESA	FESA	Blooming Period	Habitat	Counties	Quads	Notes	Element Code	Date Added	Last Update
										Possibly threatened by			
										recreational activities, vehicles,			
										and non-native plants. Previously			
										identified as C. carnosulum var.			
										patagonicum. See Madroño			
Chenopodium	coastal						Coastal	LAX,	Venice (3311884), Surf (3412065), Casmalia (3412075),	57(1):64-72 (2010) for original			
littoreum	goosefoot	1B.2	G1	S1 None	None	Apr-Aug	dunes	SBA, SLO	Oceano (3512015), Morro Bay South (3512037)	description.	PDCHE091Z0	6/1/2011	1/10/2013
									Santa Catalina East (3311833), Santa Rosa Island South				
									(3312071), Santa Rosa Island North (3312081), Santa	Threatened by grazing and insect			
							Chaparral,		Rosa Island West (3312082), San Miguel Island East	predation, and potentially by road			
							Coastal		(3312083), San Miguel Island West (3312084), Point	construction and development.			
							dunes,		Sal (3412086), Cayucos (3512048), Cambria (3512151),	Some inland plants weakly			
							Coastal	LAX,	Pico Creek (3512152), San Simeon (3512162), Piedras	separated from var. occidentale.			
Cirsium	compact						prairie,	MNT,	Blancas (3512163), Pfeiffer Point (3612127), Big Sur	Compact, low-growing plants from			
occidentale var.	cobwebby						Coastal	SBA,	(3612137), Point Sur (3612138), San Francisco South	MNT Co. (344C) are probably not			
compactum	thistle	1B.2	3G4T2	S2 None	None	Apr-Jun	scrub	SFO, SLO	(3712264)	var. compactum.	PDAST2E1Z1	1/1/1974	4/18/2019
							Coastal		Point Conception (3412044), Tranquillon Mtn.				
							bluff		(3412055), Point Arguello (3412056), Surf (3412065),	Threatened by vehicles, foot			
							scrub,		Casmalia (3412075), Guadalupe (3412085), Point Sal	traffic, and non-native plants. See			
Cirsium							Coastal		(3412086), Oceano (3512015), Pismo Beach (3512026),	Botanical Gazette 39:45 (1905) for			
rhothophilum	Surf thistle	1B.2	G1	S1 CT	None	Apr-Jun	dunes	SBA, SLO	Morro Bay South (3512037)	original description.	PDAST2E2J0	1/1/1974	3/15/2010
							е						
							woodland,						
							Coastal						
							dunes,						
							Coastal		Surf (3412065), Sisquoc (3412073), Orcutt (3412074),	Threatened by development,			
	La						scrub,		Guadalupe (3412085), Point Sal (3412086), Oceano	vehicles, groundwater pumping,			
Cirsium scariosum	Graciosa						Marshes	MNT,	(3512015), Pismo Beach (3512026), San Luis Obispo	and non-native plants. Possibly			
var. loncholepis	thistle	1B.1	G5T1	S1 CT	FE	May-Aug	and	SBA, SLO	(3512036)	threatened by grazing.	PDAST2E1N0	1/1/1974	4/23/2019
							cone		Oceano (3512015), Piedras Blancas (3512163), Burro	Move to CRPR 4? Potentially			
							coniferous	MNT,	Mountain (3512173), Lopez Point (3612115),	threatened by development.			
	branching						forest,	SCR,	Partington Ridge (3612126), Big Sur (3612137), Point	Needs taxonomic study; a			
Corethrogyne	beach						Coastal	SLO,	Sur (3612138), Soberanes Point (3612148), Monterey	synonym of Lessingia filaginifolia			
leucophylla	aster	3.2	G3Q	S3 None	None	May,Jul,Aug,Sep	dunes	SMT	(3612158), Marina (3612167), Ano Nuevo (3712213)	var. filaginifolia in TJM (1993).	PDAST2M030	1/1/1974	7/27/2017
									Thousand Oaks (3411827), Camarillo (3411921), Los				
									Alamos (3412063), Lompoc (3412064), Surf (3412065),				
									Orcutt (3412074), Casmalia (3412075), Santa Maria				
									(3412084), Point Sal (3412086), Oceano (3512015),				
							Chaparral		Arroyo Grande NE (3512025), Pismo Beach (3512026),				
							(maritime)		Lopez Mtn. (3512035), Morro Bay South (3512037),				
Delphinium parryi							, Coastal	SBA,	Santa Margarita (3512045), Pico Creek (3512152),	Field work needed. Threatened by			
ssp. blochmaniae	larkspur	1B.2	G4T2	S2 None	None	Apr-Jun	dunes	SLO, VEN	Pebblestone Shut-in (3512161), San Simeon (3512162)	development.	PDRAN0B1B1	1/1/1988	3/15/2010

Scientific Name	Common	CRPR	GRank	SRank CESA	FESA	Blooming Period	Habitat	Counties	Quads	Notes	Element Code	Date Added	Last Update
Dithyrea maritima	beach spectaclep od	18.1	G1	S1 CT	None	Mar-May	Coastal dunes, Coastal scrub (sandy)		(3311834), Santa Catalina North (3311844), Santa Catalina West (3311845), Redondo Beach (3311874), Venice (3311884), San Nicolas Island (3311924), San Miguel Island East (3312083), San Miguel Island West (3312084), Beverly Hills (3411814), Topanga (3411815), Surf (3412065), Casmalia (3412075), Guadalupe (3412085), Point Sal (3412086), Oceano (3512015), Pismo Beach (3512026), Morro Bay South (3512037)	Extirpated from half of its historical range. Need historical quads for SCT Isl. Last seen in LAX Co. in 1932. Threatened by trampling, vehicles, and nonnative plants. See Erythea 2:179 (1894) for original description.	PDBRA10020	1/1/1980	3/15/2010
Erigeron blochmaniae	Blochman' s leafy daisy	1B.2	G2	S2 None	None	Jun-Aug	Coastal dunes, Coastal scrub	SBA, SLO	Point Conception (3412044), Tranquillon Mtn. (3412055), Point Arguello (3412056), Surf (3412065), Casmalia (3412075), Santa Maria (3412084), Guadalupe (3412085), Point Sal (3412086), Oceano (3512015), Pismo Beach (3512026), Morro Bay South (3512037), Morro Bay North (3512047)	Threatened by development, non- native plants, and vehicles. See Pittonia 3:27-28 (1896) for original description, and Phytologia 72(3):157-208 (1992) for taxonomic treatment.	PDAST3M5J0	1/1/1974	11/15/2010
Erysimum suffrutescens	suffrutesce nt wallflower	4.2	G3	S3 None	None	Jan-Jul(Aug)	Coastal bluff scrub, Chaparral (maritime), Coastal dunes, Coastal scrub	LAX, SBA,	Venice (3311884), Oceano (3512015), Morro Bay South (3512037)	Threatened by coastal development, vehicles, and nonnative plants. Includes E. suffrutescens var. grandifolium. Hybridizes locally with E. capitatum.	PDBRA160D2	1/1/1980	11/29/2010
Horkelia cuneata var. sericea	Kellogg's horkelia	1B.1	G4T1?	S1? None	None	Apr-Sep	(maritime)	MNT, MRN,	Point Conception (3412044), Tranquillon Mtn. (3412055), Point Arguello (3412056), Lompoc (3412064), Surf (3412065), Orcutt (3412074), Casmalia (3412075), Guadalupe (3412085), Point Sal (3412086), Nipomo (3512014), Oceano (3512015), Morro Bay South (3512037), Santa Margarita (3512045), San Miguel (3512076), Cambria (3512151), Spreckels (3612156), Seaside (3612157), Monterey (3612158), Salinas (3612166), Marina (3612167), Prunedale (3612176), Watsonville West (3612187), Soquel (3612188), Felton (3712211), Davenport (3712212), Ano Nuevo (3712213), Half Moon Bay (3712244), Montara Mountain (3712254), San Francisco South (3712264), Oakland East (3712272), Oakland West (3712273), San Francisco North (3712274), Point Bonita (3712275), Drakes Bay (3812218)	Threatened by coastal development. Historical occurrences need field surveys. Occurrence from the Crocker Hills probably last remaining location in S.F. Bay; remaining plants less distinct from ssp. cuneata than those formerly occurring near San Francisco. See Novon 17(3):315-325 (2007) for revised nomenclature.	PDROS0W043	1/1/1988	5/30/2012
Lupinus nipomensis	Nipomo Mesa Iupine	1B.1	G1	S1 CE	FE	Dec-May	Coastal dunes	SLO	Oceano (3512015)	Threatened by development, vehicles, and non-native plants. See Leaflets of Western Botany 2(10):186-188 (1939) for original description.	PDFAB2B550	1/1/1974	5/7/2019

Scientific Name	Common	CRPR GRank SRar	k CESA	FESA	Blooming Perio	d Habitat	Counties	Quads	Notes	Element Code	Date Added L	ast Update
							SBA, SCM,					
							SCZ,					
							SDG,					
						_		San Nicolas Island (3311924), San Miguel Island East	Last collected on SCZ Isl in the			
Malacothrix	dunedelio					dunes, Coastal	SMI, SNI, SRO,	(3312083), San Miguel Island West (3312084), Surf (3412065), Casmalia (3412075), Point Sal (3412086),	1880's. See American Midland Naturalist 58(2):506 (1957) for			
incana	n	4.3 G3G4 S3S	A None	None	(Jan)Apr-Oct	scrub		Oceano (3512015)	taxonomic treatment.	PDAST66070	1/1/1974	3/15/2010
Incaria		4.5 0504 550	1NOTIC	None	(JanijApi-Oct	Scrub	VLIV	occurio (3312013)	taxonomic treatment.	1 DA3100070	1/1/15/4	3/13/2010
									Several historical occurrences are			
									presumed extirpated by			
									urbanization and non-native			
									plants. Seriously threatened by			
									veldt grass (Ehrharta calycina)			
									invasion. Also threatened by			
						Chaparral,			development, habitat loss, habitat			
						Cismontan		Newbury Park (3411828), Santa Paula (3411931),	fragmentation, vehicles, foot traffic, and recreational activities.			
						woodland,		Goleta (3411947), Zaca Creek (3412062), Los Alamos	Possibly threatened by climate			
	southern					Coastal		(3412063), Lompoc (3412064), Surf (3412065), Foxen	shifts. Previously included in M.			
	curly-					dunes,		Canyon (3412072), Orcutt (3412074), Casmalia	undulata. Similar to M. breweri			
Monardella	leaved					Coastal		(3412075), Oceano (3512015), Arroyo Grande NE	and M. douglasii. See Novon			
sinuata ssp.	monardell					scrub	SBA,	(3512025), Pismo Beach (3512026), Morro Bay South	19(3):315-345 (2009) for original			
sinuata	a	1B.2 G3T2 S	2 None	None	Apr-Sep	(openings)	SLO, VEN	(3512037), San Simeon (3512162)	description.	PDLAM18161	12/31/2013	12/17/2014
Monardella	crisp					dunes,		Tranquillon Mtn. (3412055), Point Arguello (3412056),				
undulata ssp.	monardell					Coastal		Surf (3412065), Casmalia (3412075), Guadalupe	Threatened by vehicles.			
crispa	а	1B.2 G3T2 S	2 None	None	Apr-Aug(Dec)	scrub	SBA, SLO	(3412085), Point Sal (3412086), Oceano (3512015)	Hybridizes with M. frutescens.	PDLAM18070	1/1/1974	4/27/2012
									Threatened by coastal			
									development and vehicles.			
									Potentially threatened by non-			
									native plants. Hybridizes with M.			
						Coastal			crispa. See Leaflets of Western			
	San Luis					dunes,			Botany 5:179-182 (1949) for			
Monardella	Obispo					Coastal		Surf (3412065), Orcutt (3412074), Casmalia (3412075),				
undulata ssp. undulata	monardell	1B.2 G2 S	2 None	None	May-Sep	scrub (sandy)	SBA SIO	Guadalupe (3412085), Point Sal (3412086), Oceano (3512015), Morro Bay South (3512037)	Phytologia 72(1):9-16 (1992) for revised nomenclature.	PDLAM180X0	1/1/1974	7/29/2013
unuulata	a	1D.Z GZ 3	z mone	NOHE	iviay-sep	(Sanuy)	30A, 3LO	(3312013), WOTO Day 304(11 (3312037)	Tevised Homenciature.	LNTAINITOUVO	1/1/19/4	1/29/2013

Scientific Name	Common	CRPR	GRank	SRank CESA	FESA	Blooming Period	Habitat	Counties	Quads	Notes	Element Code	Date Added	Last Update
							Chaparral, Cismontan e woodland,			Rare in southern California. Many herbarium records old. Threatened by aggregate mining, vehicles, flood control			
							Coastal	KRN,		modification, urbanization, and			
							dunes,	LAX,		water percolation projects.			
							Coastal	MNT,	0. 14 (0044550) D.: 14 (0044750) 7	Possibly threatened by non-native			
	California								Otay Mesa (3211658), Point Loma (3211762), Zaca	plants. Includes Chorizanthe			
Mucronea	California spineflowe						Valley and foothill	SDG,	Creek (3412062), Los Alamos (3412063), Lompoc (3412064), Surf (3412065), Caliente Mtn. (3511917),	californica var. suskdorfii. See Phytologia 66(3):203-205 (1989)			
californica	r	4.2	G3	S3 None	None	Mar-Jul(Aug)		•	Oceano (3512015), Arroyo Grande NE (3512025)	for revised nomenclature.	PDPGN0F010	1/1/1988	9/17/2010
camorriica	'	4.2	03	33 None	None	iviai-jui(Aug)	grassiana	SLO, VLIV	Securio (3312013), Arroyo Grande NE (3312023)		r Dr GNOI 010	1/1/1500	3/17/2010
									Improvint Boock (2211751) Notice of City (2211761)	Much reduced by coastal			
									Imperial Beach (3211751), National City (3211761),	development. Intergrades with			
									Point Loma (3211762), La Jolla (3211772), Del Mar (3211782), Encinitas (3311713), San Luis Rey	var. gracilis at some localities. Threatened by foot traffic,			
									(3311723), Oceanside (3311724), Las Pulgas Canyon	trampling, and non-native plants.			
								LAX,	(3311734), Newport Beach (3311768), Santa Catalina	See Madroño 27(2):101-109			
Nemacaulis	coast							ORA,	East (3311833), Seal Beach (3311861), San Pedro	(1980) and Phytologia 66(4):390-			
denudata var.	woolly-							SCT,	(3311863), Long Beach (3311872), Torrance (3311873),				
denudata	heads	1B.2	3G4T2	S2 None	None	Apr-Sep	dunes	SDG, SLO	Oceano (3512015), Morro Bay South (3512037)	treatments.	PDPGN0G011	1/1/1994	8/17/2016
							Coastal	SBA,	Imperial Beach (3211751), Point Loma (3211762), Del				
							bluff	SCT, SCZ,	Mar (3211782), Encinitas (3311713), Santa Catalina				
							scrub,	SDG,	South (3311834), San Nicolas Island (3311924), Santa				
	short-						Coastal	SLO,	Cruz Island C (3311985), Santa Cruz Island A (3311987),	Parasitic on shrubs such as			
	lobed						dunes,	SMI, SNI,	Santa Rosa Island North (3312081), Santa Rosa Island	Isocoma menziesii. See Madroño			
Orobanche parishii	broomrap						Coastal	SRO,	West (3312082), San Miguel Island East (3312083), San				
ssp. brachyloba	е	4.2	G4?T4	S3 None	None	Apr-Oct	scrub	VEN	Miguel Island West (3312084), Oceano (3512015)	description.	PDORO040A2	1/1/1974	3/15/2010
									Encinitas (3311713), San Luis Rey (3311723), Dana				
									Point (3311746), San Juan Capistrano (3311756),				
									Laguna Beach (3311757), Newport Beach (3311768),				
									Anaheim (3311778), La Habra (3311788), Venice				
									(3311884), Santa Cruz Island D (3311984), Santa Cruz	Previously on List 4.2.			
							Chanarral		Island B (3311986), San Miguel Island East (3312083),	Occurrences from MON and SLO			
							Chaparral,		San Miguel Island West (3312084), Point Dume	counties may be misidentified.			
							Coastal dunes,		(3411817), Triunfo Pass (3411818), Point Mugu (3411911), Oxnard (3411922), Ventura (3411933),	Many collections old; need field surveys. Threatened by			
							Coastal		Carpinteria (3411945), Santa Barbara (3411946),	development. Possibly threatened			
								LAX,	Goleta (3411947), Dos Pueblos Canyon (3411948),	by non-native plants. Characters			
								MNT,	Point Conception (3412044), Tranquillon Mtn.	distinguishing the varieties of P.			
	south							ORA,	(3412055), Point Arguello (3412056), Lompoc	ramosissima do not work most of			
Phacelia	coast							SBA,	(3412064), Surf (3412065), Zaca Lake (3412071),	the time; needs further study. A			
ramosissima var.	branching							SDG,	Orcutt (3412074), Casmalia (3412075), Nipomo	synonym of P. ramosissima in TJM			
austrolitoralis	phacelia	3.2	5?T3Q	S3 None	None	Mar-Aug	salt)	SLO, VEN	(3512014), Oceano (3512015), Monterey (3612158)	2.	PDHYD0C416	5/18/2007	10/18/2016

Scientific Name	Common	CRPR	GRank	SRank CESA	FESA	Blooming Period		Counties	Quads	Notes	Element Code	Date Added	Last Update
							(maritime)					
							, Cismontar	ו					
Prunus fasciculata	sand						e woodland						
var. punctata	almond	4.3	G5T4	S4 None	None	Mar-Apr	Coastal		Lompoc (3412064), Oceano (3512015)		PDROS1C0E2	1/1/1974	3/15/2010
							cone		Santa Barbara (3411946), Goleta (3411947), Dos				
							coniferous	5	Pueblos Canyon (3411948), Tajiguas (3412041),				
							forest,		Gaviota (3412042), Solvang (3412052), Santa Rosa Hills				
							Chaparral	,	(3412053), Lompoc Hills (3412054), Tranquillon Mtn.	Plants from south of Pt.			
							Coastal		(3412055), Point Arguello (3412056), Los Alamos	Conception (143A, 143B, 144A,			
							dunes,		(3412063), Lompoc (3412064), Surf (3412065), Orcutt	144B) are probably hybrids with S.			
	black-						Coastal		(3412074), Casmalia (3412075), Guadalupe (3412085),	californica ssp. floribunda.			
Scrophularia	flowered						scrub,		Point Sal (3412086), Oceano (3512015), Arroyo Grande	Threatened by energy			
atrata	figwort	1B.2	G2?	S2? None	None	Mar-Jul	Riparian	SBA, SLO	NE (3512025), Pismo Beach (3512026)	development and mining.	PDSCR1S010	1/1/1974	3/15/2010
										Threatened by non-native plants,			
										development, and vehicles. See			
Senecio	Blochman'						Coastal		Surf (3412065), Casmalia (3412075), Santa Maria	Erythea 1:7 (1893) for original			
blochmaniae	s ragwort	4.2	G3	S3 None	None	May-Oct	dunes	SBA, SLO	(3412084), Point Sal (3412086), Oceano (3512015)	description.	PDAST8H0G0	1/1/1974	3/15/2010

Appendix E CNDDB Database Search Results March 10, 2020

Appendix E CNDDB DATABASE SEARCH RESULTS



1 Danaus plexippus pop. 1	CNAME prairie falcon	Santa	3040 19810611	ELMDATE OWNERMGT 19810611	None	None	G5	S4	WL	STATUS OTHRSTATUS IUCN_LC; USFWS_BCC	LOCATION	LOCDETAILS	ECOLOGICAL NEST LOCATED ON LEDGE 200 FEET UP BOULDER.	THREAT	GENERAL
	monarch - California	Oceano	100 201411XX		None	None		S2S3	***	USFS_S			HABITAT CONSISTS OF A PLANTED GROVE OF EUCALYPTUS.		
2 Danaus plexippus pop. 1	monarch - California	Oceano	60 201411XX	201411XX	None	None	G4T2T3	S2S3		USFS_S			"NW END OF MEADOW, S OF LAKE." AREA IS MANAGED BY A		
3 Falco peregrinus anatum	American peregrine	Point Sal	80 20130410	20130410	Delisted	Delisted	G4T4	S3S4	FP	CDF_S; USFWS_BCC			COASTAL CLIFF WITH STABILIZED DUNE PLANT COMMUNITY.		
4 Falco mexicanus	prairie falcon	Tar Spring	840 1977XXXX		None	None	G5	S4	WL	IUCN_LC; USFWS_BCC					
5 Central Dune Scrub	Central Dune Scrub	Guadalupe		1980XXXX UNKNOWN	None	None	G2	S2.2			"GUADALUPE UNIT," NIPOMO DUNES COMPLEX. SOUTH OF OSO		MONARDELLA UNDULATA VAR. FRUTESCENS, M. CRISPA,	OIL LEASE LAND. N PART DISTURBED BY	Y SEVERAL RARE PLANTS IN AREA, LIST IN CNDDB. SE
6 Monardella undulata ssp. undulata	San Luis Obispo	Oceano		19790513 UNKNOWN	None	None		S2 1B.2		BLM_S		COLLECTION LABEL SAYS ""ALONG TRAIL NEAR SOUTH EDGE OF	GROWING WITH EHRHARTA CALYCINA IN STABILIZED SAND		ABOUT 10-12 PLANTS OBSERVED IN 1979.
7 Anniella pulchra 8 Chlosyne leanira elegans	northern California Oso Flaco patch	Santa Maria Oceano		19880103 UNKNOWN 19830507 DPR-OCEANO	None None	None None	G3 G4G5T1T2	S3	SSC	USFS_S	SANTA MARIA. AREA SE OSO FLACO LAKE.	EXACT LOCATION IN THE VICINITY OF SANTA MARIA UNKNOWN. TYPE LOCALITY.	HABITAT CONSISTS OF STABILIZED DUNES, ERIOGONUM		COLLECTED FROM THE VICINITY OF SANTA MARIA I HOLOTYPE (COLLECTED 4/16/83) AND ALLOTYPE (C
9 Monardella undulata ssp. undulata	San Luis Obispo	Oceano		19740717 DPR-PISMO SB		None		S2 1B.2		BLM S	PISMO STATE BEACH NATURAL PRESERVE, NEAR OCEANO.	EXACT LOCATION NOT KNOWN; SITE MAPPED WITHIN PISMO DUNE			PLANTS REPORTED FROM THIS SITE IN 1970 AND 19
10 Delphinium parryi ssp. blochmaniae		Oceano		19690503 UNKNOWN	None	None		S2 1B.2		BLM S	LOS BERROS, SOUTHEAST OF ARROYO GRANDE.	EXACT LOCATION UNKNOWN. MAPPED IN THE VICINITY OF LOS	STABLEED STATE DOTTES AND IN STATE THEES.		SITE IS BASED ON AN 1895 WATERMAN COLLECTIO
11 Nemacaulis denudata var. denudata		Oceano	0 20000601	20000601 DPR-OCEANO	None	None		S2 1B.2		SB_RSABG	GUADALUPE DUNES NORTH OF OSO FLACO LAKE.	NEAR FENCED BOUNDARY WITH ACTIVELY USED ORV AREA. EXACT	WITH OTHER PROSTRATE ANNUAL AND PERENNIAL HERBS.		MAIN SOURCE OF INFORMATION FOR THIS OCCURE
12 Monardella sinuata ssp. sinuata	southern curly-leaved	Oceano		19350815 UNKNOWN	None	None	G3T2	S2 1B.2		_	OCEANO.	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS			ONLY SOURCE OF INFORMATION FOR THIS SITE IS A
13 Chenopodium littoreum	coastal goosefoot	Oceano	0 19310530		None	None	G1	S1 1B.2			OCEANO.	BORDER OF SAND DUNES. EXACT LOCATION UNKNOWN. MAPPED BY			ONLY SOURCES OF INFORMATION ARE TWO HISTOR
14 Nasturtium gambelii	Gambel's water cress	Oceano	0 19490524			d Threatene		S1 1B.1		SB_RSABG; SB_SBBG	OCEANO BEACH.		AT EDGE OF MARSH BEHIND SAND DUNES.	THIS AREA HAS BEEN HEAVILY	SITE BASED ON A 1949 HOOVER COLLECTION.
15 Arctostaphylos pilosula	Santa Margarita	Oceano		19850305 PVT	None	None	G2?	S2? 1B.2		BLM_S; SB_SBBG; USFS	S NORTH END OF NIPOMO MESA; ALONG RIDGE SOUTH OF NATIVE		IN OPEN GRASSY FIELD AT SOUTHERN MARGIN OF OAK		SITE BASED ON TWO 1985 COLLECTIONS BY GRIFFIT
16 Chenopodium littoreum	coastal goosefoot	Oceano		20100604 USFWS-	None None	None None	G1 G3T2	S1 1B.2 S2 1B.2			NIPOMO DUNES NATIONAL WILDLIFE REFUGE, GUADALUPE. ARROYO GRANDE.	ON THE ROAD AND IN DUNES. EXACT LOCATION UNKNOWN.	LOOSE, DEEP SAND. SEMI-STABILIZED DUNES.	SUSCEPTIBLE TO INVASION BY	UNKNOWN NUMBER OF PLANTS SEEN. NEED BETTI SITE BASED ON AN 1895 KING COLLECTION AND A 1
17 Monardella sinuata ssp. sinuata	southern curly-leaved obscure bumble bee	Oceano Oceano		19080606 UNKNOWN 19540520 UNKNOWN	None	None	G312 G4?	S1S2 1B.2		IUCN_VU	ARROYO GRANDE.	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN GENERAL			COLLECTED 20 MAY 1954.
18 Bombus caliginosus 19 Horkelia cuneata var. sericea	Kellogg's horkelia	Oceano		19300419 UNKNOWN	None	None		S1? 1B.1		USFS_S	ARROYO GRANDE.		SAND DUNES.		ONLY SOURCE OF INFORMATION FOR THIS SITE IS A
20 Bombus caliginosus	obscure bumble bee	Oceano		19570814 UNKNOWN	None	None	G4?	S1S2		IUCN_VU	GROVER BEACH.	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN THE GENERAL			A SET OF COLLECTIONS WERE MADE ON 4 JUL 1956
21 Corynorhinus townsendii	Townsend's big-eared	Pismo Beach	50 19920203	19920203 UNKNOWN	None	None	G3G4	S2	SSC	BLM_S; IUCN_LC; USFS_	S; SHELL BEACH (TOWN), ABOUT 2 MI WNW OF PISMO BEACH (CITY). EXACT LOCATION UNKNOWN. MAPPED GENERALLY TO PROVIDED			1 FEMALE COLLECTED ON 3 FEB 1992 BY D. CONSTA
22 Buteo swainsoni	Swainson's hawk	Guadalupe	85 1896XXXX	1896XXXX UNKNOWN	None	Threatene	ed G5	S3		BLM_S; IUCN_LC;	GUADALUPE.	MAPPED TO LOCALITY "GUADALUPE" GIVEN ON SPECIMEN LABEL,	THE BREEDING POPULATION OF THE TRANSVERSE RANGES		H. MILES COLLECTED 2 EGGS IN 1896. NO FURTHER
23 Laterallus jamaicensis coturniculus	California black rail	Oceano	50 196602XX	196602XX UNKNOWN	None	Threatene		S1	FP	BLM_S; IUCN_NT;	DUNE LAKES, 3 MILES SOUTH OF OCEANO.	LOCATION STATED AS "DUNE LAKES" IN SAN LUIS OBISPO CO.			1 DETECTED IN FEB 1966; REPORTED TO S. WILBUR
24 Bombus caliginosus	obscure bumble bee	Oceano		19730611 UNKNOWN	None	None	G4?	S1S2		IUCN_VU	DUNE LAKES, 3 MILES SOUTH OF OCEANO.	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN GENERAL			A SET OF COLLECTIONS WERE MADE HERE ON 21 N
25 Charadrius alexandrinus nivosus	western snowy plover	Point Sal		1978XXXX UNKNOWN	Threatened		G3T3	S2S3	SSC		CC SOUTH NIPOMO DUNES, SOUTH TO SANTA MARIA RIVER MOUTH		ON CTABILIZED DUNE OF OCCASE DE ACC	HEAVY HUMAN RECREATIONAL USE	FOUR PAIRS OBSERVED DURING MAY-JUNE OF 197
26 Dithyrea maritima	beach spectaclepod surf thistle	Pismo Beach Pismo Beach	20 1998XXXX 20 1998XXXX	19500427 DPR-PISMO SB 19081114 UNKNOWN	None None	Threatene Threatene		S1 1B.1 S1 1B.2		BLM_S RIM S: SR SRRG	PISMO STATE BEACH, 1.5 MILES SOUTH OF PISMO BEACH, 3 MILE: PISMO BEACH.	5 EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN GENERAL A 1908 CONDIT COLLECTION FROM "OCEANO, SAND HILLS" IS ALSO	ON STABILIZED DUNE OF OCEAN BEACH.	THREATENED BY ORVS, AMMOPHILA	MAIN SOURCE OF INFORMATION FOR THIS OCCURP MAIN SOURCE OF INFORMATION FOR THIS OCCURP
27 Cirsium rhothophilum 28 Charadrius alexandrinus nivosus	surf thistle western snowy plover			19081114 UNKNOWN 1978XXXX UNKNOWN	None Threatened		G3T3	S1 1B.2 S2S3	SSC	BLM_S; SB_SBBG NABCL RWL: USEWS BO	PISMO BEACH. CC MOUTH OF SANTA MARIA RIVER.	A 1908 CONDIT COLLECTION FROM "OCEANO, SAND HILLS" IS ALSO			18 PAIRS OBSERVED DURING MAY-JUNE OF 1978. A
29 Valley Needlegrass Grassland	Valley Needlegrass	Point Sal		1977XXXX DPR-POINT SAL		u None None	G3 13	5255 S3.1	330	IDCI_NVVL, U3FVV3_BI	POINT SAL STATE BEACH, BLUFFS ABOVE BEACH & DRY AREAS ON	ELEV 0-650 FT.	NASSELLA PULCHRA ON HIGHER SLOPES, IN DRIER AREAS.		MOSTLY UNDISTURBED PER CNACC. SEE
30 Cirsium occidentale var. compactum	, .	Point Sal		19620611 UNKNOWN	None	None		S2 1B.2			IN HILLS NORTH OF POINT SAL RIDGE, CASMALIA HILLS.	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS	IN ARROYO OF CATTLE PASTURE.		ONLY SOURCE OF INFORMATION FOR THIS OCCURR
31 Central Maritime Chaparral	Central Maritime	Point Sal		1980XXXX UNKNOWN	None	None		S2.2			POINT SAL VICINITY; WEST OF POINT SAL STATE BEACH TO POINT		VEG DOMINATED BY PROSTRATE ADENOSTOMA	SOME CATTLE GRAZING. FEW VISITORS	
32 Orobanche parishii ssp. brachyloba	short-lobed broomrape			19670915 UNKNOWN	None	None		S3	4.2		SOUTH OF OSO FLACO LAKE.		DUNES, APPARENTLY ON CONVOLVULUS SOLDANELLA.		ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1
33 Danaus plexippus pop. 1	monarch - California	Oceano		1983XXXX UNKNOWN	None	None		S2S3		USFS_S	NE CORNER OF HWY 1 AND WILLOW RD, ABOUT 5 MILES SOUTH		CLUSTERS ROOSTED IN GUM TREES. IT APPEARS THAT THERE	DEVELOPMENT.	TEMPORARY SITE; AGGREGATIONS OBSERVED IN O
34 Monardella sinuata ssp. sinuata	southern curly-leaved			19480528 UNKNOWN	None	None		S2 1B.2			5 MILES SOUTH OF OCEANO ON GUADALUPE ROAD.		SAND HILLS.		SITE BASED ON A 1948 GRANT COLLECTION. A 1943
35 Horkelia cuneata var. sericea	Kellogg's horkelia	Oceano		19690503 UNKNOWN	None	None		S1? 1B.1		USFS_S	4 MILES WEST OF NIPOMO.	EXACT LOCATION UNKNOWN. LOCATION MAPPED AT CNDDB IS A			ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1
36 Anniella pulchra	northern California	Guadalupe		20090127 PVT-CHEVRON,	,	None		S3	SSC	USFS_S		AREA WAS FORMERLY AN OIL FIELD AND IS CURRENTLY PART OF THE		WORK VEHICLES AND CATTLE; FORMER	R SEVEN COLLECTED IN FEB 1985. SEVERAL DETECTED
37 Monardella undulata ssp. crispa	crisp monardella	Guadalupe	0 19/30922	19730922 UNKNOWN	None	None	G3T2	S2 1B.2		BLM_S	BASE OF SAND HILL ALONG NORTH SIDE OF CORRALITOS CREEK		GROWING IN SAND AT BASE OF SAND HILL.		ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1
												EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB JUST SOUTH OF BLACK LAKE CANYON IN VICINITY OF GIVEN			ONLY SOURCE OF INFORMATION FOR THIS SITE IS A
38 Delphinium parryi ssp. blochmaniae	dune larkspur	Oceano	350 19360227	19360227 UNKNOWN	None	None	G4T2	S2 1B.2		BLM_S	MESA SOUTH OF BLACK LAKE CANYON.	FLEVATION OF 350 FT.			COLLECTION, NEEDS FIELDWORK.
so beipiiniani parryi ssp. bioeimianiae	duric larkspar	occuno	330 13300227	13300227 01111101111	Hone	110110	0412	52 25.2		55.11_5	MEST 500 THO BEIGN BINE CHITCH.	ELEVITION OF SSOTT.			MAIN SOURCE OF INFORMATION FOR THIS SITE IS 1
												MAPPED BY CNDDB AS BEST GUESS TO ENCOMPASS THE DUNE AREA			BY BLAKLEY. AREA SEARCHED IN 1986 BY MCLEOD I
												JUST SOUTH OF THE MOUTH OF THE SANTA MARIA RIVER. A 1962			SEEN. 2003 OBSERVATION AND 2004 COLLECTION F
												SMITH COLLECTION FROM ""MOUTH OF SANTA MARIA RIVER"" IS			""GUADALUPE SAND DUNES PRESERVE"" AND ""RA
39 Cirsium rhothophilum	surf thistle	Point Sal	10 20040704	20040704 UNKNOWN	None	Threatene	ed G1	S1 1B.2		BLM_S; SB_SBBG	SOUTH OF THE MOUTH OF THE SANTA MARIA RIVER.	ALSO ATTRIBUTED TO THIS SITE.	ON OLD LOW DUNES WITH SEDGES.	PAST ORV DISTURBANCE.	GUADALUPE DUNES"" ATTRIB HE
														N PART IS HUNT CLUB, AMMOPHILA	ABOUT 8 RARE PLANTS PRESENT. SEE
														PLANTED THERE; W-CENTRAL AREA	WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATI
												" INCLUDES "JACK LAKE MEADOW" & "LITTLE COREOPSIS HILL", AREAS		PARTLY DPR ORV SACRIFICE AREA; S	CKGROUND.ASP TO INTERPRET AND ADDRESS THE
10 Central Dune Scrub	Central Dune Scrub	Oceano	100 19810923	19810923 UNKNOWN	None	None	G2	S2.2			& CALLENDER VICINITY.	OF BOTANICAL INTEREST.	TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.		RARE COMMUNITIES.
													PATCHES OF CAKILE MARITIMA, CIRSIUM RHOTHOPHILUM,	POOR CONDITION IN 1985, BUT RECOVERING FOLLOWING ORV	VERY HUMMOCKY NEAREST COAST. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATI
											ACTIVE SAND SHEET BETWEEN SANTA MARIA RIVER & MUSSEL		MONARDELLA CRISPA, CARPOBROTUS CHILENSIS, CALYSTEGIA		
11 Central Foredunes	Central Foredunes	Point Sal	80 19850317	19850317 PVT	None	None	G1	S1.2			POINT EXTENDING UP TO 1 MILE INLAND.		SOLDANELLA.	SEEDLINGS, ESP. CONVOLVULUS.	RARE COMMUNITIES.
														CLOSED TO ORVS, APPARENTLY	SOME AREAS OF ACTIVE DUNE INCLUDED W/IN BO
											WEST OF OSO FLACO LAKE, EXTENDING FROM OSO FLACO CREEK		PATCHY COVER INCL ABRONIA MARITIMA, AMBROSIA		WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATI
											NORTH TWO MILES AND SOUTH TO THE SANTA MARIA RIVER	20 - 100 FT APPROX ELEV RANGE. BOUNDARY GENERALIZED FROM	CHAMISSONIS, CAKILE MARITIMA, MALACOTHRIX INCANA,	BY OIL FACILITIES. HEAVY REC USE.	CKGROUND.ASP TO INTERPRET AND ADDRESS THE
42 Central Foredunes	Central Foredunes	Oceano	40 19850317	19850317 PVT	None	None	G1	S1.2			MOUTH.	ENVICOM MAP.	CALYSTEGIA SOLDANELLA.	AMMOPHILA ENCROACHING.	RARE COMMUNITIES.
												FROM MOUTH AT PACIFIC OCEAN IN PISMO STATE BEACH (NEAR	HABITAT CONSISTS OF POOLS (25-50 CM DEEP), RIFFLES &	2008: BEAVER DAMS CAUSING	9/24 & 27/1996: 116 FISH COLLECTED. ABUNDANCE
	steelhead - south-	_											GLIDES, WITH OVERHANGING VEGETATION. SURROUNDED BY		(MOST COMMON) TO MODERATE. 10-15 JUVENILES
43. On an abrica abrica and discription and a 0	central California coast	-,-	200 20000520	PVT, DPR-PISM		d Name	CETTO	62		AFC TH	ADDOVO CDANDE CREEK ADDOVO CDANDE VALLEY	STEELHEAD DISTRIBUTION COULD NOT BE PRECISELY DETERMINED	FROG ALSO OCCURS IN THIS STREAM.		
43 Oncorhynchus mykiss irideus pop. 9	DPS	Grande NE	200 20080620	20080020 38	Threatened	d None	G5T2Q	32		AFS_TH	ARROYO GRANDE CREEK, ARROYO GRANDE VALLEY.	FROM SOURCE DOCUMENT).	FROG ALSO OCCURS IN THIS STREAM.	STEELHEAD FOUND 20 JUN 2008.	JUVS OBS JUN & SEP 2006 & ADULTS & SMOLTS OB 2 NESTS IN 1965. 2 PAIRS IN 1978. NESTED IN 1997.
												MAPPED TO INCLUDE POINTS FROM SHAPEFILES OF NEST SITES	COASTAL DUNE HABITAT USED FOR OVERWINTERING AS WELL		ADULTS IN 2000. POPULATION INCREASED FROM A
												DOCUMENTED SINCE 1997. THIS AREA ENCOMPASSES THE MAIN	AS NESTING. NESTING AREAS ARE FENCED OFF IN ENCLOSURES		BREEDING ADULTS IN 2002 TO AT LEAST 209 BREED
				DPR-OCEANO							OCEANO DUNES SVRA, FROM ABOUT 1.0 MILE SW TO 2.4 MILES	NESTING AREAS. ADDITIONAL NEST SITES MAPPED AT OCCURRENCES	ADJACENT TO OPEN (OHV) RIDING AREAS. REVEGETATION AND	,	157 FLEDGLINGS & 223 NESTS IN 2016 (TOTALS ARE
44 Charadrius alexandrinus nivosus	western snowy plover	Oceano	25 20160930	20160930 DUNES SVRA	Threatened	J None	G3T3	S2S3	SSC	NABCI_RWL; USFWS_BG	CC NW OF OSO FLACO LAKE.	#150, 151, & 152.	OTHER RESTORATION ACTIVITIES ARE ONGOING.	OFF-ROAD VEHICLES (1980S-2016).	ODSVRA).
															MAIN SOURCE OF INFORMATION FOR THIS SITE IS A
															COLLECTION, PLANTS NOTED AS ABUNDANT. A 194
													DRY SANDY HILLS, SOMEWHAT STABILIZED. ASSOCIATED WITH		
C Friedrich black or other	Disabour 1977 C. 11	0	150 40:	10470740 1141/	Maria		63	co		DIA. C	APPROXIMATELY 2.5 AIR MILES EAST OF OSO FLACO LAKE,	EVACT LOCATION LINUXIONAL AMORED DV	ARTEMISIA CALIFORNICA, HAPLOPAPPUS ERICOIDES TYPICUS,		
15 Erigeron blochmaniae	Blochman's leafy daisy	oceano	150 194/0710	19470710 UNKNOWN	None	None	G2	S2 1B.2		BLM_S	BETWEEN HIGHWAY 1 AND SPRR.	EXACT LOCATION UNKNOWN, MAPPED BY CNDDB AS A BEST GUESS.		VICINITY.	ALSO ATTRIBUTED HERE.
												MAPPED NON-SPECIFICALLY TO THE DESCRIPTION OF 0.8 N OF HWY	UNCERTAIN WHAT THE HABITAT WAS AT THE TIME OF		
												& ABOUT 3 MILES W JCT WITH BLACK RD. DIRECTIONS ARE UNCLEAR			
											SW OF BETTERAVIA ROAD AT RAY ROAD, ABOUT 3 MILES NW OF		DUNES OR HILLS THAT HAVE NOT BEEN LEVELED FOR		TEN COLLECTED ON 5 APR 1985 AND SEVEN COLLEC
	northern California								SSC	USFS_S	BLACK ROAD AT HIGHWAY 1, WEST OF SANTA MARIA.	BETTERAVIA SUGAR REFINERY.	AGRICULTURE.		1986.
46 Anniella pulchra	northern California legless lizard	Guadalupe	124 19860223	19860223 UNKNOWN	None	None	G3	S3							
46 Anniella pulchra		Guadalupe	124 19860223	19860223 UNKNOWN	None	None	G3	S3				EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB 1			
	legless lizard					None						MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES			
	legless lizard	Guadalupe		19860223 UNKNOWN 19570402 UNKNOWN	None	None		S3 S2 1B.2		BLM_S	1 MILE NORTH OF BLACK LAKE CANYON, NIPOMO MESA.	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET.	VERY SANDY SOIL.		ONLY SOURCE OF INFORMATION FOR THIS SITE IS A BACIGALUPI COLLECTION. NEEDS FIELDWORK.
	legless lizard									BLM_S	1 MILE NORTH OF BLACK LAKE CANYON, NIPOMO MESA.	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING			
	legless lizard									BLM_S	1 MILE NORTH OF BLACK LAKE CANYON, NIPOMO MESA.	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGH			BACIGALUPI COLLECTION. NEEDS FIELDWORK.
	legless lizard									BLM_S		MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGHOR POINT SAL SB. MAPPED AS BEST GUESS BY CNDDB AROUND			BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A
47 Delphinium parryi ssp. blochmaniae	legless lizard dune larkspur	Oceano	200 19570402	19570402 UNKNOWN	None	None	G4T2	S2 1B.2		-	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGHFOR POINT SAL SB. MAPPED AS BEST GUESS BY CNDDB AROUND G ROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM,		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN
47 Delphinium parryi ssp. blochmaniae	legless lizard		200 19570402				G4T2			BLM_S USFS_S		MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGHOR POINT SAL SB. MAPPED AS BEST GUESS BY CNDDB AROUND			BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK.
47 Delphinium parryi ssp. blochmaniae	legless lizard dune larkspur	Oceano	200 19570402	19570402 UNKNOWN	None	None	G4T2	S2 1B.2		-	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGHFOR POINT SAL SB. MAPPED AS BEST GUESS BY CNDDB AROUND G ROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM,		ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AF
17 Delphinium parryi ssp. blochmaniae	legless lizard dune larkspur	Oceano	200 19570402	19570402 UNKNOWN	None	None	G4T2	S2 1B.2		-	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGHFOR POINT SAL SB. MAPPED AS BEST GUESS BY CNDDB AROUND G ROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM,		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AI HOOVER COLLECTIONS. A 1933 PURER COLLECTION
17 Delphinium parryi ssp. blochmaniae	legless lizard dune larkspur	Oceano	200 19570402	19570402 UNKNOWN	None	None	G4T2	S2 1B.2		-	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION DE 7200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGHFOR POINT SAL SB. MAPPED AS BEST GUESS BY CNODE AROUND G ROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH.	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM,		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AF HOOVER COLLECTION MILES NORTH OF GUADALUPE/AT END OF SCHOOL MILES NORTH OF GUADALUPE/AT END OF SCHOOL
17 Delphinium parryi ssp. blochmaniae 18 Horkelia cuneata var. sericea	legless lizard dune larkspur	Oceano	200 19570402 1100 19820502	19570402 UNKNOWN	None	None	G4T2 G4T1?	S2 1B.2		-	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH.	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION DE 7200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGHFOR POINT SAL SB. MAPPED AS BEST GUESS BY CNODE AROUND G ROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH.	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM,		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AF HOOVER COLLECTION MILES NORTH OF GUADALUPE/AT END OF SCHOOL MILES NORTH OF GUADALUPE/AT END OF SCHOOL
47 Delphinium parryi ssp. blochmaniae 18 Horkelia cuneata var. sericea	legless lizard dune larkspur Kellogg's horkelia	Oceano Point Sal	200 19570402 1100 19820502	19570402 UNKNOWN 19820502 UNKNOWN	None	None None	G4T2 G4T1?	S2 18.2 S1? 18.1		USFS_S	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGH FOR POINT SAL SE. MAPPED AS BEST GUESS BY CNDDB AROUND GROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA.		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AF HOOVER COLLECTIONS. A 1933 PURER COLLECTION MILES NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/I S ALSO ATTRIBUTED TO T
47 Delphinium parryi ssp. blochmaniae 48 Horkelia cuneata var. sericea	legless lizard dune larkspur Kellogg's horkelia	Oceano Point Sal	200 19570402 1100 19820502	19570402 UNKNOWN 19820502 UNKNOWN	None	None None	G4T2 G4T1?	S2 18.2 S1? 18.1		USFS_S	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGHFOR POINT SAL SB. MAPPED AS BEST GUESS BY CNDDB AROUND G ROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF HIGHWAY 1 NORTH OF THE SANTA MARIA RIVER VALLEY.	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA. ON SHIFTING SAND DUNES. CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AF HOOVER COLLECTION MILES NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/AT END OF SCHOOL THE STATE OF SUMPLY OF SUMPL
17 Delphinium parryi ssp. blochmaniae 18 Horkelia cuneata var. sericea	legless lizard dune larkspur Kellogg's horkelia crisp monardella	Oceano Point Sal Oceano	200 19570402 1100 19820502	19570402 UNKNOWN 19820502 UNKNOWN	None	None None	G4T2 G4T1?	S2 18.2 S1? 18.1		USFS_S	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA VALLEY ON GUADALUPE-ARROYO GRANDE ROAD. 1 MILE SOUTHWEST OF EDNA, IN ARROYO GRANDE OIL FIELD	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGHFOR POINT SAL SS. MAPPED AS BEST GUESS BY CNDDB AROUND G ROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF HIGHWAY 1 NORTH OF THE SANTA MARIA RIVER VALLEY. MAPPED BY CNDDB AS BEST GUESS ABOUT 1 AIR MILE SW OF EDNA	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA. ON SHIFTING SAND DUNES. CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS (?) AND ADENOSTOMA FASCICULATUM. PRICE		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AF HOOVER COLLECTIONS. A 1933 PURER COLLECTION MILES NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE' IS ALSO ATTRIBUTED TO THELDWORK. SITE BASED ON 1936 WIESLANDER, 1986 KNIGHT, R COOPER COLLECTIONS. THIS OCCURRENCE WAS PWELLSII OCC #S. A 1976 IMPER COLLECTION FROM
47 Delphinium parryi ssp. blochmaniae 48 Horkelia cuneata var. sericea 49 Monardella undulata ssp. crispa	legless lizard dune larkspur Kellogg's horkelia crisp monardella Santa Margarita	Oceano Point Sal Oceano Arroyo	200 19570402 1100 19820502 120 19470710	19570402 UNKNOWN 19820502 UNKNOWN 19470710 UNKNOWN	None	None None	G4T2 G4T1? G3T2	\$2 18.2 \$1? 18.1 \$2 18.2		USFS_S BLM_S	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA VALLEY ON GUADALUPE-ARROYO GRANDE ROAD. 1 MILE SOUTHWEST OF EDNA, IN ARROYO GRANDE OIL FIELD BETWEEN PRICE CANYON ROAD AND INDIAN KNOB, NORTH OF	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGF FOR POINT SAL SE. MAPPED AS BEST GUESS BY CNDDB ARCAS TO STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF HIGHWAY 1 NORTH OF THE SANTA MARIA RIVER VALLEY. MAPPED BY CNDDB AS BEST GUESS ABOUT 1 AIR MILE SW OF EDNA AT AROUND 300 FEET IN ELEVATION BASED ON TRS AND ELEVATION	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA. ON SHIFTING SAND DUNES. CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS (?) AND ADENOSTOMA FASCICULATUM. PRICE CANYON COLLECTION GROWING WITH QUERCUS AGRIFOLIA,		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AI HOOVER COLLECTION MILES NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE IS ALSO ATTRIBUTED TO T FIELDWORK. SITE BASED ON 1936 WIESLANDER, 1986 KNIGHT, A COOPER COLLECTIONS. THIS OCCURRENCE WAS PR WELLSII OCC #S. A 1976 IMPER COLLECTION FROM TARSADS PROJECT; 1 MI SW OF HWY 227 ON PRICE
47 Delphinium parryi ssp. blochmaniae 48 Horkelia cuneata var. sericea 49 Monardella undulata ssp. crispa	legless lizard dune larkspur Kellogg's horkelia crisp monardella	Oceano Point Sal Oceano	200 19570402 1100 19820502	19570402 UNKNOWN 19820502 UNKNOWN 19470710 UNKNOWN	None	None None	G4T2 G4T1?	S2 18.2 S1? 18.1		USFS_S	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA VALLEY ON GUADALUPE-ARROYO GRANDE ROAD. 1 MILE SOUTHWEST OF EDNA, IN ARROYO GRANDE OIL FIELD BETWEEN PRICE CANYON ROAD AND INDIAN KNOB, NORTH OF	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGHFOR POINT SAL SS. MAPPED AS BEST GUESS BY CNDDB AROUND G ROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF HIGHWAY 1 NORTH OF THE SANTA MARIA RIVER VALLEY. MAPPED BY CNDDB AS BEST GUESS ABOUT 1 AIR MILE SW OF EDNA	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA. ON SHIFTING SAND DUNES. CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS (?) AND ADENOSTOMA FASCICULATUM. PRICE		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AI HOOVER COLLECTIONS. A 1933 PURER COLLECTION MILES NORTH OF GUADALUPE/AT END OF SCHOOL. NORTH OF GUADALUPE/AT END OF SCHOOL. NORTH OF GUADALUPE/IS ALSO ATTRIBUTED TO THELDWORK. SITE BASED ON 1936 WIESLANDER, 1986 KNIGHT, A COOPER COLLECTIONS. THIS OCCUPRENCE WAS PRIVELISH OCCUP. B. A 1976 IMPER COLLECTION FROM TARSADS PROJECT; 1 MI SW OF HWY 227 ON PRICE ATTRIBUTED HERE.
17 Delphinium parryi ssp. blochmaniae 18 Horkelia cuneata var. sericea 19 Monardella undulata ssp. crispa	legless lizard dune larkspur Kellogg's horkelia crisp monardella Santa Margarita	Oceano Point Sal Oceano Arroyo	200 19570402 1100 19820502 120 19470710	19570402 UNKNOWN 19820502 UNKNOWN 19470710 UNKNOWN	None	None None	G4T2 G4T1? G3T2	\$2 18.2 \$1? 18.1 \$2 18.2		USFS_S BLM_S	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA VALLEY ON GUADALUPE-ARROYO GRANDE ROAD. 1 MILE SOUTHWEST OF EDNA, IN ARROYO GRANDE OIL FIELD BETWEEN PRICE CANYON ROAD AND INDIAN KNOB, NORTH OF	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGH FOR POINT SAL SB. MAPPED AS BEST GUESS BY CNODB AROUND G ROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF HIGHWAY 1 NORTH OF THE SANTA MARIA RIVER VALLEY. MAPPED BY CNDDB AS BEST GUESS ABOUT 1 AIR MILE SW OF EDNA AT AROUND 300 FEET IN ELEVATION BASED ON TRS AND ELEVATION INFORMATION ON COLLECTION LABELS.	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA. ON SHIFTING SAND DUNES. CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS (?) AND ADENOSTOMA FASCICULATUM. PRICE CANYON COLLECTION GROWING WITH QUERCUS AGRIFOLIA,		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AI HOOVER COLLECTIONS. A 1933 PURER COLLECTION MILES NORTH OF GUADALUPE' IS ALSO ATTRIBUTED TO THELDWORK. SITE BASED ON 1936 WIESLANDER, 1986 KNIGHT, R COOPER COLLECTIONS. THIS OCCURRENCE WAS WELLSII DCC #S. A 1976 IMPER COLLECTION FROM TARSADS PROJECT, 1 MI SW OF HWY 227 ON PRICE ATTRIBUTED HERE. ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE WAS AND ATTRIBUTED HERE.
17 Delphinium parryi ssp. blochmaniae 18 Horkelia cuneata var. sericea 19 Monardella undulata ssp. crispa 50 Arctostaphylos pilosula	legless lizard dune larkspur Kellogg's horkelia crisp monardella Santa Margarita manzanita	Oceano Point Sal Oceano Arroyo Grande NE	200 19570402 1100 19820502 120 19470710 300 20130807	19570402 UNKNOWN 19820502 UNKNOWN 19470710 UNKNOWN 20130807 PVT	None None	None None	G4T2 G4T1? G3T2	\$2 18.2 \$1? 18.1 \$2 18.2 \$2? 18.2		USFS_S BLM_S BLM_S; SB_SBBG; USFS	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA VALLEY ON GUADALUPE-ARROYO GRANDE ROAD. 1 MILE SOUTHWEST OF EDNA, IN ARROYO GRANDE OIL FIELD BETWEEN PRICE CANYON ROAD AND INDIAN KNOB, NORTH OF 5. ARROYO GRANDE.	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGH FOR POINT SAL SE. MAPPED AS BEST GUESS BY CNDDB AROUND GROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF HIGHWAY 1 NORTH OF THE SANTA MARIA RIVER VALLEY. MAPPED BY CNDDB AS BEST GUESS ABOUT 1 AIR MILE SW OF EDNA AT AROUND 300 FEET IN ELEVATION BASED ON TRS AND ELEVATION INFORMATION ON COLLECTION LABELS. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB IN	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA. ON SHIFTING SAND DUNES. CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS (?) AND ADENOSTOMA FASCICULATUM. PRICE CANYON COLLECTION GROWING WITH QUERCUS AGRIFOLIA,		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AF HOOVER COLLECTION MILES NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/BASE ASSO ATTRIBUTED TO T FIELDWORK. SITE BASED ON 1936 WIESLANDER, 1986 KNIGHT, A COOPER COLLECTIONS. THIS OCCURRENCE WAS PR WELLSI IDCC #5. A 1976 IMPER COLLECTION FROM TARSADS PROJECT; 1 MI SW OF HWY 227 ON PRICE ATTRIBUTED HERE. ONLY SOURCE OF INFORMATION FOR THIS OCCURR AREA CHECKLETS BY RINDALAUB & TIERNEY, ACTUAL
17 Delphinium parryi ssp. blochmaniae 18 Horkelia cuneata var. sericea 19 Monardella undulata ssp. crispa 50 Arctostaphylos pilosula	legless lizard dune larkspur Kellogg's horkelia crisp monardella Santa Margarita manzanita	Oceano Point Sal Oceano Arroyo	200 19570402 1100 19820502 120 19470710 300 20130807	19570402 UNKNOWN 19820502 UNKNOWN 19470710 UNKNOWN	None	None None	G4T2 G4T1? G3T2	\$2 18.2 \$1? 18.1 \$2 18.2		USFS_S BLM_S	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA VALLEY ON GUADALUPE-ARROYO GRANDE ROAD. 1 MILE SOUTHWEST OF EDNA, IN ARROYO GRANDE OIL FIELD BETWEEN PRICE CANYON ROAD AND INDIAN KNOB, NORTH OF	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGH FOR POINT SAL SB. MAPPED AS BEST GUESS BY CNDDB AROUND G ROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF HIGHWAY 1 NORTH OF THE SANTA MARIA RIVER VALLEY. MAPPED BY CNDDB AS BEST GUESS ABOUT 1 AIR MILE SW OF EDNA AT AROUND 300 FEET IN ELEVATION BASED ON TRS AND ELEVATION INFORMATION ON COLLECTION LABELS. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB IN GENERAL VICINITY OF POINT SAL.	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA. ON SHIFTING SAND DUNES. CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS (?) AND ADENOSTOMA FASCICULATUM. PRICE CANYON COLLECTION GROWING WITH QUERCUS AGRIFOLIA,		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AI HOOVER COLLECTIONS. A 1933 PURER COLLECTION MILES NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/BACT END OF SCHOOL NORTH OF SCHOOL NORTH OF SCHOOL SHOOL
17 Delphinium parryi ssp. blochmaniae 18 Horkelia cuneata var. sericea 19 Monardella undulata ssp. crispa 50 Arctostaphylos pilosula	legless lizard dune larkspur Kellogg's horkelia crisp monardella Santa Margarita manzanita	Oceano Point Sal Oceano Arroyo Grande NE	200 19570402 1100 19820502 120 19470710 300 20130807	19570402 UNKNOWN 19820502 UNKNOWN 19470710 UNKNOWN 20130807 PVT	None None	None None	G4T2 G4T1? G3T2	\$2 18.2 \$1? 18.1 \$2 18.2 \$2? 18.2		USFS_S BLM_S BLM_S; SB_SBBG; USFS	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA VALLEY ON GUADALUPE-ARROYO GRANDE ROAD. 1 MILE SOUTHWEST OF EDNA, IN ARROYO GRANDE OIL FIELD BETWEEN PRICE CANYON ROAD AND INDIAN KNOB, NORTH OF 5. ARROYO GRANDE.	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGE FOR POINT SAL SB. MAPPED AS BEST GUESS BY CNDDB AROUND GROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF HIGHWAY 1 NORTH OF THE SANTA MARIA RIVER VALLEY. MAPPED BY CNDDB AS BEST GUESS ABOUT 1 AIR MILE SW OF EDNA AT AROUND 300 FEET IN ELEVATION BASED ON TRS AND ELEVATION INFORMATION ON COLLECTION LABELS. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB IN GENERAL VICINITY OF POINT SAL. MAPPED AS BEST GUESS NON-SPECIFICALLY AROUND GIVEN TRS:	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA. ON SHIFTING SAND DUNES. CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS (?) AND ADENOSTOMA FASCICULATUM. PRICE CANYON COLLECTION GROWING WITH QUERCUS AGRIFOLIA,		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AF HOOVER COLLECTIONS. A 1933 PURER COLLECTION MILES NORTH OF GUADALUPE/IS ALSO ATTRIBUTED TO T FIELDWORK. SITE BASED ON 1936 WIESLANDER, 1986 KNIGHT, A COOPER COLLECTIONS. THIS OCCURRENCE WAS PR WELLSI IOCC #5. A 1976 IMPER COLLECTION FROM TARSADS PROJECT; 1 MI SW OF HWY 227 ON PRICE ATTRIBUTED HERD. ATTRIBUTED HERD. ONLY SOURCE OF INFORMATION FOR THIS OCCURR AREA CHECKLIST BY RINDLAUB & TIERNEY, ACTUAL DATE UNKNOWN. NEEDS FIELDWORK. SITE BASED ON A 1936 LEE COLLECTION. A 1948 HO
47 Delphinium parryi ssp. blochmaniae 48 Horkelia cuneata var. sericea 49 Monardella undulata ssp. crispa 50 Arctostaphylos pilosula	legless lizard dune larkspur Kellogg's horkelia crisp monardella Santa Margarita manzanita beach spectaclepod	Oceano Point Sal Oceano Arroyo Grande NE Point Sal	200 19570402 1100 19820502 120 19470710 300 20130807	19570402 UNKNOWN 19820502 UNKNOWN 19470710 UNKNOWN 20130807 PVT	None None	None None	G4T2 G4T1? G3T2	\$2 18.2 \$1? 18.1 \$2 18.2 \$2? 18.2		USFS_S BLM_S BLM_S; SB_SBBG; USFS	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA VALLEY ON GUADALUPE-ARROYO GRANDE ROAD. 1 MILE SOUTHWEST OF EDNA, IN ARROYO GRANDE OIL FIELD BETWEEN PRICE CANYON ROAD AND INDIAN KNOB, NORTH OF 5. ARROYO GRANDE.	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGE FOR POINT SAL SE. MAPPED AS BEST GUESS BY CNDDB AROUND GROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF HIGHWAY 1 NORTH OF THE SANTA MARIA RIVER VALLEY. MAPPED BY CNDDB AS BEST GUESS ABOUT 1 AIR MILE SW OF EDNA AT AROUND 300 FEET IN ELEVATION BASED ON TRS AND ELEVATION INFORMATION ON COLLECTION LABELS. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB IN GENERAL VICINITY OF POINT SAL. MAPPED BS SEST GUESS NON-SPECIFICALLY AROUND GIVEN TRS: T325 R135 SECTION 4. GIVEN ELVATION IS 600 FEET. COLLECTIONS	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA. ON SHIFTING SAND DUNES. CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS (?) AND ADENOSTOMA FASCICULATUM. PRICE CANYON COLLECTION GROWING WITH QUERCUS AGRIFOLIA, TOXICODENDRON DIVERSILOBUM, AND SALVIA MELLIFERA.		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AI HOOVER COLLECTION MILES NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/BACH END OF SCHOOL NORTH OF GUADALUPE/BACH END OF SCHOOL NORTH OF GUADALUPE/BACH END OF SCHOOL THIS DOCUMENCE WAS PROPELLED ON 1936 WIESLANDER, 1986 KNIGHT, A COOPER COLLECTION. THIS OCCUPRENCE WAS PROPELLED ON 1936 CHEST OF THIS OCCUPRENCE WAS PROPELLED ON 1936 CHEST OF THIS OCCUPRENCE
47 Delphinium parryi ssp. blochmaniae 48 Horkelia cuneata var. sericea 49 Monardella undulata ssp. crispa 50 Arctostaphylos pilosula 51 Dithyrea maritima	legless lizard dune larkspur Kellogg's horkelia crisp monardella Santa Margarita manzanita beach spectaclepod Nipomo Mesa	Oceano Point Sal Oceano Arroyo Grande NE Point Sal Arroyo	200 19570402 1100 19820502 120 19470710 300 20130807 0 XXXXXXXX	19570402 UNKNOWN 19820502 UNKNOWN 19470710 UNKNOWN 20130807 PVT XXXXXXX UNKNOWN	None None None	None None None Threatene	G4T2 G4T1? G3T2 G2? eed G1	\$2 18.2 \$1? 18.1 \$2 18.2 \$2? 18.2 \$1 18.1		USFS_S BLM_S BLM_S; SB_SBBG; USFS	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA VALLEY ON GUADALUPE-ARROYO GRANDE ROAD. 1 MILE SOUTHWEST OF EDNA, IN ARROYO GRANDE OIL FIELD BETWEEN PRICE CANYON ROAD AND INDIAN KNOB, NORTH OF SARROYO GRANDE.	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGH FOR POINT SAL SB. MAPPED AS BEST GUESS BY CNDDB AROUND G ROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF HIGHWAY 1 NORTH OF THE SANTA MARIA RIVER VALLEY. MAPPED BY CNDDB AS BEST GUESS ABOUT 1 AIR MILE SW OF EDNA AT AROUND 300 FEET IN ELEVATION BASED ON TRS AND ELEVATION INFORMATION ON COLLECTION LABELS. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB IN GENERAL VICINITY OF POINT SAL. MAPPED AS BEST GUESS NON-SPECIFICALLY AROUND GIVEN TRS: 1325 R13E SECTION 4. GIVEN ELEVATION IS 600 FEET. COLLECTIONS NOT IDENTIFIED TO VARIETY BUT ASSUMED TO BE VAR. NIPOMENSIS	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA. ON SHIFTING SAND DUNES. CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS (?) AND ADENOSTOMA FASCICULATUM. PRICE CANYON COLLECTION GROWING WITH QUERCUS AGRIPOLIA, TOXICODENDRON DIVERSILOBUM, AND SALVIA MELLIFERA.		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AF HOOVER COLLECTIONS. A 1933 PURER COLLECTION MILES NORTH OF GUADALUPE/IS ALSO ATTRIBUTED TO THELDWORK. SITE BASED ON 1936 WIESLANDER, 1986 KNIGHT, A COOPER COLLECTIONS. THIS OCCURRENCE WAS PROVIDED OF THE OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER O
47 Delphinium parryi ssp. blochmaniae 48 Horkelia cuneata var. sericea 49 Monardella undulata ssp. crispa 50 Arctostaphylos pilosula 51 Dithyrea maritima	legless lizard dune larkspur Kellogg's horkelia crisp monardella Santa Margarita manzanita beach spectaclepod Nipomo Mesa	Oceano Point Sal Oceano Arroyo Grande NE Point Sal	200 19570402 1100 19820502 120 19470710 300 20130807 0 XXXXXXXX	19570402 UNKNOWN 19820502 UNKNOWN 19470710 UNKNOWN 20130807 PVT	None None	None None	G4T2 G4T1? G3T2 G2? eed G1	\$2 18.2 \$1? 18.1 \$2 18.2 \$2? 18.2		USFS_S BLM_S BLM_S; SB_SBBG; USFS	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA VALLEY ON GUADALUPE-ARROYO GRANDE ROAD. 1 MILE SOUTHWEST OF EDNA, IN ARROYO GRANDE OIL FIELD BETWEEN PRICE CANYON ROAD AND INDIAN KNOB, NORTH OF 5. ARROYO GRANDE.	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGE FOR POINT SAL SE. MAPPED AS BEST GUESS BY CNDDB AROUND GROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF HIGHWAY 1 NORTH OF THE SANTA MARIA RIVER VALLEY. MAPPED BY CNDDB AS BEST GUESS ABOUT 1 AIR MILE SW OF EDNA AT AROUND 300 FEET IN ELEVATION BASED ON TRS AND ELEVATION INFORMATION ON COLLECTION LABELS. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB IN GENERAL VICINITY OF POINT SAL. MAPPED BS SEST GUESS NON-SPECIFICALLY AROUND GIVEN TRS: T325 R135 SECTION 4. GIVEN ELVATION IS 600 FEET. COLLECTIONS	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA. ON SHIFTING SAND DUNES. CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS (?) AND ADENOSTOMA FASCICULATUM. PRICE CANYON COLLECTION GROWING WITH QUERCUS AGRIFOLIA, TOXICODENDRON DIVERSILOBUM, AND SALVIA MELLIFERA.		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AF HOOVER COLLECTION MILES NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/BACE AND OF SCHOOL NORTH OF GUADALUPE "IS ALSO ATTRIBUTED TO T FIELDWORK. SITE BASED ON 1936 WIESLANDER, 1986 KNIGHT, A COOPER COLLECTION. THIS OCCURRENCE WAS PR WELLSI IOCC #S. A 1976 IMPER COLLECTION FROM TARSADS PROJECT; 1 MI SW OF HWY 227 ON PRICE ATTRIBUTED HERE. ONLY SOURCE OF INFORMATION FOR THIS OCCURR AREA CHECKLIST BY RINDLAUB & TIERNEY, ACTUAL DATE UNKNOWN. NEEDS FIELDWORK. SITE BASED ON A 1936 LEE COLLECTION. A 1948 HG COLLECTION FROM "EDGE OF SAN LUIS VALLEY ON CANYON ROAD TO ARROYD GRANDE, EAST EXPOSL ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK.
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47 Delphinium parryi ssp. blochmaniae 48 Horkelia cuneata var. sericea 49 Monardella undulata ssp. crispa 50 Arctostaphylos pilosula 51 Dithyrea maritima	legless lizard dune larkspur Kellogg's horkelia crisp monardella Santa Margarita manzanita beach spectaclepod Nipomo Mesa	Oceano Point Sal Oceano Arroyo Grande NE Point Sal Arroyo	200 19570402 1100 19820502 120 19470710 300 20130807 0 XXXXXXXX	19570402 UNKNOWN 19820502 UNKNOWN 19470710 UNKNOWN 20130807 PVT XXXXXXX UNKNOWN	None None None	None None None Threatene	G4T2 G4T1? G3T2 G2? eed G1	\$2 18.2 \$1? 18.1 \$2 18.2 \$2? 18.2 \$1 18.1		USFS_S BLM_S BLM_S; SB_SBBG; USFS	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA VALLEY ON GUADALUPE-ARROYO GRANDE ROAD. 1 MILE SOUTHWEST OF EDNA, IN ARROYO GRANDE OIL FIELD BETWEEN PRICE CANYON ROAD AND INDIAN KNOB, NORTH OF SARROYO GRANDE.	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGH FOR POINT SAL SB. MAPPED AS BEST GUESS BY CNDDB AROUND G ROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF HIGHWAY 1 NORTH OF THE SANTA MARIA RIVER VALLEY. MAPPED BY CNDDB AS BEST GUESS ABOUT 1 AIR MILE SW OF EDNA AT AROUND 300 FEET IN ELEVATION BASED ON TRS AND ELEVATION INFORMATION ON COLLECTION LABELS. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB IN GENERAL VICINITY OF POINT SAL. MAPPED AS BEST GUESS NON-SPECIFICALLY AROUND GIVEN TRS: 1325 R13E SECTION 4. GIVEN ELEVATION IS 600 FEET. COLLECTIONS NOT IDENTIFIED TO VARIETY BUT ASSUMED TO BE VAR. NIPOMENSIS	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA. ON SHIFTING SAND DUNES. CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS (?) AND ADENOSTOMA FASCICULATUM. PRICE CANYON COLLECTION GROWING WITH QUERCUS AGRIPOLIA, TOXICODENDRON DIVERSILOBUM, AND SALVIA MELLIFERA.		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AF HOOVER COLLECTIONS. A 1933 PURER COLLECTION MILES NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/AT END OF SCHOOL NORTH OF GUADALUPE/BAC END SCHOOLECTION FILEDWORK. SITE BASED ON 1936 WIESLANDER, 1986 KNIGHT, A COOPER COLLECTIONS. THIS OCCURRENCE WAS PR WELLSII OCC #5. A 1976 IMPER COLLECTION FROM TARSADS PROJECT; 1 MI SW OF HWY 227 ON PRICE ATTRIBUTED HERE. ONLY SOURCE OF INFORMATION FOR THIS OCCURR AREA CHECKLIST BY RINDLAUB & TIERNEY, ACTUAL DATE UNKNOWN. NEEDS FIELDWORK. SITE BASED ON A 1936 LEE COLLECTION. A 1948 HO COLLECTION FROM "EDGE OF SAN LUIS VALLEY ON CANYON ROAD TO ARROYO GRANDE, EAST EXPOSL ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK.
46 Anniella pulchra 47 Delphinium parryi ssp. blochmaniae 48 Horkelia cuneata var. sericea 49 Monardella undulata ssp. crispa 50 Arctostaphylos pilosula 51 Dithyrea maritima 52 Ceanothus impressus var. nipomensis	legless lizard dune larkspur Kellogg's horkelia crisp monardella Santa Margarita manzanita beach spectaclepod Nipomo Mesa	Oceano Point Sal Oceano Arroyo Grande NE Point Sal Arroyo	200 19570402 1100 19820502 120 19470710 300 20130807 0 XXXXXXXX	19570402 UNKNOWN 19820502 UNKNOWN 19470710 UNKNOWN 20130807 PVT XXXXXXX UNKNOWN	None None None	None None None Threatene	G4T2 G4T1? G3T2 G2? eed G1	\$2 18.2 \$1? 18.1 \$2 18.2 \$2? 18.2 \$1 18.1		USFS_S BLM_S BLM_S; SB_SBBG; USFS	NORTHWEST OF CATTLE CROSSING WITH VANDENBERG WARNIN SIGNS, POINT SAL STATE BEACH. SHORT DISTANCE NORTH OF THE NORTH EDGE OF SANTA MARIA VALLEY ON GUADALUPE-ARROYO GRANDE ROAD. 1 MILE SOUTHWEST OF EDNA, IN ARROYO GRANDE OIL FIELD BETWEEN PRICE CANYON ROAD AND INDIAN KNOB, NORTH OF SARROYO GRANDE.	MILE NORTH OF BLACK LAKE CANYON IN THE AREA THAT MATCHES GIVEN ELEVATION OF 200 FEET. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE CATTLE CROSSING OR WARNING SIGNS, AND GIVEN ELEVATION OF 1100 FT IS TOO HIGH FOR POINT SAL SB. MAPPED AS BEST GUESS BY CNDDB AROUND G ROADS AT THE BOUNDARY OF VANDENBERG AFB, JUST EAST OF STATE BEACH. EXACT LOCATION NOT KNOWN; MAPPED IN THE VICINITY OF HIGHWAY 1 NORTH OF THE SANTA MARIA RIVER VALLEY. MAPPED BY CNDDB AS BEST GUESS ABOUT 1 AIR MILE SW OF EDNA AT AROUND 300 FEET IN ELEVATION BASED ON TRS AND ELEVATION INFORMATION ON COLLECTION LABELS. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB IN GENERAL VICINITY OF POINT SAL. MAPPED AS BEST GUESS NON-SPECIFICALLY AROUND GIVEN TRS: 1325 R13E SECTION 4. GIVEN ELEVATION IS 600 FEET. COLLECTIONS NOT IDENTIFIED TO VARIETY BUT ASSUMED TO BE VAR. NIPOMENSIS	IN GRASSLAND WITH ADENOSTOMA FASCICULATUM, ORTHOCARPUS DENSIFLORUS, AND HYPOCHAERIS GLABRA. ON SHIFTING SAND DUNES. CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS OBISPOENSIS (?) AND ADENOSTOMA FASCICULATUM. PRICE CANYON COLLECTION GROWING WITH QUERCUS AGRIPOLIA, TOXICODENDRON DIVERSILOBUM, AND SALVIA MELLIFERA.		BACIGALUPI COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A COLLECTION, PLANTS NOTED AS "UNCOMMON" IN FIELDWORK. MAIN SOURCES OF INFORMATION FOR THIS SITE AF HOOVER COLLECTIONS. A 1933 PURER COLLECTION MILES NORTH OF GUADALUPE' IS ALSO ATTRIBUTED TO THELDWORK. SITE BASED ON 1936 WIESLANDER, 1986 KNIGHT, COOPER COLLECTIONS. THIS OCCURRENCE WAS PROVIDED TO THE STANDER, 1986 COLLECTION FROM TARSADS PROJECT; I MI SW OF HWY 227 ON PRICE ATTRIBUTED HERE. ONLY SOURCE OF INFORMATION FOR THIS OCCURRABE A CHECKLIST BY RINDLAUB & TIERNEY, ACTUAL DATE UNKNOWN. NEEDS FIELDWORK. SITE BASED ON A 1936 LEE COLLECTION. A 1948 HO COLLECTION ROAD TO ARROYO GRANDE, EAST EXPOSL ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK. SITE BASED ON A 1936 FERENCH COLLECTION. VAGU COLLECTION SEROM 1 1936 FRENCH COLLECTION NOR.

															SITE BASED ON 3 HISTORIC COLLECTIONS FROM THIS VICINITY.
54 Arctostaphylos pilosula	Santa Margarita manzanita	Oceano	400 19360226 19360226 UNKNOWI	N None	None	G2?	S2?	1B.2		BLM_S; SB_SBBG; USFS_S	SOUTH OF LOS BERROS CREEK NEAR HIGHWAY 1, SOUTHEAST OF ARROYO GRANDE.		CHAPARRAL WITH TOXICODENDRON DIVERSILOBUM, MIMULUS AURANTIACUS, AND PAEONIA BROWNII.		NEEDS FIELDWORK. THIS OCCURRENCE WAS PREVIOUSLY A. WELLSII OCCURRENCE #1. SITE BASED ON AN UNDATED BRANDEGEE COLLECTION AND A 1947
55 Monardella sinuata ssp. sinuata	southern curly-leaved monardella	l Pismo Beach	0 19470716 19470716 UNKNOWI		None	G3T2	52	1B.2			PRICE CANYON.	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS AS A NON-SPECIFIC POLYGON ALONG PRICE CANYON.	IN SANDY SOIL IN SHADE OF LIVE OAKS.	THERE IS A LOT OF VELDT GRASS IN THI AREA.	HOOVER COLLECTION. SURVEYS BY JOHN CHESNUT, DAVE IMPER, S AND OTHER DUNE-EXPERIENCED BOTANISTS IN PRICE CANYON DID NOT FIND THIS SPECIES (DATE OF SURVEYS UNKNOWN).
56 Emys marmorata	western pond turtle	Pismo Beach	PVT, DPR-I 100 XXXXXXXX XXXXXXXX SB, UNKNO		None	G3G4	S3		SSC	BLM_S; IUCN_VU; USFS_S	PISMO CREEK, NORTH OF GROVER CITY.	TURTLES OCCUR IN OR ALONG CREEK.			OBSERVED BY D. HOLLAND, DATE UNKNOWN.
57 Agrostis hooveri	Hoover's bent grass	Pismo Beach	0 19470716 19470716 UNKNOWI	N None	None	G2	52	1B.2		BLM_S; USFS_S	PRICE CANYON.		ON NORTH-FACING SANDSTONE SLOPE.		ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1947 HOOVER COLLECTION. NEEDS FIELDWORK.
58 Arctostaphylos pilosula	Santa Margarita manzanita	Tar Spring Ridge	1350 19360429 19360429 PVT	None	None	G2?	S2?	1B.2		BLM_S; SB_SBBG; USFS_S	TAR SPRING RIDGE; 1.5 TO 2 MILES NORTHWEST OF TAR SPRING RANCH, EAST OF ARROYO GRANDE.	COLLECTION LABEL IS 1100 FEET, ELEVATION ON THE OTHER	ABUNDANT ON RIDGETOPS. IN CHAMISE CHAPARRAL WITH ARCTOSTAPHYLOS GLANDULOSA, DENDROMECON RIGIDA, AND QUERCUS BERBERIDIFOLIA.		ONLY SOURCES OF INFORMATION FOR THIS SITE ARE 1936 COLLECTIONS BY LEE. THIS OCCURRENCE WAS PREVIOUSLY A. WELLSII OCCURRENCE #3. TYPE LOCALITY. ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1927 EASTWOOD COLLECTION. ACCORDING TO
59 Malacothamnus gracilis	slender bush-mallow	Tar Spring Ridge	500 19270730 19270730 UNKNOWI	N None	None	G1Q	S1	18.1			ON ROAD FROM ARROYO GRANDE TO HUASNA.	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS NON-SPECIFICALLY ALONG THE MAIN ROAD BETWEEN ARROYO GRANDE AND HUASNA.	VEGETATION GENERALLY DESCRIBED BY STATE PARKS AS		CHESNUT, SITE MAY BE LOCATED AT CHALK OUTCROPS NEAR SE END OF TAR SPRING RIDGE JUST NORTH OF HUASNA ROAD 1 MI OUTSIDE OF HUASNA.
60 Anniella pulchra	northern California legless lizard	Oceano	DPR-OCEA 20 20150307 20150307 DUNES SV		None	G3	\$3		SSC	USFS_S	COASTAL SAND DUNES SOUTH OF ARROYO GRANDE CREEK AND OCEANO, AND NORTH OF BIG POCKET LAKE, PISMO DUNES NATURAL PRESERVE.	2015 COLLECTION FROM EAST SIDE OF DUNES PRESERVE NEAR THE	COASTAL STRAND OF BEACH SALTBUSH, COASTAL SALTBUSH, & SAND VERBENA; FOREDUNES WITH SAND-VERBENA; DUNE SCRUB OF MOCK HEATHER AND SILVER BEACH LUPINE.		COLLECTED FROM THE GENERAL AREA ON 28 SEP 1959. ONE COLLECTED ON 7 MAR 2015. NATURAL PRESERVE CLOSED TO VEHICLES AND DOGS. SEE
61 Coastal and Valley Freshwater Mars	Coastal and Valley h Freshwater Marsh	Oceano	100 197606XX 197606XX PVT	None	None	G3	S2.1				DUNE LAKES, 2 MILES SOUTH OF OCEANO.		TYPHA SPP., SCIRPUS SPP, ETC. ON MARGINS OF VERY DEGRADED DUNE LAKE SYSTEM.	LAKES RECEIVE AGRICULTURAL RUNOFI	WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BA CKGNOUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF F. RARE COMMUNITIES. HOLOTYPE MALE, ALLOTYPE FEMALE (BOTH DEPOSITED AT CAS ON
62 Areniscythris brachypteris	Oso Flaco flightless moth	Oceano	75 19730824 19730824 PVT	None	None	G1	S1				DUNE LAKES, 3 AIR MILES SOUTH OF OCEANO.		SOME ADULTS REARED FROM LARVAE COLLECTED BENEATH MONARDELLA CRISPA AND SENECIO BLOCHMANAE.		INDEFINITE LOAN FROM UCB), AND 56 MALE AND 34 FEMALE PARATYPES.
	white sand bear scara	ab												THREATS INCLUDE DEVELOPMENT (DUNE LAKES LTD) & ORV USE OF THE	
63 Lichnanthe albipilosa	beetle	Oceano	60 19760521 19760521 PVT	None	None	G1	S1				DUNE LAKES 3 MILES SOUTH OF OCEANO.	DUNE LAKES (GNIS) REFERS TO THE AREA OF SEVERAL SMALL LAKES IN THE COASTAL SAND DUNES WEST OF HWY 1 AND SOUTH OF	LITTLE IS KNOWN ABOUT THIS BEETLE'S LIFE HISTORY.	DUNES.	ONE FEMALE COLLECTED (UCB-CIS).
64 Anniella pulchra	northern California legless lizard	Oceano	100 196602XX 196602XX UNKNOWI	N None	None	G3	S3		SSC	USFS_S	DUNE LAKES AREA OF CALLENDER DUNES, ABOUT 2 MILES SOUTH OF OCEANO.	CIENEGA VALLEY; E.G. PIPELINE LAKE, HOSPITAL LAKE, WHITE LAKE, MUD LAKE, ETC. BETTER MAD DETAIL NEEDED FOR EASTERN ROPTION OF	IN RIVER BOTTOMI AND AND COASTAL DUNE WETLAND WITH		ONE COLLECTED IN THIS AREA IN FEB 1966.
65 Cirsium scariosum var. loncholepis	La Graciosa thistle	Point Sal	PVT, SBA 20 20170321 20170321 COUNTY?	Endange	ered Threate	ned G5T1	S1	18.1			SANTA MARIA RIVER; EXTENDS FROM NEAR THE RIVER MOUTH TO ABOUT 2.5 MILES EAST, ON BOTH SIDES OF THE SLO/SBA COUNTY LINE.	OCCURRENCE; POSSIBLY CONTINUOUS WITH EO #34 AND #35 BUT MORE COMPREHENSIVE SURVEYS NEEDED. PORTIONS OF SITE HAVE BEEN PLANTED. ADDITIONAL POPULATION INFORMATION AVAILABLE AT CNDDB.	DISTICHLIS SPICATA, SALIX LASIOLEPIS, ANEMOPSIS CALIFORNICA, BACCHARIS PILULARIS, ISOCOMA MENZIESII,	GRAZING, ORVS, DEVELOPMENT, REDUCED WATER, FLOODING, INVASIVES, OIL REMEDIATION ACTIVITIES, FERAL PIGS.	POP NUMBERS FOR PORTIONS OF SITE: 1000-10,000 PLANTS IN 1983; ~6000 IN 1986; 54,000 EST IN 1990; 1746 IN 2006; 1339 IN '07; 8362 IN '08; 9751 IN '09; 4464 IN '10; 2861 IN '14; 2833 IN '15; 1510 IN '16, SEEN IN '17. INCL FORMER EO #S 7 & 15.
66 Rana boylii	foothill yellow-legged frog	Arroyo Grande NE	272 2014XXXX 19400722 UNKNOWI	N None	Candida Threate		53		SSC	BLM_S; IUCN_NT; USFS_S		MILLLERS ALSO COLLECTED AT ALAMO CREEK ON THIS DATE. UNSURE WHERE THESE WERE COLLECTED, BUT LIKELY ALONG A	AROUND 1975-1978. THE ONLY KNOWN EXTANT POPULATION IN SAN LUIS OBISPO CO IS NEAR THE COUNTY LINE & RAGGED POINT IN THE FAR NW PORTION OF THE COUNTY.		TADPOLES COLLECTED ON 22 JUL 1940. NOT FOUND BY INDEPENDENT RESEARCH CREWS IN SOUTHERN CALIFORNIA IN 1981-1993, 1988-1991, OR 2011-2014.
67 Anniella pulchra	northern California legless lizard	Oceano	USFWS- GUADALU 85 19890114 19890114 NIPOMO D		None	G3	53		SSC	USFS_S	EAST SIDE OF THE GUADALUPE-NIPOMO DUNES ABOUT 2.5 MILES NW OF GUADALUPE AND ABOUT 6.75 MILES SOUTH OF OCEANO.				COLLECTED IN 1985, 1986, 1989 (INDIVIDUALS FOR RESEARCH ARTICLE).
68 Central Dune Scrub	Central Dune Scrub		200 19850317 19850317 PVT	None	None	G2	S2.2		330	03/3_3	MUSSEL ROCK DUNES, SOUTH OF SANTA MARIA RIVER, EXTENDS ABOUT 1.6 MILES, 0.75 -1.5 MILES INLAND.		LUPINUS CHAMISSONIS, ERIOGONUM PARVIFOLIUM, ARTEMISIA CALIFORNICA. STABILIZED BACK DUNES IN SCRUB DOMINATED BY		ONCE INHABITED BY NATIVE CHUMASH. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BA CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. POPULATION NUMBERS FOR PORTIONS OF SITE: 100+ PLANTS SEEN
69 Monardella undulata ssp. crispa	crisp monardella	Oceano	TNC, DPR- OCEANO D 100 20120609 20120609 SVRA		None	G3T2	S2	18.2		BLM_S	OCEANO/NIPOMO DUNES, FROM OSO FLACO LAKE NORTH TO BLACK LAKE, SOUTH OF OCEANO.	HOWALD MAP, 1987 GRIFFITHS COLLECTION LOCALITY (0.25 MI W OF BLACK LAKERIDGE BORDERING 5 EDGE OF MUD LAKE), 1998 CHESNUT MAP, & 2012 GOSLINER COORDINATES.	ERHARTA CALYCINA AND BROMUS DIANDRUS. ASSOC W/ ABRONIA, CARPOBROTUS, AMMOPHILA ARENARIA, ETC. 1972: SPAWNING GRAVELS PRESENT BUT NOT ABUNDANT &	ORV ACTIVITY, PIPELINE MAINTENANCE VEHICLES CLOSE BY.	IN 1979, 10+ PLANTS IN 1984, <10 PLANTS IN 1985, MANY SCATTERED PLANTS IN 1995, <10 PLANTS IN 2012. ALSO SEEN IN 2006 & 2010. POSSIBLE HYBRIDS. INCLUDES FORMER OCCS #2, 3, 4, AND 5.
70 Oncorhynchus mykiss irideus pop. 9	steelhead - south- central California coa: DPS	st Arroyo Grande NE	PVT, DPR- 90 20020708 20020708 SB, UNKNO		ned None	G5T2Q	S2			AFS_TH	PISMO CREEK & TRIBUTARY, WEST CORRAL DE PIEDRA CREEK, PRICE CANYON, BETWEEN EDNA & PISMO BEACH.	FROM LOWER MIDDLE PISMO CREEK TO THE LOWERMOST PORTION	NO FISH OBS FROM MOUTH TO EDNA. 1974: STEELHEAD OBS SUMMER & FALL IN ELECTROFISHING SURVEYS IN UPPER HALF OF PISMO CR & LOWERMOST WEST CORRAL DE PIEDRA CR. 2002: DENSE WILLOWS IN LOWER CR.	SILTATION, CHEMICAL POLLUTION, 1 METER HIGH DIVERSION DAM, DEVELOPMENT.	BASED ON 1990 DFG FILE DOCUMENTS, STEELHEAD APPARENTLY STILL ENTER PISMO CREEK. S. IUL 2002: A 2" FRY WAS FOUND DEAD, AND 2 OTHERS OBSERVED ALIVE IN LOWER PISMO CREEK BY RR BRIDGE. BOUNDARY FROM SOIL SURVEY ORTHOPHOTO. BETTER DATA ON
71 Central Dune Scrub	Central Dune Scrub	Point Sal	400 1968XXXX 1968XXXX UNKNOW	N None	None	G2	S2.2				WITHIN 0.5 MILE OF COAST BETWEEN MUSSEL POINT & POINT SAL.		COOPER, 1967, REPORTS DENSE SCRUB W/ERICAMERIA, LUPINUS, ABRONIA.		COMPOSITION, CONDITION NEEDED. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BA CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
						<u></u>						MAPPED BY CNDDB TO ENCOMPASS SEVERAL OBSERVATIONS FROM "OUTLET FROM OSO FLACO TO THE OCEAN," "ABOUT DUNES W OF OSO FLACO LAKES," "DUNES ON NW SHORE OF OSO FLACO LAKE,"	ON EXTENSIVE SAND DUNES. ASSOCIATED WITH HAPLOPAPPUS		SITE IS BASED ON MANY COLLECTIONS AND OBSERVATIONS FROM
72 Erigeron blochmaniae	Blochman's leafy dais	y Oceano	DPR-OCEA 50 20160719 20160719 DUNES SV		None	G2	S2	1B.2		BLM_S	GUADALUPE DUNES, NORTH AND WEST OF OSO FLACO LAKE.	BOARDWALK,"	ERICOIDES, RHAMNUS CALIFORNICA, FRANSERIA BIPINNATIFIDA, AND RUMEX MARITIMUS. IN HOLLOWS AMONG DUNES ALWAYS IN AREAS WELL		1940 THROUGH 2016. INCLUDES GENERAL OBSERVATIONS FROM OSO FLACO LAKE.
73 Erigeron blochmaniae	Blochman's leafy dais	y Oceano	100 19980721 19980721 UNKNOW	N None	None	G2	S2	1B.2		BLM_S	IMMEDIATELY WEST OF THE INTERSECTION OF CALLENDAR ROAD AND HIGHWAY 1.	EXACT LOCATION UNKNOWN, MAPPED BY CNDDB AS A BEST GUESS.	IN HOLLOWS AMONG DUNES, ALWAYS IN AREAS WELL- VEGETATED.		SITE IS BASED ON A 1998 COLLECTION BY HRUSA & RAGAN; PLANTS NOTED AS ""SCATTERED."" SITE BASED ON A 1947 HOOVER COLLECTION FROM "NEAR SMALL
74 Nasturtium gambelii	Gambel's water cress	Oceano	20 19810629 19810629 PVT	Endange	ered Threate	ned G1	S1	18.1		SB_RSABG; SB_SBBG	NEAR SMALL TWIN LAKE AND CELERY LAKE, SOUTH OF ARROYO GRANDE.		IN SWAMP AMONG DENSE GROWTH OF SCIRPUS AND SPARANGIUM. AREA IS MANAGED AS THE COUNTY'S RANCHO GUADALUPE DUNES PRESERVE, THOUGH THERE APPEARS TO BE A SAND	SITE LIKELY EXTIRPATED BY DEVELOPMENT OR ALTERATION OF HABITAT.	TWIN LAKE" AND A 1981 WISE COLLECTION FROM "CELERY LAKE". EXTIRPATED BY DEVELOPMENT OR ALTERATION OF HABITAT (M. MCLEOD, PERS COMM; SEE PRI88U0001).
75 Anniella pulchra	northern California legless lizard	Point Sal	122 19880102 19880102 SBA COUN	ITY None	None	G3	S3		SSC	USFS_S	COASTAL SAND DUNES 1 MILE E OF THE BEACH AND S OF SANTA MARIA RIVER, E SIDE OF RANCHO GUADALUPE DUNES PRESERVE.	GUADALUPE. DUNES IN THIS AREA ARE NOTED AS THE MUSSEL ROCK	MINING OPERATION NEAR THE NE PORTION OF THIS OCCURRENCE ALONG W MAIN ST THAT APPEARS ACTIVE IN 2012 GOOGLE STREETVIEW AND 2016 AERIALS.		SPECIMENS COLLECTED IN 1982 AND 1988. OCCASIONAL" IN 1992. A 1948 HOOVER COLLECTION FROM ""EDGE
76 Agrostis hooveri	Hoover's bent grass	Arroyo Grande NE	500 19920528 19920528 PVT?	None	None	G2	52	1B.2		BLM_S; USFS_S	MONTECITO RIDGE AREA. BETWEEN SAN LUIS OBISPO AND ARROYO GRANDE ALONG HIGHWAY 227.	MAPPED BY CNDDB AS BEST GUESS AROUND MONTECITO RIDGE DRIVE ON THE EAST SIDE OF CARPENTER CANYON ROAD (HWY 227).			OF SAN LUIS VALLEY ON CARPENTER CANYON ROAD TO ARROYO GRANDE"" IS ALSO ATTRIBUTED TO THIS SITE.
77 Chorizanthe rectispina	straight-awned spineflower	Arroyo Grande NE	500 19920528 19920528 PVT?	None	None	G2		1B.3		BLM_S; USFS_S	MONTECITO RIDGE AREA. BETWEEN SAN LUIS OBISPO AND ARROYO GRANDE ALONG HIGHWAY 227.	DRIVE ON THE EAST SIDE OF CARPENTER CANYON ROAD (HWY 227).	SANDY HILLS WITH COASTAL LIVE OAK WOODLAND, MANZANITA CHAPARRAL, AND COASTAL SCRUB. WITH ARCTOSTAPHYLOS, SANDY SOIL, MESA. DOMINANT		ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1992 KEIL COLLECTION; ""LOCAL IN OPENINGS"" IN 1992.
78 Ceanothus impressus var. nipomen	Nipomo Mesa sis ceanothus	Nipomo	300 19740310 19740310 PVT?	None	None	G3T2	52	1B.2			GATES' PROPERTY, GRAND VIEW MESA, NIPOMO.	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS AROUND THE GRAND VIEW MESA AREA. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB	WOODY SHRUB ON NORTH-FACING SLOPES. COMMON CHAPARRAL SPECIES.		SITE BASED ON 1974 COPELAND COLLECTIONS. NEEDS FIELDWORK.
79 Agrostis hooveri	Hoover's bent grass	Arroyo Grande NE	0 19690605 19690605 UNKNOWI	N None	None	G2	52	1B.2		BLM_S; USFS_S	OAK PARK DISTRICT, ARROYO GRANDE.	CENTERED AROUND HISTORIC OAK PARK SCHOOL BUT MAY HAVE BEEN COLLECTED FROM CLOSER TO THE TOWN OF ARROYO GRANDE.	STABILIZED SAND DUNES. WITH ADENOSTOMA		ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1969 HOOVER COLLECTION. NEEDS FIELDWORK. MAIN SOURCE OF INFORMATION IS 1991 HRUSA COLLECTION;
80 Arctostaphylos rudis	sand mesa manzanita	Arroyo Grande NE	0 199105XX 199105XX UNKNOWI	N None	None	G2	S2	1B.2		BLM_S	SLOPE TO SW OF PISMO CREEK; NEAR INTERSECTION OF HIGHWA 101 AND 4TH STREET, GROVER CITY.	Y MAPPED BY CNDDB AS BEST GUESS AROUND THE JUNCTION OF	FASCICULATUM, ERICAMERIA ERICOIDES, ERIOGONUM PARVIFOLIUM, LOTUS SCOPARIUS, RHAMNUS CALIFORNICA, CROTON CALIFORNICUS, HELIANTHEMUM SCOPARIUM, ETC. EXPOSED SLOPE ABOVE QUERCUS AGRIFOLIA.		"SHRUB IS THE ONLY ONE REMAINING." OTHER COLLECTIONS FROM "SLOPE ABOVE PISMO MARSH BETWEEN 4TH AND 12TH STREETS," "EASTWARD FROM 4TH ST," "GROVER CITY", ETC ALSO ATTRIBUTED HERE. 1 PLANT OBSERVED IN 2007. A 1936 YATES COLLECTION FROM "3/4
81 Ceanothus impressus var. nipomen:	Nipomo Mesa sis ceanothus	Arroyo Grande NE	450 20070605 20070605 UNKNOWI	N None	None	G3T2	S2	1B.2			TIBER CANYON SOUTH OF ORMONDE ROAD, CA. 1 MILE EAST OF PRICE CANYON ROAD.	MAPPED AS BEST GUESS BASED ON LOCATION DESCRIPTION ON 2007 CARROLL COLLECTION. GIVEN ELEVATION IS 450 FEET.	SANDY SOIL ADJACENT TO ROAD. ASSOCIATED WITH RUBUS URSINUS AND CAREX BARBARAE.	THIS REGION HAS HAD MUCH DEVELOPMENT AND CONVERSION TO GRAPES, OLIVES, AND HORSES.	MILE SW REEDS, 500 FEET, T32S R13E SEC S" AND A 1947 HOOVER COLLECTION FROM "PRICE CANYON (JUST S OF)" ARE ALSO ATTRIBUTED TO THIS SITE.

											INDICATES THAT COLLECTION WAS MADE ""IN MARSHY WILLOW THICKETS ALONG CREEK NEXT TO STATE PARK CAMPGROUND.""			SINCE AND MOST IF NOT ALL SUITABLE HABITAT IN VICINITY HAS BEEN DEVELOPED. PRESUMED EXTIRPATED, BUT SMALL POCKETS
											MAPPED BY CNDDB AROUND NORTH BEACH CAMPGROUND AT			OF REMAINING SUITABLE HABITAT SHOULD BE SURVEYED (ELVIN
82 Arenaria paludicola	marsh sandwort Santa Margarita	Pismo Beach Arrovo	0 19650421 19650421 UNKNOW	N Endange	ered Endange	red G1	S1 1B.1		SB_SBBG	PISMO BEACH, SAN LUIS OBISPO COUNTY.	PISMO BEACH. MAPPED BY CNDDB AS BEST GUESS AROUND DAM AT LOPEZ	MARSHY WILLOW THICKETS ALONG CREEK.		2007). ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1986 KNIGHT
83 Arctostaphylos pilosula	manzanita	Grande NE	300 19860504 19860504 UNKNOW	N None	None	G2?	S2? 1B.2		BLM_S; SB_SBBG; USFS_S	NEAR LOPEZ DAM.	RESERVOIR. GIVEN ELEVATION IS 650 FEET.	IN CHAPARRAL.		COLLECTION. NEEDS FIELDWORK.
	Morro Bay blue		TNC, USF	VS.									PART OF THIS OCCURRENCE IS WITHIN THE OCEANO DUNES SVRA; POSSIBLE	1 SPECIMEN DEPOSITED IN UC DAVIS BOHART MUSEUM OF
84 Plebejus icarioides moroensis	butterfly	Oceano	120 19790429 19790429 DPR, UNK		None	G5T2	S2			SAND HILLS (GUADALUPE DUNES), 1. 5 MILES SE OSO FLACO LAKE			THREAT FROM ORV'S.	ENTOMOLOGY.
														SITE BASED ON TWO 1991 SAINZ COLLECTIONS. 1960 BLAKLEY COLLECTION FROM "POINT SAL RIDGE, 1000 FT, N SIDE OF A RIDGE,"
Dudleya blochmaniae ssp.										SUMMIT OF ROAD OUT OF CORRALITOS CANYON, EAST OF POINT	MAPPED BY CNDDB AS BEST GUESS AROUND THE ROAD AT THE	IN CLAY SOIL, IN OPEN GRASS-COVERED SPOT. VERNAL FLAT,		1972 EDGE COLLECTION FROM "NEAR TOP OF POINT SAL RIDGE," &
85 blochmaniae	Blochman's dudleya	Guadalupe	0 19910712 19910712 UNKNOW	N None	None	G3T2	S2 1B.1		SB_RSABG	SAL ON POINT SAL RIDGE, CASMALIA HILLS.	HEAD OF CORRALITOS CANYON.	GRASSLAND.		1978 OBERBAUER COLLECTION ARE ALSO ATTRIBUTED TO THIS SITE.
												1990: WEDGE-SHAPED EUCALYPTUS GROVE ON SMALL HILL NORTH OF OLD GUADALUPE LAKE BED WHICH WAS DRAINED &		
	monarch - California										MAPPED GENERALLY TO COORDINATES PROVIDED IN 1991 REPORT,	CONVERTED TO AGRICULTURE. 1999: ""AGRICULTURAL		
86 Danaus plexippus pop. 1	overwintering population	Guadalupe	55 1999XXXX 19901031 PVT	None	None	G4T2T3	5253		USFS_S	SOUTH SIDE OF THE SANTA MARIA RIVER ABOUT 1.6 MILES WNW OF HWY 1 AT MAIN ST, GUADALUPE.	WHICH ARE LOW ACCURACY. EXACT DETECTION LOCATION UNKNOWN. XERCES SITE #2820.	DEVELOPMENT HAS CLEARED ALL THE TREES AT THIS LOCATION.""	TREE REMOVAL AND CONVERSION TO AGRICULTURE.	125 OBSERVED IN TWO ROOSTS ON 31 OCT 1990. NO BUTTERFLIES WERE SEEN IN 1999.
об Ванайз рієхірриз рор. 1	population	Guadalupe	33 13338888 13301031 1 1 1	None	None	041213	3233		03/3_3	OF TWI TAT WAIN 31, GOADALOTE.	MAPPED AS BEST GUESS BY CNDDB AROUND THE PORTION OF PRICE	ECCATION.	AGMICOLITONE.	BASED ON 4 COLL: WIESLANDER (1933) FROM "PISMO CRK, SEC 6",
	C									A MUSE COURTINGEST OF FRANK LINION PAGES RIGHT OF MAN	CANYON RD AND PISMO CREEK THAT IS ABOUT 3 MILES SW OF EDNA	MOSTLY ANNUAL CRASS AND DURERAL HARITAT ALONG THE		LEE (1936) FROM "PRICE CYN, 300FT, SEC 6", WELLS (1960) FROM "3
87 Arctostaphylos pilosula	Santa Margarita manzanita	Pismo Beach	350 20010509 20010509 UNKNOW	N None	None	G2?	S2? 1B.2		BLM S: SB SBBG: USFS S	3 MILES SOUTHWEST OF EDNA, UNION PACIFIC RIGHT OF WAY, EAST OF PISMO BEACH.	AND NEAR THE UNION PACIFIC RIGHT OF WAY. TWO COLLECTIONS INDICATE THAT THIS SITE IS IN SECTION 6. ELEVATIONS: 300-400 FT.			MI SW OF EDNA", WHITE (2001) FROM "PRICE CYN, UNION PACIFIC RR ROW", ETC. PREVIOUSLY A. WELLSII OCC #8.
. , .														DENSE, PURE STANDS OBSERVED IN 1949. 1947 HOOVER
										BOG NEAR HIGHWAY 1, CIRCA 4 MILES SOUTH OF ARROYO	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS A BEST GUESS			COLLECTIONS FROM "BLACK LAKE CANYON IN BOGGY MEADOW" ALSO ATTRIBUTED HERE. PLANTS OBSERVED IN THIS VICINITY IN
88 Cladium californicum	California saw-grass	Oceano	50 199XXXXX 199XXXXX UNKNOW	N None	None	G4	S2 2B.2		USFS_S	GRANDE.	NEAR JUNCTION OF BLACK LAKE CANYON AND HIGHWAY 1.			EARLY 1990S AS PART OF A WETLAND CLASSIFICATION STUDY.
											MAPPED BY CNDDB AS BEST GUESS AROUND MUSSEL POINT/MUSSEL ROCK. POSSIBLY REFERENCING THE DUNES FURTHER NORTH OF			ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1933 COOPER
89 Cirsium rhothophilum	surf thistle	Point Sal	0 19330817 19330817 UNKNOW	N None	Threaten	ed G1	S1 1B.2		BLM_S; SB_SBBG	MUSSEL ROCK, NEAR SANTA MARIA.		DUNES.		COLLECTION. NEEDS FIELDWORK.
											MAPPED BY CNDDB AS BEST GUESS AROUND MUSSEL POINT/MUSSEL			
90 Arctostaphylos rudis	sand mesa manzanita	Point Sal	0 19330817 19330817 UNKNOW	N None	None	G2	S2 1B.2		BLM S	MUSSEL ROCK DUNES, NEAR SANTA MARIA.	ROCK. POSSIBLY REFERENCING THE DUNES FURTHER NORTH OF MUSSEL POINT AND CLOSER TO THE SANTA MARIA RIVER.	DUNES.		ONLY SOURCES OF INFORMATION FOR THIS SITE ARE 1933 COOPER COLLECTIONS. NEEDS FIELDWORK.
			DPR-OCE	NO					_		SAND DUNE AREA BACK FROM BEACH. MAPPED AS BEST GUESS			ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1973 TILFORTH
91 Horkelia cuneata var. puberula	mesa horkelia	Oceano	50 19730614 19730614 DUNES SV	RA None	None	G4T1	S1 1B.1		USFS_S	NORTH OF OSO FLACO LAKE.	AROUND THE SAND DUNE AREA JUST NORTH OF OSO FLACO LAKE.	STABILIZED AREAS NEAR DUNES.		COLLECTION; MENTIONED AS ""COMMON"" IN 1973. SITE BASED ON 1962 BLAKELY COLLECTION. 1950 ROSE COLLECTION
														FROM ""OSO FLACO LAKE REGION"" AND 1980 GRIFFITHS
														COLLECTION FROM ""LITTLE COREOPSIS HILL"" ATTRIBUTED TO THIS
92 Chenopodium littoreum	coastal goosefoot	Oceano	DPR-OCE/ 50 19800525 19800525 DUNES SV		None	G1	S1 1B.2			0.25 MILE NORTH OF OSO FLACO LAKE.		COASTAL DUNES.		SITE. GRIFFITHS LOCATION BASED ON COORDINATES PROVIDED BY BENET-PIERC
	•									OSO FLACO LAKE REGION; DUNES JUST NORTH FROM THE BEACH				SITE BASED ON A 2002 TAYLOR COLLECTION. VAGUE COLLECTIONS
93 Monardella undulata ssp. undulata	San Luis Obispo monardella	Oceano	DPR-OCE/ 50 20070516 20070516 DUNES SV		None	G2	S2 1B.2		BLM_S	ACCESS BOARDWALK, PISMO DUNES STATE PARK, SOUTH OF OCEANO.	MAPPED AS BEST GUESS AROUND THE DUNE AREA JUST NORTH OF BOARDWALK.	PARTIALLY STABILIZED HIND DUNES.	ORV DAMAGE IN 1974.	FROM NEAR OSO FLACO LAKE AND 2007 DOYEN PHOTOS FROM ""OSO FLACO LAKE"" ARE ALSO ATTRIBUTED TO THIS SITE.
33 Worlardella undulata 33p. undulata	monardena	Oceano	30 20070310 20070310 DONES 30	IVA IVOIIC	None	02	32 10.2		DEIWI_3	OCEANO.		THIS AREA WAS OPEN TO OHV USE UNTILL 1982 AND NOW	ONV DAWAGE IN 1374.	OSO TEACO EARE ARE ALSO ATTRIBUTED TO THIS SITE.
												SUPPORTS A HEALTHY SYSTEM OF DISTINCT HABITATS,		SPECIMENS HAVE BEEN COLLECTED FROM HERE IN 1958, 1965,
	northern California		DPR-OCE	NO						COASTAL DUNES NEAR OSO FLACO LAKE, ABOUT 2 MILES SW OF		INCLUDING FRESHWATER LAKE AND MARSH, SIGNIFICANT RIPARIAN SYSTEM, VEGETATED DUNE HABITATS, AND COASTAL		1971, 1972, 1979, 1983, 1986, 1987, 1988, AND 1998. 1 FOUND AND PHOTOGRAPHED ALONG THE BOARDWALK SAND DUNES TRAIL ON
94 Anniella pulchra	legless lizard	Oceano	20 20180717 20180717 DUNES SV	RA None	None	G3	S3	SSC	USFS_S	CALLENDER, WEST END OF SANTA MARIA VALLEY.	PULCHRA EO #66.	SAGE SCRUB.		17 JUL 2018.
	Morro Bay blue		DPR-OCE/	NO										2 SPECIMENS DEPOSITED AT UC DAVIS BOHART MUSEUM OF ENTOMOLOGY FROM 12 JUN 1981. OBSERVATIONS ON 10 & 12 APR
95 Plebejus icarioides moroensis	butterfly	Oceano	25 20040412 20040412 DUNES SV		None	G5T2	S2			OSO FLACO LAKE.				2004.
			DPR-OCE/	NO								AUTHOR STATES FLIES IN THIS GENUS ARE USUALLY FOUND IN		2 MALE PARATYPES COLLECTED 13 JULY 1959 AND DEPOSITED AT UCD; 1 FEMALE PARATYPE COLLECTED 19 JULY 1964 AND
96 Ablautus schlingeri	Oso Flaco robber fly	Oceano	12 19640719 19640719 DUNES SV		None	G1	S1			OSO FLACO LAKE.		SANDY AREAS.		DEPOSITED AT UCR.
											MOTHS ARE COMMON ON OPEN DUNE SLOPES IN A NARROW ZONE ADJACENT TO THE STABLIZED CHAPARRAL AND LESS COMMON ON			
											DRIFTING SAND DUNES 50 M OR MORE FROM THE NEAREST		AT TIME OF COLLECTION, AREA WAS	
	Oso Flaco flightless		DPR-OCE/								VEGETATION; OCC, FOUND IN CLEARINGS A FEW METERS INTO THE		THREATENED BY OFF-ROAD VEHICLE	
97 Areniscythris brachypteris	moth	Oceano	12 19730607 19730607 DUNES SV	RA None	None	G1	S1			OSO FLACO LAKE, 5 AIR MILES SOUTH OF OCEANO.	STABILIZED FLORA.	INDIVIDUALS WERE COLLECTED ON A LIVING PLANT.	ACTIVITY.	1 MALE AND 1 FEMALE PARATYPE, DEPOSITORY UNCLEAR.
														6 SPECIMENS DEPOSITED IN THE CALIFORNIA STATE COLLECTION OF
														6 SPECIMENS DEPOSITED IN THE CALIFORNIA STATE COLLECTION OF ARTHROPODS (CDFA), COLLECTED BY ANDREWS 20 JUL 1969; 7
98 Cicindala hirticollic gravida	sandy heach tiger hee	tle Oceano	DPR-OCE/		None		57			OSO ELACO LAKE				ARTHROPODS (CDFA), COLLECTED BY ANDREWS 20 JUL 1969; 7 SPECIMENS DEPOSITED IN SAME COLLECTED, COLLECTED BY BATH,
98 Cicindela hirticollis gravida	sandy beach tiger bee	tle Oceano	DPR-OCE/ 20 19690720 19690720 DUNES SV		None		S2			OSO FLACO LAKE.				ARTHROPODS (CDFA), COLLECTED BY ANDREWS 20 JUL 1969; 7
			20 19690720 19690720 DUNES SV DPR-OCE	RA None		G5T2					EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN GENERAL			ARTHROPODS (CDFA), COLLECTED BY ANDREWS 20 JUL 1969; 7 SPECIMENS DEPOSITED IN SAME COLLECTED, COLLECTED BY BATH, 13 JUL 1955. COLLECTIONS WERE MADE HERE 13 JUL 1958, 19 JUL 1964, 1 OCT 1964, 24 JUN 1965, 14 JUL 1965, 6 JUN 1966, 12 APR 1967, AND 22
98 Cicindela hirticollis gravida 99 Bombus caliginosus	sandy beach tiger bee		20 19690720 19690720 DUNES SV	RA None	None	G5T2	S2 S1S2		IUCN_VU	OSO FLACO LAKE. OSO FLACO LAKE.	VICINITY OF OSO FLACO LAKE.	AT THE TIME OF THESE COLLECTIONS, THE AREA APPEARED TO		ARTHROPODS (CDFA), COLLECTED BY ANDREWS 20 JUL 1969; 7 SPECIMENS DEPOSITED IN SAME COLLECTED, COLLECTED BY BATH, 13 JUL 1999, COLLECTIONS WERE MADE HERE 13 JUL 1958, 19 JUL 1964, 1 OCT
99 Bombus caliginosus	obscure bumble bee	Oceano	20 19690720 19690720 DUNES SV DPR-OCE/ 30 19680422 19680422 DUNES SV	RA None INO RA None		G5T2 G4?	\$152		_	OSO FLACO LAKE. VICINITY OF THE PIKE AND THE COMMUNITY OF HALCYON,	VICINITY OF OSO FLACO LAKE. EXACT LOCATION OF SPECIMEN COLLECTIONS UNCERTAIN, BUT COLLECTED IN THE VICINITY OF THE PIKE (ROAD) AND NEAR	BE A MIX OF SPARSE RESIDENTIAL HOUSING AND		ARTHROPODS (CDFA), COLLECTED BY ANDREWS 2.0 JUL 1969; 7 SPECIMENS DEPOSITED IN SAME COLLECTED, COLLECTED BY BATH, 13 JUL 1959. COLLECTIONS WERE MADE HERE 13 JUL 1958, 19 JUL 1964, 1 OCT 1964, 24 JUN 1965, 14 JUL 1965, 6 JUN 1966, 12 APR 1967, AND 22 APR 1968. ONE COLLECTED ON 30 NOV 1958, AND ONE COLLECTED ON 6 MAR
	obscure bumble bee		20 19690720 19690720 DUNES SV DPR-OCE	RA None INO RA None		G5T2 G4?		SSC	IUCN_VU USFS_S	OSO FLACO LAKE.	VICINITY OF OSO FLACO LAKE. EXACT LOCATION OF SPECIMEN COLLECTIONS UNCERTAIN, BUT	BE A MIX OF SPARSE RESIDENTIAL HOUSING AND AGRICULTURAL FIELDS (1966 AERIAL).		ARTHROPODS (CDEA), COLLECTED BY ANDREWS 201 JUL 1969; 7 SPECIMENS DEPOSITED IN SAME CULLECTED, COLLECTED BY BATH, 13 JUL 1959. COLLECTIONS WERE MADE HERE 13 JUL 1958, 19 JUL 1964, 1 OCT 1964, 24 JUN 1965, 14 JUL 1965, 6 JUN 1966, 12 APR 1967, AND 22 APR 1968. ONE COLLECTED ON 30 NOV 1958, AND ONE COLLECTED ON 6 MAR 1960.
99 Bombus caliginosus	obscure bumble bee	Oceano	20 19690720 DUNES SV DPR-OCE. 30 19680422 19680422 DUNES SV 88 19600306 19600306 UNKNOW TNC-	RA None NO RA None N None		G5T2 G4?	\$152	SSC	_	OSO FLACO LAKE. VICINITY OF THE PIKE AND THE COMMUNITY OF HALCYON, BETWEEN OCEANO AND ARROYO GRANDE. BEACH & DUNES BETWEEN SANTA MARIA RIVER & MUSSEL ROCK	VICINITY OF SOS FLACO LAKE. EXACT LOCATION OF SPECIMEN COLLECTIONS UNCERTAIN, BUT COLLECTED IN THE VICINITY OF THE PIKE (ROAD) AND NEAR HALCYON 3 BLOCKS WEST OF HALCYON RD. 1977: NESTED SOUTH OF THE RIVER & ABOUT 0.25 MI INLAND. 1979:	BE A MIX OF SPARSE RESIDENTIAL HOUSING AND AGRICULTURAL FIELDS (1966 AERIAL). TERNS NEST OVER AN EXTENSIVE AREA OF RELATIVELY FLAT SAND DUNES, INTERSPERSED WITH VEGETATED HUMMOCKS		ARTHROPODS (CDFA), COLLECTED BY ANDREWS 20 JUL 1969; 7 SPECIMENS DEPOSITED IN SAME CULETCED, COLLECTED, CULECTED BY BATH, 13 JUL 1959. COLLECTIONS WERE MADE HERE 13 JUL 1958, 19 JUL 1964, 1 OCT 1964, 24 JUN 1965, 14 JUL 1965, 6 JUN 1966, 12 APR 1967, AND 22 APR 1968. ONE COLLECTED ON 30 NOV 1958, AND ONE COLLECTED ON 6 MAR 1960. 1973-84, AVE OF 16 PRS/YR NESTED, UP TO 25 PRS IN SOME YRS. 1987: 20-25 PRS, 30 FLEDGED. 1988: 10-12 PRS. 1990: 32 PRS & 7
99 Bombus caliginosus 100 Anniella pulchra	obscure bumble bee northern California legless lizard	Oceano	20 19690720 19690720 DUNES SV DPR-OCE. 30 19680422 19680422 DUNES SV 88 19600306 19600306 UNKNOW TNC- GUADALL	RA None NO RA None N None	None	G5T2 G4? G3	S1S2 S3	SSC	USFS_S	OSO FLACO LAKE. VICINITY OF THE PIKE AND THE COMMUNITY OF HALCYON, BETWEEN OCEANO AND ARROYO GRANDE. BEACH & DUNES BETWEEN SANTA MARIA RIVER & MUSSEL ROCK (AKA SANTA MARIA RIVER MOUTH, GUADALUPE DUNES &	VICINITY OF OSO FLACO LAKE. EXACT LOCATION OF SPECIMEN COLLECTIONS UNCERTAIN, BUT COLLECTED IN THE VICINITY OF THE PIKE (ROAD) AND NEAR HALCYON 3 BLOCKS WEST OF HALCYON RD. 1977: NESTED SOUTH OF THE RIVER & ABOUT 0.25 MI INLAND. 1979: NESTED ONLY ON NORTH SIDE OF RIVER MOUTH. 1996: NO NESTING	BE A MIX OF SPARSE RESIDENTIAL HOUSING AND AGRICULTURAL FIELDS (1966 AERIAL). TERNS NEST OVER AN EXTENSIVE AREA OF RELATIVELY FLAT SAND DUNES, INTERSPERSED WITH VEGETATED HUMMOCKS OF SAND, 45-90 M EAST OF BEACH HIGH TIDE LINE BETWEEN	OF 1996, & A SIGNIFICANT LOSS OF EGG	ARTHROPODS (CDFA), COLLECTED BY ANDREWS 20 JUL 1969; 7 SPECIMENS DEPOSITED IN SAME COLLECTED, COLLECTED BY BATH, 13 JUL 1959. COLLECTIONS WERE MADE HERE 13 JUL 1958, 19 JUL 1964, 1 OCT 1964, 24 JUN 1965, 14 JUL 1965, 6 JUN 1966, 12 APR 1967, AND 22 APR 1968. ONE COLLECTED ON 30 NOV 1958, AND ONE COLLECTED ON 6 MAR 1960. 1973-84, AVE OF 16 PRS/VR NESTED, UP TO 25 PRS IN SOME YRS. 1987: 20-25 PRS, 30 FLEDGED. 1988: 10-12 PRS. 1990: 32 PRS 8, 7 SF FLEDGED. 1991: 35 PRS & 27 FLEDGED 1992: 28-29 PRS & 8-10
99 Bombus caliginosus	obscure bumble bee	Oceano	20 19690720 DUNES SV DPR-OCE. 30 19680422 19680422 DUNES SV 88 19600306 19600306 UNKNOW TNC-	RA None NO RA None N None	None	G5T2 G4? G3	S1S2 S3	SSC	_	OSO FLACO LAKE. VICINITY OF THE PIKE AND THE COMMUNITY OF HALCYON, BETWEEN OCEANO AND ARROYO GRANDE. BEACH & DUNES BETWEEN SANTA MARIA RIVER & MUSSEL ROCK	VICINITY OF SOS FLACO LAKE. EXACT LOCATION OF SPECIMEN COLLECTIONS UNCERTAIN, BUT COLLECTED IN THE VICINITY OF THE PIKE (ROAD) AND NEAR HALCYON 3 BLOCKS WEST OF HALCYON RD. 1977: NESTED SOUTH OF THE RIVER & ABOUT 0.25 MI INLAND. 1979: NESTED ONLY ON NORTH SIDE OF RIVER MOUTH. 1996: NO NESTING IN GUADALUPE DUNES; ALL NESTING IN MUSSEL ROCK DUNES. MAPPED TO INCLUDE PROVIDED NEST SITE COORDINATES. THIS	BE A MIX OF SPARSE RESIDENTIAL HOUSING AND AGRICULTURAL FIELDS (1966 AERIAL). FERNS NEST OVER AN EXTENSIVE AREA OF RELATIVELY FLAT SAND DUNES, INTERSPERSED WITH VEGETATED HUMMOCKS OF SAND, 45-90 M EAST OF BEACH HIGH TIDE LINE BETWEEN THE SANTA MARIA RIVER AND MUSSEL ROCK.		ARTHROPODS (CDFA), COLLECTED BY ANDREWS 20 JUL 1969; 7 SPECIMENS DEPOSITED IN SAME COLLECTED, COLLECTED BY BATH, 13 JUL 1959. COLLECTIONS WERE MADE HERE 13 JUL 1958, 19 JUL 1964, 1 OCT 1964, 24 JUN 1965, 14 JUL 1965, 6 JUN 1966, 12 APR 1967, AND 22 APR 1968. ONE COLLECTED ON 30 NOV 1958, AND ONE COLLECTED ON 6 MAR 1960. 1973-84, AVE OF 16 PRS/YR NESTED, UP TO 25 PRS IN SOME YRS. 1987: 20-25 PRS, 30 FLEDGED. 1988: 10-12 PRS. 1990: 32 PRS & 7 IS FLEDGED. 1991: 35 PRS & 27 FLEDGED 1992: 28-29 PRS & 8-10 FLEDGED. 1995: 52 PRS. 1996: 45-50 PRS & 250 FLEDGED. POPULATION AT ODSYRA MONITORED SINCE 1991. OVERALL
99 Bombus caliginosus 100 Anniella pulchra	obscure bumble bee northern California legless lizard	Oceano	20 19690720 19690720 DUNES SV DPR-OCE, 30 19680422 19680422 DUNES SV 88 19600306 19600306 UNKNOW TNC- GUADALL 30 19960715 19950715 NIPOMO	RA None NO RA None N None PE- DUNES Endange	None	G5T2 G4? G3	S1S2 S3	SSC FP	USFS_S	OSO FLACO LAKE. VICINITY OF THE PIKE AND THE COMMUNITY OF HALCYON, BETWEEN OCEANO AND ARROYO GRANDE. BEACH & DUNES BETWEEN SANTA MARIA RIVER & MUSSEL ROCK (AKA SANTA MARIA RIVER MOUTH, GUADALUPE DUNES & MUSSEL ROCK DUNES)	VICINITY OF OSO FLACO LAKE. EXACT LOCATION OF SPECIMEN COLLECTIONS UNCERTAIN, BUT COLLECTED IN THE VICINITY OF THE PIKE (ROAD) AND NEAR HALCYON 3 BLOCKS WEST OF HALCYON RD. 1977: NESTED SOUTH OF THE RIVER & ABOUT 0.25 MI INLAND. 1979: NESTED ONLY ON NORTH SIDE OF RIVER MOUTH. 1996: NO NESTING IN GUADALUPE DUNES; ALL NESTING IN MUSSEL ROCK DUNES. MAPPED TO INCLUDE PROVIDED NEST SITE COORDINATES. THIS OCCURRENCE REPRESENTS THE MAIN NESTING AREA FOR THIS	BE A MIX OF SPARSE RESIDENTIAL HOUSING AND AGRICULTURAL FIELDS (1966 AERIAL) TERNS NEST OVER AN EXTENSIVE AREA OF RELATIVELY FLAT SAND DUNES, INTERSPERSED WITH VEGETATED HUMMOCKS OF SAND, 45-90 M EAST OF BEACH HIGH TIDE LINE BETWEEN THE SANTA MARIA RIVER AND MUSSEL ROCK. PUBLIC BEACH. NESTING AREAS ARE SEASONALLY CLOSED TO	OF 1996, & A SIGNIFICANT LOSS OF EGG & CHICKS TO RACOONS.	ARTHROPODS (CDFA), COLLECTED BY ANDREWS 20) JUL 1969; 7 SPECIMENS DEPOSITED IN SAME COLLECTED, COLLECTED BY BATH, 13 JUL 1959. COLLECTIONS WERE MADE HERE 13 JUL 1958, 19 JUL 1964, 1 OCT 1964, 24 JUN 1965, 14 JUL 1965, 6 JUN 1966, 12 APR 1967, AND 22 APR 1968. ONE COLLECTED ON 30 NOV 1958, AND ONE COLLECTED ON 6 MAR 1960. 1973-84, AVE OF 16 PRS/VR NESTED, UP TO 25 PRS IN SOME YRS. 1987: 20-25 PRS, 30 FLEDGED. 1988: 10-12 PRS. 1990: 32 PRS & 7 SFLEDGED. 1991: 35 PRS & 27 FLEDGED 1992: 28-29 PRS & 8-10 FLEDGED. 1995: 52 PRS. 1996: 45-50 PRS & 25-30 FLEDGED. POPULATION AT ODSVRA MONITORED SINCE 1991. OVERALL POPULATION HAS INCREASED, FROM 0-5 BREEDING PAIRS PER YEAR
99 Bombus caliginosus 100 Anniella pulchra	obscure bumble bee northern California legless lizard	Oceano Oceano Point Sal	20 19690720 19690720 DUNES SV DPR-OCE. 30 19680422 19680422 DUNES SV 88 19600306 19600306 UNKNOW TNC- GUADALL	RA None NO RA None N None PE- JUNES Endange	None None ered Endange	G5T2 G4? G3 red G4T2T3Q	\$152 \$3 \$2	SSC FP FP	USFS_S	OSO FLACO LAKE. VICINITY OF THE PIKE AND THE COMMUNITY OF HALCYON, BETWEEN OCEANO AND ARROYO GRANDE. BEACH & DUNES BETWEEN SANTA MARIA RIVER & MUSSEL ROCK (AKA SANTA MARIA RIVER MOUTH, GUADALUPE DUNES & MUSSEL ROCK DUNES) FROM ABOUT 0.4 TO 2.1 MI NNW OSO FLACO LAKE & 1.7 MI WSW	VICINITY OF OSO FLACO LAKE. EXACT LOCATION OF SPECIMEN COLLECTIONS UNCERTAIN, BUT COLLECTED IN THE VICINITY OF THE PIKE (ROAD) AND NEAR HALCYON 3 BLOCKS WEST OF HALCYON RD. 1977: NESTED SOUTH OF THE RIVER & ABOUT 0.25 MI INLAND. 1979: NESTED ONLY ON NORTH SIDE OF RIVER MOUTH. 1996: NO NESTING IN GUADALUPE DUNES; ALL NESTING IN MUSSEL ROCK DUNES. MAPPED TO INCLUDE PROVIDED NEST SITE COORDINATES. THIS OCCURRENCE REPRESENTS THE MAIN NESTING AREA FOR THIS	BE A MIX OF SPARSE RESIDENTIAL HOUSING AND AGRICULTURAL FIELDS (1966 AERIAL). FERNS NEST OVER AN EXTENSIVE AREA OF RELATIVELY FLAT SAND DUNES, INTERSPERSED WITH VEGETATED HUMMOCKS OF SAND, 45-90 M EAST OF BEACH HIGH TIDE LINE BETWEEN THE SANTA MARIA RIVER AND MUSSEL ROCK.	OF 1996, & A SIGNIFICANT LOSS OF EGG & CHICKS TO RACOONS.	ARTHROPODS (CDFA), COLLECTED BY ANDREWS 20 JUL 1969; 7 SPECIMENS DEPOSITED IN SAME COLLECTED, COLLECTED BY BATH, 13 JUL 1959. COLLECTIONS WERE MADE HERE 13 JUL 1958, 19 JUL 1964, 1 OCT 1964, 24 JUN 1965, 14 JUL 1965, 6 JUN 1966, 12 APR 1967, AND 22 APR 1968. ONE COLLECTED ON 30 NOV 1958, AND ONE COLLECTED ON 6 MAR 1960. 1973-84, AVE OF 16 PRS/YR NESTED, UP TO 25 PRS IN SOME YRS. 1987: 20-25 PRS, 30 FLEDGED. 1988: 10-12 PRS. 1990: 32 PRS & R-10 FLEDGED. 1991: 35 PRS & 27 FLEDGED 1992: 28-29 PRS & 8-10 FLEDGED. 1995: 52 PRS. 1996: 45-50 PRS & 250 FLEDGED. POPULATION AT ODSYRA MONITORED SINCE 1991. OVERALL
99 Bombus caliginosus 100 Anniella pulchra 101 Sternula antillarum browni	obscure bumble bee northern California legless lizard California least tern	Oceano Oceano Point Sal	20 19690720 19690720 DUNES SV DPR-OCE 30 19680422 19680422 DUNES SV 88 19600306 19600306 UNKNOW TNC- GUADALL 30 19960715 19950715 NIPOMO DPR-OCE	RA None NO RA None N None PE- JUNES Endange	None None ered Endange	G5T2 G4? G3 red G4T2T3Q	\$152 \$3 \$2	FP	USFS_S NABCI_RWL	OSO FLACO LAKE. VICINITY OF THE PIKE AND THE COMMUNITY OF HALCYON, BETWEEN OCEANO AND ARROYO GRANDE. BEACH & DUNES BETWEEN SANTA MARIA RIVER & MUSSEL ROCK (AKA SANTA MARIA RIVER MOUTH, GUADALUPE DUNES & MUSSEL ROCK DUNES) FROM ABOUT 0.4 TO 2.1 MI NNW OSO FLACO LAKE & 1.7 MI WSW	VICINITY OF OSO FLACO LAKE. EXACT LOCATION OF SPECIMEN COLLECTIONS UNCERTAIN, BUT COLLECTED IN THE VICINITY OF THE PIKE (ROAD) AND NEAR HALCYON 3 BLOCKS WEST OF HALCYON RD. 1977: NESTED SOUTH OF THE RIVER & ABOUT 0.25 MI INLAND, 1979: NESTED ONLY ON NORTH SIDE OF RIVER MOUTH, 1996: NO NESTING IN GUADALUPE DUNES; ALL NESTING IN MUSSEL ROCK DUNES. MAPPED TO INCLUDE PROVIDED NEST SITE COORDINATES. THIS OCCURRENCE REPRESENTS THE MAIN NESTING AREA FOR THIS POPULATION; INDIVIDUAL NESTS HAVE BEEN DOCUMENTED ELSEWHERE IN THE PARK. MAPPED ALONG BACKDUNES OPPOSITE THE REFINERY, FROM SPRR	BE A MIX OF SPARSE RESIDENTIAL HOUSING AND AGRICULTURAL FIELDS (1966 AERIAL). TERMS NEST OVER AN EXTENSIVE AREA OF RELATIVELY FLAT SAND DUNES, INTERSPERSED WITH VEGETATED HUMMOCKS OF SAND, 4.9 OM EAST OF BEACH HIGH TIDE LINE BETWEEN THE SANTA MARIA RIVER AND MUSSEL ROCK. PUBLIC BEACH. NESTING AREAS ARE SEASONALLY CLOSED TO OHYS AND FOOT TRAFFIC, BUT RECREATION CONTINUES YEAR-ROUND IN ADJACENT AREAS.	OF 1996, & A SIGNIFICANT LOSS OF EGG & CHICKS TO RACOONS. DEPREDATION BY NATIVE, INVASIVE, AND DOMESTICATED SPECIES. WEEDY AMMOPHILA ARENARIA AND	ARTHROPODS (CDFA), COLLECTED BY ANDREWS 20 JUL 1969; 7 SPECIMENS DEPOSITED IN SAME COLLECTED, COLLECTED BY BATH, 13 JUL 1959. COLLECTIONS WERE MADE HERE 13 JUL 1958, 19 JUL 1964, 1 OCT 1964, 24 JUN 1965, 14 JUL 1965, 6 JUN 1966, 12 APR 1967, AND 22 APR 1968. ONE COLLECTED ON 30 NOV 1958, AND ONE COLLECTED ON 6 MAR 1960. 1973-84, AVE OF 16 PRS/YR NESTED, UP TO 25 PRS IN SOME YRS. 1973-72-0-25 PRS, 30 FLEDGED. 1988: 10-12 PRS. 1990: 32 PPS. & 7 S FLEDGED. 1991: 35 PRS. & 27 FLEDGED 1992: 28-29 PRS. & 8-10 FLEDGED. 1995: 52 PRS. 1996: 45-50 PRS & 25-30 FLEDGED. POPULATION ATS INCERSED, FROM 0-5 BREEDING PAIRS PER YEAR IN THE 1990S TO 23-53 PAIRS IN THE 2010S. 47-48 PAIRS AND 59 FLEDGLINGS COUNTED IN 2016.
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G3 red G4T2T3Q G2 G2 G2 G2 G2 G3	\$152 \$3 \$2 \$2 \$2 \$2 \$2 18.2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2	FP FP SSC SSC	USFS_S NABCI_RWL NABCI_RWL BLM_S IUCN_VU AFS_VU; USFS_S BLM_S USFS_S	OSO FLACO LAKE. VICINITY OF THE PIKE AND THE COMMUNITY OF HALCYON, BETWEEN OCEANO AND ARROYO GRANDE. BEACH & DUNES BETWEEN SANTA MARIA RIVER & MUSSEL ROCK (AKA SANTA MARIA RIVER MOUTH, GUADALUPE DUNES & MUSSEL ROCK (AKA SANTA MARIA RIVER MOUTH, GUADALUPE DUNES & MUSSEL ROCK DUNES) FROM ABOUT 0.4 TO 2.1 MI NNW OSO FLACO LAKE & 1.7 MI WSW TO 2.7 MI SW OF HWY 1 AT RANDY LN, OCEANO DUNES SVRA. VICINITY OF JACK LAKE AND LETTUCE LAKE, WEST OF SANTA MARIA REFINERY AND NE OF LITTLE OSO FLACO LAKE. OSO FLACO CREEK, 3.5 MILES NORTH OF GUADALUPE. SANTA MARIA RIVER ESTUARY, JUST SOUTH OF THE SANTA BARBARA /SAN LUIS OBISPO COUNTY LINE. BOTH SIDES OF POMEROY RD FROM JUNIPER ST EXTENDING N TO 0.3 MI N OF WILLOW RD, 1.2 TO 3.2 MI W OF NIPOMO, NIPOMO MESA. 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MAPPED ALONG BACKDUNES OPPOSITE THE REFINERY, FROM SPRR TRACKS WEST ABOUT 1 MILE. 1980 GRIFFITHS COLLECTION FROM "JUST SOUTH OF JACK LAKE" INDICATES THAT POPULATION MERGES INTO M. CRISPA TO THE WEST. 2008 LOCATION IS "DRAINAGE DITCH, ON OSO FLACO RD ~1.1 MI NW OF THE INTERSECTION OF OSO FLACO RD & HWY 1". THIS IS AN INTRODUCED POPULATION. NEED BETTER MAP DETAIL FOR THIS AREA. MAPPED AS 3 POLYGONS TO INCLUDE DIRECTIONS GIVEN BY MCLECO IN 1988, TAYLOR IN 1994, & HELIMKAMP IN 2004, AND ACCORDING TO 1987 AND 1992 MAPS. MAPPED BY CNDDB AS 3 POLYGONS ACCORDING TO A VAGUE 1987 RYAN MAP. MAPPED NON-SPECIFICALLY TO DUNE HABITAT WEST OF GROVER BEACH, FORMERLY GROVER CITY, PISMO STATE BEACH. EXACT LOCATION UNKNOWN. DOCUMENT STATES ""LESS THAN ONE-QUARTER MILE UPSTREAM FROM THE PROJECT SITE."" 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MANY OF THE MANZANITA HAVE BEEN CLEARED, WHAT REMAINS MAY NOT BE VIABLE. ALSO ASSOCIATED WITH ADENOSTOMA FASCICULATUM, SANDY SOIL, OAK WOODLAND AND CHAPARRAL WITH QUERCUS AGRIFOLIA, DENOSTOMA FASCICULATUM, CEANOTHUS HERESUS VAR AND WOODLAND AND CHAPARRAL WITH QUERCUS AGRIFOLIA, DENOSTOMA FASCICULATUM, CRANOTHUS HERESUS VAR AND PONDES MY PRESUS VAR AND PONDES MY PROCESS. (FOND SALVIA MELLIFERA. HABITAT DESCRIBED IN STEELHEAD OCC#32 (FONDX 81245) AS RIPARIAN HABITAT DOMINATED BY QUERCUS AGRIFOLIA, PLANTANUS RACEMOSA AND SALLY SP. WITH A STREAM CHANNEL SUBSTRATE COMPOSED OF SAND, GRAVEL, BICHANNEL SUBSTRATE COMPOSED OF SAND, GRAVEL, RIPARIAN HABITAT DOMINATED BY QUERCUS AGRIFOLIA, PLANTANUS RACEMOSA AND SALLY SP. WITH A STREAM CHANNEL SUBSTRATE COMPOSED OF SAND, GRAVEL, BICHANNEL SUBSTRATE COMPOSED OF SAND, GRAVEL, RIPARIAN HABITAT DOMINATED BY QUERCUS AGRIFOLIA, PLANTANUS RACEMOSA AND SALLY SP. WITH A STREAM CHANNEL SUBSTRATE COMPOSED OF SAND, GRAVEL, BURLANTANUS RACEMOSA AND SALLY SP. WITH A STREAM CHANNEL SUBSTRATE COMPOSED OF SAND, GRAVEL, BURLANTANUS RACEMOSA AND SALLY SP. WITH A STREAM CHANNEL SUBSTRATE COMPOSED OF SAND, GRAVEL,	OF 1996, & A SIGNIFICANT LOSS OF EGG & CHICKS TO RACOONS. DEPREDATION BY NATIVE, INVASIVE, AND DOMESTICATED SPECIES. WEEDY AMMOPHILA ARENARIA AND EHRHARTA CALYCINA INVADING HABITAT; MINOR ORV TRESPASS DAMAGE. THREATENED BY SEDIMENTATION, CHANNEL CLEARING, AND AGRICULTURAL RUN-OFF. RACCOON TRACKS OBSERVED THROUGHOUT DITCH. DEVELOPMENT PREVALENT WEST OF NIPOMO AND ELSEWHERE ALONG POMEROY ROAD. ROAD CONSTRUCTION MAY ALSO THREATEN. DEVELOPMENT, VEGETATION MAINTENANCE, AGRICULTURE (AVOCADO ORCHARD), NEW ROADS AND DRIVEWAYS. THREATENED BY REPAIR WORK (BANK STABILIZATION) AND REVEGETATION ALONG THE CREEK BANK. NON-NATIVE FISH, LOW WATER LEVELS RURAL RESIDENTIAL DEVELOPMENT,	ARTHROPODS (CDFA), COLLECTED BY ANDREWS 20 JUL 1969; 7 SPECIMENS DEPOSITED IN SAME COLLECTED, COLLECTED BY BATH, 13 JUL 1959. 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99 Bombus caliginosus 100 Anniella pulchra 101 Sternula antillarum browni 102 Sternula antillarum browni 103 Monardella undulata ssp. undulata 104 Rana draytonii 105 Gila orcuttii 106 Arctostaphylos rudis 107 Arctostaphylos rudis 108 Anniella pulchra	obscure bumble bee northern California legless lizard California least tern California least tern San Luis Obispo monardella California red-legged frog arroyo chub sand mesa manzanita northern California legless lizard California red-legged frog steelhead - south-central California coast	Oceano Oceano Point Sal Oceano Oceano Oceano Oceano Oceano Oceano Oceano	20 19690720 19690720 DUNES SU 30 19680422 19680422 DUNES SU 88 19600306 19600306 UNKNOW TNC- GUADALL 30 19960715 19950715 NIPOMO DPR-OCEA 42 20160816 20160816 DUNES SU 45 20081010 2008101 FARMS 20 199608XX 199608XX UNKNOW 400 20040219 20040219 PVT 450 20060612 20060612 PVT 20 19570726 19570726 DPR-PISM	RA None NO RA None N None PE- DUNES Endangs NO RA Endangs NO RA None None None None None None	None None Endanger None None None None None None	G5T2 G4? G3 red G4T2T3Q G2 G2 G2 G2 G2 G3	\$152 \$3 \$2 \$2 \$2 \$2 \$2 18.2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2 \$2	FP FP SSC SSC	USFS_S NABCI_RWL NABCI_RWL BLM_S IUCN_VU AFS_VU; USFS_S BLM_S USFS_S	OSO FLACO LAKE. VICINITY OF THE PIKE AND THE COMMUNITY OF HALCYON, BETWEEN OCEANO AND ARROYO GRANDE. BEACH & DUNES BETWEEN SANTA MARIA RIVER & MUSSEL ROCK (AKA SANTA MARIA RIVER MOUTH, GUADALUPE DUNES & MUSSEL ROCK (AKA SANTA MARIA RIVER MOUTH, GUADALUPE DUNES & MUSSEL ROCK DUNES) FROM ABOUT 0.4 TO 2.1 MI NNW OSO FLACO LAKE & 1.7 MI WSW TO 2.7 MI SW OF HWY 1 AT RANDY LN, OCEANO DUNES SVRA. VICINITY OF JACK LAKE AND LETTUCE LAKE, WEST OF SANTA MARIA REFINERY AND NE OF LITTLE OSO FLACO LAKE. OSO FLACO CREEK, 3.5 MILES NORTH OF GUADALUPE. SANTA MARIA RIVER ESTUARY, JUST SOUTH OF THE SANTA BARBARA /SAN LUIS OBISPO COUNTY LINE. BOTH SIDES OF POMEROY RD FROM JUNIPER ST EXTENDING N TO 0.3 MI N OF WILLOW RD, 1.2 TO 3.2 MI W OF NIPOMO, NIPOMO MESA. 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NOTE ON HERBARIUM LABEL FROM D. WILKEN (JUNE 2001)
INDICATES THAT COLLECTION WAS MADE ""IN MARSHY WILLOW

COLLECTED HERE IN 1965 BY HARDHAM. NOT OBSERVED HERE SINCE AND MOST IF NOT ALL SUITABLE HABITAT IN VICINITY HAS

111 Coastal and Valley Freshwater Marsh Freshwater Marsh Oceano	12 197606XX 197606XX STATE, PVT None None G3 S2.1		OSO FLACO LAKE, 4 MILES SOUTH OF OCEANO. MAR	SCIRPUS CALIFORNICUS, ELEOCHARIS SE ARGIN OF VERY DEGRADED LAKES. HYDROCOTYLE RANUNCULOIDES, NAST		WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BA CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. FIELD VERIFICATION NEEDED AS TO PRESENCE OF DUNE SCRUB WITHIN DPR PRESERVE. SEE
112 Central Dune Scrub Central Dune Scrub Oceano	40 19810923 19810923 DPR-PISMO SB None None G2 S2.2		NIPOMO DUNES, PISMO STATE BEACH DUNE PRESERVE AND ADJACENT DUNES, EXTENDING SOUTH ABOUT 0.75 MILE, 0.5 MILE INLAND.	ERICAMERIA ERICOIDES & LUPINUS W/I APPED BY CNDDB TO ENCOMPASS COLLECTIONS FROM "ALONG COASTAL SCRUB WITH BACCHARIS PILU	OCKETS OF SALIX. ORVS.	WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BA E CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. LOCALLY COMMON IN 1984. 1000S OF PLANTS SEEN IN 1991. FAIRLY COMMON IN 1999. POPULATION ALSO MAY EXTEND TO THE
113 Scrophularia atrata black-flowered figwort Guadalupe	400 19990520 19990520 UNKNOWN None None G2? S2? 1	1B.2 SB_RSABG	VICINITY OF BROWNS ROAD AND CORRALITOS CANYON, NORTHERN END OF CASMALIA HILLS, SOUTHWEST OF GUADALUPE. TO F EXA	KOWN RD 2 MI W OF HWY 1," "CORRALITOS CYN." 2.5 MI FROM WY 1," "POINT SAL SIDE OF CORRALITOS CYN," "ALONG BROWN RD AFF SAL 2 MI FROM HWY 1," "3.8 MI SE OF CA-1 ON BROWN RD," CONIUM MACULATUM. CACT LOCATION UNKNOWN. MAPPED AS BEST GUESS ALONG THE DRITION OF CORRALITOS CANYON BETWEEN 600 FT AND 800 FT	IA CALIFORNICA IN THE	SOUTHEAST ALONG SIDE CANYON ON THE S SIDE OF CORRALITOS CYN, ABOUT 3.6 AIR MI ENE OF POINT SAL, BUT LOCATION IS UNCLEAR. SITE BASED ON TWO 1935 WIESLANDER COLLECTIONS. POSSIBLY REFERENCING KNOWN OCCURRENCES TO THE WEST ON POINT SAL
114 Arctostaphylos rudis sand mesa manzanita Guadalupe	700 19350615 19350615 UNKNOWN None None G2 S2 1	1B.2 BLM_S		EVATION BASED ON INFORMATION ON COLLECTION LABELS.		RIDGE. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1965 COLLECTION BY SMITH. A NEARBY KEIL COLLECTION WAS
115 Atriplex serenana var. davidsonii Davidson's saltscale Guadalupe	0 19651007 19651007 UNKNOWN None None G5T1 S1 1	18.2	HIGHWAY 1 AT GUADALUPE, SANTA MARIA VALLEY. ALO	ACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB ONG HIGHWAY 1 IN THE VICINITY OF GUADALUPE. BACKDUNE SCRUB WITH HAPLOPAPPU:		ANNOTATED FROM VAR. DAVIDSONII TO VAR. SERENANA IN 2010; IDENTIFICATION OF SMITH COLLECTION SHOULD BE VERIFIED. EASTERN POLYGON: 32 PLANTS SCATTERED OVER THE PROPERTY IN
116 Delphinium parryi ssp. blochmaniae dune larkspur Oceano	120 1998XXXX 1998XXXX PVT-UNOCAL None None G4T2 S2 1	1B.2 BLM_S	REFINERY PROPERTY ALONG HIGHWAY 1 ABOUT 4 AIR MILES TRA	TE IS SOUTHWEST OF HIGHWAY, ON BOTH SIDES OF RAILROAD OMNINANT. ASSOCIATED WITH ESCHSC ORTHOCARPUS PURPURASCENS, COLLII CCORDING TO A 1988 HOWALD MAP AND A 1998 CHESNUT MAP. CHORIZANTHE, THELYPODIUM, AND BR CENTRAL MARITIME CHAPARRAL DOMI	OMUS DIANDRUS. CALYCINA & AMMOPHILA ARENARIA.	1988. 2 WESTERN POLYGONS: MORE THAN 500 PLANTS OBSERVED IN 1998. COLLECTIONS FROMN 1929 AND 1948 ARE ALSO ATTRIBUTED TO THIS SITE. INCLUDES FORMER OCCURRENCE #16.
117 Arctostaphylos purissima La Purisima manzanita Guadalupe	DOD- VANDENBERG 1100 19920807 19920807 AFB, PVT None None G2 S2 1	1B.1 SB_RSABG; SB_USDA		PURISSIMA, ADENOSTOMA FASCICULAT CUNEATUS VAR. FASCICULARIS, BACCHI APPED AT SAME SITE AS ARCTOSTAPHYLOS RUDIS; A. PURISSIMA ENTIONED AS AN ASSOCIATE. CALIFORNICA, HETEROMELES ARBUTIFO CALIFORNICA, HETEROMELES ARBUTIFO	RIS PILULARIS, A, ARTEMISIA LIA, ET AL.	UNKNOWN NUMBER OF PLANTS OBSERVED DURING 1988 ARCTOSTAPHYLOS RUDIS SURVEYS. VAGUE COLLECTIONS FROM 1940 TO 1992 COLLECTED IN THE VICINITY OF POINT SAL RIDGE ARE ALSO ATTRIBUTED TO THIS SITE.
	DOD- VANDENBERG		POINT SAL RIDGE, SOUTH OF CORRALITOS RANCH AND ABOUT 0.7 TO 1.8 AIR MILES WNW OF MT LOSPE, SOUTHWEST OF	CENTRAL MARITIME CHAPARRAL DOMI PPURISSIMA, ADENOSTOMA FASCICULAT CUNEATUS VAR. FASCICULARIS, BACCHI QUERCUS AGRIFOLIA, SALVIA MELLIFER	UM, CEANOTHUS RIS PILULARIS, A, ARTEMISIA COM LINES AND FACILITY	1000 PLANTS OBSERVED BETWEEN OCCURRENCES #4, 6, AND 29 IN 1988. THIS AREA SERVES AS A BUFFER FOR USAF MISSLE LAUNCHES AND MAY BE SET ASIDE BY DPR. VAGUE COLLECTIONS FROM
118 Arctostaphylos rudis sand mesa manzanita Guadalupe	DPR-OCEANO DUNES SVRA,	1B.2 BLM_S		APPED AS TWO POLYGONS ACCORDING TO A 1989 NICHOLS MAP. CALIFORNICA, HETEROMELES ARBUTIFO	LIA, ET AL. DEVELOPMENT, FIRE CONTROL.	"POINT SAL RIDGE" ARE ALSO ATTRIBUTED TO THIS SITE.
119 Emys marmorata western pond turtle Oceano white sand bear scarab 120 Lichnanthe albioilosa beetle Oceano	20 XXXXXXXX XXXXXXXX UNKNOWN None None G3G4 S3 DPR-OCEANO DUNE, PVT- 20 19800420 19800420 UNION OIL None None G1 S1	SSC BLM_S; IUCN_VU; USFS_S	SUR SPEC	ECIMENS HAVE BEEN OBSERVED HOVERING CLOSE TO THE DUNE IRFACE, NEAR THE LAKE, SOME DISTANCE FROM THE SURF. THIS ECIES IS DISTRIBUTED ALONG THE INLAND EDGE OF THE DUNES	TI PE LIFE METADA	OBSERVED BY D. HOLLAND, DATE UNKNOWN. FEMALE ALLOTYPE (CAS #13332) COLLECTED 27 APRIL 1968. OTHER COLLECTIONS: ONE FEMALE (27 APR 1968), ONE FEMALE (26 JUN 1976), ONE MALE (7 APR 1979), ONE MALE AND TWO FEMALES (15 MAY 1979), ONE MALE (7 APR 1979), AND TWO MALES (20 APR 1800)
120 Licinaniile aiujpiosa Decue Oceano	20 19800420 19800420 UNION OIL None None G1 S1 DPR-OCEANO DUNES SYRA.		OSO FLACO LAKE, 5 MILES SOUTH OF OCEANO. ADJ	DIACENT TO THE LAKE. LITTLE IS KNOWN REGARDING THIS BEE THE LAKE IS IMPORTANT FORAGING HA	THREATS/DISTURBANCES INCLUDE	1300J 6-8 PAIRS MAY HAVE NESTED NEARBY IN 1978; UP TO 6 PAIRS NESTED 1980-83; NO NESTING OCCURRED IN 1987 ALTHOUGH SOME POST-BREEDING BIRDS WERE SEEN. LATER STUDIES INDICATE THAT BIRDS SEEN FORAGING HERE PROBABLY MESTED ON BEACHES
121 Sternula antillarum browni California least tern Oceano	40 201611XX 1983XXXX UNKNOWN Endangered Endangered G4T2T3Q S2 DPR-OCEANO	FP NABCI_RWL	OSO FLACO LAKE.	TERNS.	THE BEACH AREAS.	TO NW (OCC#84).
122 Laterallus jamaicensis coturniculus California black rail Oceano	DUNES SVRA, 40 1991XXXX 1991XXXX UNKNOWN None Threatened G3G4T1 S1	BLM_S; IUCN_NT; FP NABCI_RWL; USFWS_BCC	OSO FLACO LAKE ABOUT 5 MILES SOUTH OF OCEANO.	DUNES, COASTAL SCRUB, AND WILLOW CENTRAL COASTAL DUNE SCRUB. STABI	5. FILLING LAKE IN. IZED DUNES.	KLY UNKNOWN NUMBER OF BIRDS OBSERVED DURING SURVEYS FROM 1989-1991. UNKNOWN NUMBER OF PLANTS SEEN IN 1981 AND 1998. 10-50
123 Monardella undulata ssp. crispa crisp monardella Oceano	PVT, DPR- OCEANO DUNES 100 20130828 20130828 SVRA None None G3T2 S2 1	1B.2 BLM_S	NORTHERN GUADALUPE DUNES, ABOUT 0.5-1.5 MI SOUTH OF OSO FLACO LAKE AND 2-3.5 MI WEST OF HWY 1, NORTHWEST OF ELVI GUADALUPE. NAF	VERAL POLYGONS MAPPED BY CNDDB ACCORDING TO A 1981 MDERWIER MAP, 1986 BOWLAND MAP, 1998 CHESNUT MAP, AND VIN COORDINATES FROM 2008 & 2013. INCLUDES COLLECTIONS ID OBSERVATIONS FROM "BIG COREOPSIS HILL." CHIERANTHIFOLIA, COREOPSIS GIGANTIA CHIERANTHIFOLIA CHIERANTHIF	CAMISSONIA A, CARPOBROTUS ELLATA, ETC.	PLANTS OBSERVED ALONG PIPELINE ROUTE ONLY IN 1984-1986. PLANTS NOTED AS LOCALLY ABUNDANT IN 1993, LOCALLY COMMON IN 2008, COMMON IN 2013. INCLUDES FORMER OCCURRENCE #33.
				OORDINATES. N POLYGON AT TOP OF HILL JUST WEST OF JUNCTION IN SANDY OR ROCKY SOIL. SCATTERED A FHWY 227 AND NOYES RD. MIDDLE POLYGON CENTERED ON 2009 AGRIFOLIA WOODLAND AND DISTURBE		SITE BASED MAINLY ON COLLECTIONS FROM 1965 THROUGH 2009. 89 PLANTS OBSERVED IN 2004. SCATTERED INDIVIDUALS IN 2009.
Santa Margarita Arroyo 124 Arctostaphylos pilosula manzanita Grande NE	600 20090616 20090616 PVT None None G2? S2? 1	1B.2 BLM_S; SB_SBBG; USFS_S		IL COORDINATES. S POLYGON 0.7 MI SE FROM NOYES RD ON HWY OAK WOODLAND AND CHAPARRAL WIT		THIS OCCURRENCE WAS PREVIOUSLY A. WELLSII OCCURRENCE #6. INCLUDES FORMER A. PILOSULA OCCURRENCE #42. SINGLE NESTS OBSERVED IN 2009 AND 2010. 7 OVERWINTERING
	600 20090616 20090616 PVT None None G2? S2? 1 23 20160923 20160923 DPR-PISMO SB Threatened None G3T3 S2S3	1B.2 BLM_S; SB_SBBG; USFS_S SSC NABCI_RWL; USFWS_BCC	VICINITY OF THE JUNCTION OF NOYES ROAD AND HIGHWAY 227, KEIL STORTH OF ARROYO GRANDE. 227. FROM ABOUT 0.4 MILES SW TO 1.0 MILES SOUTH OF HWY 101 AT PISMO CREEK, SOUTH OF THE PISMO BEACH PIER, PISMO STATE MAR	IIL COORDINATES. S POLYGON 0.7 MI SE FROM NOYES RD ON HWY 7. APPED TO INCLUDE PROVIDED COORDINATES. INCLUDES NEST TES 054-09 AND 056-10. BEACH WEST OF PISMO LAGOON FOREI	H GROVES OF DISTURBED BY ORV TRAILS (2004). EHRHARTA CALYCINA. EHRHARTA CALYCINA (2009). UNES (2016).	THIS OCCURRENCE WAS PREVIOUSLY A. WELLSII OCCURRENCE #6. INCLUDES FORMER A. PILOSULA OCCURRENCE #42.
124 Arctostaphylos pilosula manzanita Grande NE			VICINITY OF THE JUNCTION OF NOYES ROAD AND HIGHWAY 227, KEIL FROM ABOUT 0.4 MILES SW TO 1.0 MILES SOUTH OF HWY 101 AT PISMO CREEK, SOUTH OF THE PISMO BEACH PIER, PISMO STATE BEACH. MAA NOR CCEANO LAGOON, MEADOW CREEK, AND ARROYO GRANDE CREEK FROM THE LAGOON TO ABOUT 1.4 MILES UPSTREAM (E). SPEC	IIL COORDINATES. S POLYGON 0.7 MI SE FROM NOYES RD ON HWY 7. APPED TO INCLUDE PROVIDED COORDINATES. INCLUDES NEST TES 054-09 AND 056-10. BEACH WEST OF PISMO LAGOON FOREI BEEDING HABRIAT. POOLS ALONG FOREI BEACH WEST OF PISMO LAGOON FOREI BEACH WEST OF PISMO LAGO	H GROVES OF DISTURBED BY ORV TRAILS (2004). EHRHARTA CALYCINA. EHRHARTA CALYCINA (2009). UNES (2016). DD CONTROL CHANNEL REEK; 10-20 FOOT N & IN-WATER BULLFROGS. DEVELOPMENT (2011). DITH; OTHER ROADKILL, INVASIVE FISH (*17) V FROM 1990 & 96	THIS OCCURRENCE WAS PREVIOUSIY A. WELLSII OCCURRENCE #6. INCLUDES FORMER A. PILOSULA OCCURRENCE #42. SINGLE NESTS OBSERVED IN 2009 AND 2010. 7 OVERWINTERING ADULTS OBSERVED ROOSTING ON 19 JAN 2016. 3 ADULTS SEEN FORAGING ON 13 APR, 2 FORAGING ON 27 JUL, & 1 ADULT MALE FORAGING ON 29 JUL, & 1 ADULT ROOSTING ON 23 SEP 2016. DETECTED IN 1996, 2002, 2004, 2005, 2006, 2007, 2008, & 2009 (ALL LIFE STAGES). 2 LARVAE OBSERVED ON 7 AUG 2011. 1 ADULT OBS ON 30 MAY & 1 ON 1 AUG 2012. 2-3 JUVENILES OBS 27 AUG 2013. OBS, 2015. 5 JUVS, 1 LARVAE & 1 UNKNOWN OBS IN 2017.
124 Arctostaphylos pilosula manzanita Grande NE 125 Charadrius alexandrinus nivosus western snowy plover Pismo Beach California red-legged	23 20160923 20160923 DPR-PISMO SB Threatened None G3T3 S2S3 SLO COUNTY,	SSC NABCI_RWL; USFWS_BCC	VICINITY OF THE JUNCTION OF NOVES ROAD AND HIGHWAY 227, FROM ABOUT 0.4 MILES SW TO 1.0 MILES SOUTH OF HWY 101 AT PISMO CREEK, SOUTH OF THE PISMO BEACH PIER, PISMO STATE BEACH. MAI NOR CCEANO LAGOON, MEADOW CREEK, AND ARROYO GRANDE CREEK FROM THE LAGOON TO ABOUT 1.4 MILES UPSTREAM (E). SEE **I ATT SANTA MARIA RIVER, FROM MOUTH TO 3.0 MILES UPSTREAM, 8. MILES NORTH OF POINT SAL. LAK	APPED TO INCLUDE PROVIDED COORDINATES. INCLUDES NEST TES 054-09 AND 056-10. APPED TO INCLUDE PROVIDED COORDINATES. INCLUDES NEST TES 054-09 AND 056-10. BEACH WEST OF PISMO LAGOON FOREI BEACH WEST OF PISMO LAGOON FOREI BEEDING HABITAT. POOLS ALONG FLO PORTION OF LOWER ARROYO GRANDE DOD ADULT / BREEDING HABITAT. ECIMENS FROM LOCALITIES INCL. "SANTA MARIA RIVER, MOUTH" L'ARGE POND E OF MOUTH OF SANTA MARIA RIVER, TECT. TRIBUTED HERE. THE LATTER LOCALITY (1941, 1977) & "LA GUNA" (189S) MAY ACTUALLY REFER TO NOW-FILLED GUADALUME KE.	H GROVES OF DISTURBED BY ORV TRAILS (2004). EHRHARTA CALYCINA (2009). UNES (2016). DO CONTROL CHANNEL TREEK; 13-02 FOOT N & IN-WATER JUTH; OTHER BULLFROGS. DEVELOPMENT (2011). LIEGAL CAMPING, TRAIL WORK, N FROM 1990 & 96 N SALVAGED FROM DALUPE RESTORATION	THIS OCCURRENCE WAS PREVIOUSITY A. WELLSII OCCURRENCE #6. INCLUDES FORMER A. PILOSULA OCCURRENCE #42. SINGLE NESTS OBSERVED IN 2009 AND 2010. 7 OVERWINTERING ADULTS OBSERVED ROOSTING ON 19 JAN 2016. 3 ADULTS SEEN FORAGING ON 13 APR, 2 FORAGING ON 27 JUL, & 1 ADULT MALE FORAGING ON 29 JUL, & 1 ADULT ROOSTING ON 23 SEP 2016. DETECTED IN 1996, 2002, 2004, 2005, 2006, 2007, 2008, & 2009 (ALL LIFE STAGES). 2 LARVAE OBSERVED ON 7 AUG 2011. 1 ADULT OBS ON 30 MAY & 1 ON 1 AUG 2012. 2-3 JUVENILES OBS 27 AUG 2013. OBS, 2015. 5 JUVS, 1 LARVA & 1 UNKNOWN OBS IN 2017. COLLECTED IN 1895, 1941, 1945, 1977, 1981, 1985, 1989, 1995. GOBIES COMMON AND FISH COLLECTED FOR GENETIC SAMPLES ON 15-17 FEB 2008. 1 ADULT SALVAGED FROM CRAYFISH TRAPS ON 3 AUG 2016.
124 Arctostaphylos pilosula manzanita Grande NE 125 Charadrius alexandrinus nivosus western snowy plover Pismo Beach California red-legged frog Oceano	23 20160923 20160923 DPR-PISMO SB Threatened None G3T3 S2S3 SLO COUNTY, 19 20170906 20170906 UNKNOWN Threatened None G2G3 S2S3 PVT-CHEVRON,	SSC NABCI_RWL; USFWS_BCC SSC IUCN_VU SSC AFS_EN; IUCN_VU	VICINITY OF THE JUNCTION OF NOVES ROAD AND HIGHWAY 227, FROM ABOUT 0.4 MILES SW TO 1.0 MILES SOUTH OF HWY 101 AT PISMO CREEK, SOUTH OF THE PISMO BEACH PIER, PISMO STATE BEACH. OCEANO LAGOON, MEADOW CREEK, AND ARROYO GRANDE CREEK FROM THE LAGOON TO ABOUT 1.4 MILES UPSTREAM (E), SP. 12 SANTA MARIA RIVER, FROM MOUTH TO 3.0 MILES UPSTREAM, LAK MAI MAI MAI MAI OCEANO DUNES SVRA, FROM ABOUT 0.2-0.5 MILES SOUTH OF NES	APPED TO INCLUDE PROVIDED COORDINATES. INCLUDES NEST TES 054-09 AND 056-10. APPED TO INCLUDE PROVIDED COORDINATES. INCLUDES NEST TES 054-09 AND 056-10. BEACH WEST OF PISMO LAGOON FOREE BREEDING HABITAT. POOLS ALONG FLO PORTION OF LOWER ARROYO GRANDE DRITHERN SLOUGH NEAR MOUTH AND SOUTHERN TRIBUTARY TALL WILLOWS, EMERGENT VEGETATIC REPUBLA. AIRPORT & CONDOS NEAR MOUTH "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF FANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF FANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF FANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF FANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF FANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF FANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF FANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF FANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF FANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF FANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF FANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF FANTA MARIA RIVER, "HOUTH" "LARGE POND E OF MOUTH OF FANTA MARIA RIVER, "HOUTH" "AND PONTA LIPONE AND THE CHEVRON GUA "APPED TO INITIALITY OF THE RIVER MAY "AND PONTA LIPONE AND THE CHEVRON GUA "AND PONT	H GROVES OF DISTURBED BY ORV TRAILS (2004). EHRHARTA CALYCINA. EHRHARTA CALYCINA (2009). DUNES (2016). DD CONTROL CHANNEL VEGETATION & SEDIMENT REMOVAL, BULLFROGS. DEVELOPMENT (2011). UNDITY OF THE RESTORATION DALUPE RESTORATION UTH (PRESUMABLY IN CRAYFISH & FERAL PIG CONTROL UNDERWAY (2016). RWINTERING AS WELL R RESTORATION OFF-ROAD VEHICLES (19805-2016).	THIS OCCURRENCE WAS PREVIOUSIY A. WELLSII OCCURRENCE #6. INCLUDES FORMER A. PILOSULA OCCURRENCE #42. SINGLE NESTS OBSERVED IN 2009 AND 2010. 7 OVERWINTERING ADULTS OBSERVED ROOSTING ON 19 JAN 2016. 3 ADULTS SEEN FORAGING ON 13 APR, 2 FORAGING ON 27 JUL, & 1 ADULT MALE FORAGING ON 29 JUL, & 1 ADULT ROOSTING ON 23 SEP 2016. DETECTED IN 1996, 2002, 2004, 2005, 2006, 2007, 2008, & 2009 (ALL LIFE STAGES). 2 LARVAE OBSERVED ON 7 AUG 2011. 1 ADULT OBS ON 30 MAY & 1 ON 1 AUG 2012. 2-3 JUVENILES OBS 27 AUG 2013. OBS, 2015. 5 JUVS, 1 LARVAE A LINKNOWN OBS IN 2017. COLLECTED IN 1895, 1941, 1945, 1977, 1981, 1985, 1989, 1995. GOBIES COMMON AND FISH COLLECTED FOR GENETIC SAMPLES ON 15-17 FEB 2008. 1 ADULT SALVAGED FROM CRAYFISH TRAPS ON 3
124 Arctostaphylos pilosula manzanita Grande NE 125 Charadrius alexandrinus nivosus western snowy plover Pismo Beach California red-legged frog Oceano 126 Rana draytonii frog Point Sal	23 20160923 20160923 DPR-PISMO SB Threatened None G3T3 S2S3 SLO COUNTY, 19 20170906 20170906 UNKNOWN Threatened None G2G3 S2S3 PVT-CHEVRON, 12 20160803 20160803 TNC Endangered None G3 S3 DPR-OCEANO	SSC NABCI_RWL; USFWS_BCC SSC IUCN_VU SSC AFS_EN; IUCN_VU SSC NABCI_RWL; USFWS_BCC	VICINITY OF THE JUNCTION OF NOVES ROAD AND HIGHWAY 227, FROM ABOUT 0.4 MILES SW TO 1.0 MILES SOUTH OF HWY 101 AT PISMO CREEK, SOUTH OF THE PISMO BEACH PIER, PISMO STATE BEACH. OCEANO LAGOON, MEADOW CREEK, AND ARROYO GRANDE CREEK FROM THE LAGOON TO ABOUT 1.4 MILES UPSTREAM (E). SEPTIME SANTA MARIA RIVER, FROM MOUTH TO 3.0 MILES UPSTREAM, MILES NORTH OF POINT SAL. MILES NORTH OF POINT SAL. OCEANO DUNES SVRA, FROM ABOUT 0.2-0.5 MILES SOUTH OF 104, SEVIL GUADALUPE OIL FIELD, BETWEEN 0.5-1.6 MILES NNE OF THE 272.	APPED TO INCLUDE PROVIDED COORDINATES. INCLUDES NEST TES 054-09 AND 056-10. APPED TO INCLUDE PROVIDED COORDINATES. INCLUDES NEST TES 054-09 AND 056-10. BEACH WEST OF PISMO LAGOON FOREI BEACH WEST	H GROVES OF DISTURBED BY ORV TRAILS (2004). EHRHARTA CALYCINA (2009). UNES (2016). DO CONTROL CHANNEL PREEK; 13-20 FOOT N & IN-WATER BULLFROGS. DEVELOPMENT (2011). ILLEGAL CAMPING, TRAIL WORK, RY DRY IN 2013. ROADKILL, INVASIVE FISH (17) N SALVAGED FROM DALUPE RESTORATION BUTH (PRESUMABLY IN UNDERWAY (2016). RWINTERING AS WELL R RESTORATION OFF-ROAD VEHICLES (1980S-2016). E. ASSOCIATED WITH RPOBROTUS EDULIS, C. SIMUM (5), CASTILLEJA SP., FOREDUNES DISTURBED BY OIL FIELD ACTIVITIES.	THIS OCCURRENCE WAS PREVIOUSIY A. WELLSII OCCURRENCE #6. INCLUDES FORMER A. PILOSULA OCCURRENCE #42. SINGLE NESTS OBSERVED IN 2009 AND 2010. 7 OVERWINTERING ADULTS OBSERVED ROOSTING ON 19 JAN 2016. 3 ADULTS SEEN FORAGING ON 13 APR, 2 FORAGING ON 27 JUL, & 1 ADULT MALE FORAGING ON 13 APR, 2 FORAGING ON 27 JUL, & 1 ADULT MALE FORAGING ON 29 JUL, & 1 ADULT ROOSTING ON 23 SEP 2016. DETECTED IN 1996, 2002, 2004, 2005, 2006, 2007, 2008, & 2009 (ALL LIFE STAGES), 2 LARVAE OBSERVED ON 7 AUG 2011. 1 ADULT OBS ON 30 MAY & 1 ON 1 AUG 2012. 2-3 JUVENIES OBS 27 AUG 2013. OBS, 2015. 5 JUVS, 1 LARVA & 1 UNKNOWN OBS IN 2017. COLLECTED IN 1895, 1941, 1945, 1977, 1981, 1985, 1989, 1995. GOBIES COMMON AND FISH COLLECTED FOR GENETIC SAMPLES ON 15-17 FEB 2008. 1 ADULT SALVAGED FROM CRAYFISH TRAPS ON 3 AUG 2016. 2 NESTS IN AREA IN 1965 & 2 PAIRS IN 1978. OVERALL POPULATION AT ODSYRA GREW FROM 32 BREEDING ADULTS IN 2002 TO 209 BREEDERS IN 2016. AT THIS SPECIFIC SITE, 5-6 NESTS DOCUMENTED IN 1997 & 1998, 2 IN 1999, 7 IN 2000, 3 IN 2001. & 3 IN 2010. SEEN IN 1981, <10 PLANTS IN 1984-1986, 404 IN 1990, -1000 RAMETS IN 1998, 7627 PLANTS IN 2006, 883 IN 2007, 11,459 IN
124 Arctostaphylos pilosula manzanita Grande NE 125 Charadrius alexandrinus nivosus western snowy plover Pismo Beach 126 Rana draytonii California red-legged frog Oceano 127 Eucyclogobius newberryi tidewater goby Point Sal 128 Charadrius alexandrinus nivosus western snowy plover Oceano	23 20160923 20160923 DPR-PISMO SB Threatened None G3T3 S2S3 SLO COUNTY, 19 20170906 20170906 UNKNOWN Threatened None G2G3 S2S3 PVT-CHEVRON, 12 20160803 20160803 TNC Endangered None G3 S3 DPR-OCEANO 30 2010XXXX 2010XXXX DUNES SVRA Threatened None G3T3 S2S3	SSC NABCI_RWL; USFWS_BCC SSC IUCN_VU SSC AFS_EN; IUCN_VU SSC NABCI_RWL; USFWS_BCC 1B.1 BLM_S	VICINITY OF THE JUNCTION OF NOVES ROAD AND HIGHWAY 227, FROM ABOUT 0.4 MILES SW TO 1.0 MILES SOUTH OF HWY 101 AT PISMO CREEK, SOUTH OF THE PISMO BEACH PIER, PISMO STATE BEACH. MAR NOR CEANO LAGOON, MEADOW CREEK, AND ARROYO GRANDE CREEK FROM THE LAGOON TO ABOUT 1.4 MILES UPSTREAM (E). SANTA MARIA RIVER, FROM MOUTH TO 3.0 MILES UPSTREAM, AND MILES NORTH OF POINT SAL. OCEANO DUNES SVRA, FROM ABOUT 0.2-0.5 MILES SOUTH OF SUTAH AVE AT STRAND WAY, OCEANO. GUADALUPE OIL FIELD, BETWEEN 0.5-1.6 MILES NNE OF THE MOUTH OF THE SANTA MARIA RIVER, WEST OF GUADALUPE. WIT	APPED TO INCLUDE PROVIDED COORDINATES. INCLUDES NEST TES 054-09 AND 056-10. APPED TO INCLUDE PROVIDED COORDINATES. INCLUDES NEST TES 054-09 AND 056-10. BEACH WEST OF PISMO LAGOON FOREI BEACH WEST OF PISMO LAGOON FOREI BREEDING HABITAT. POOLS ALONG FLO PORTION OF LOWER ARROYD GRANDE DOD ADULT J BREEDING HABITAT. EGIMENS FROM LOCALITIES INCL. "SANTA MARIA RIVER, MOUTH" "L'ARGE POND E OF MOUTH OF SANTA MARIA RIVER, ETC." TRIBUTED HERE. THE LATTER LOCALITY (1941, 1977) & "LA GUINA" (1895) MAY ACTUALLY REFER TO NOW-FILLED GUADALUPE KE. APPED TO INCLUDE NEST SITES DOCUMENTED SINCE 1997. MAIN STING AREAS AT OCCURRENCE #52. THIS OCCURRENCE INCLUDES SET SITES 005-99, 007, 008, 012, 016, 019, 021, 023, 025, 028, 047, 4, & 105. VERAL POLYGONS MAPPED BY CNDDB ACCORDING TO A 1981 UNDERWIER MAP, A 1986 BOWLAND MAP, AND A 2017 PADRE SOCIATES, INC MAP. OCCURRENCE INCLUDES RESTORATION SITES SITH OUTPLANTINGS. INCLUDES FORMER EO #5 19 & 22. UNDERWIER MAP, OCCURRENCE INCLUDES RESTORATION SITES SITH OUTPLANTINGS. INCLUDES FORMER EO #5 19 & 22. ON STED FORMER CONSTRUCTIONS FROM ""NEAR BLACK APPED AS MANY POLYGONS. COLLECTIONS FROM ""NEAR BLACK DUNES IN BACKDUNE SCRUB. ASSOCIAL SOLUCIS. ASDOCIAL SOLUCIS. ASDOCIAL SCRUEN ASSOCIAL SCRUEN AS	H GROVES OF DISTURBED BY ORV TRAILS (2004). EHRHARTA CALYCINA. EHRHARTA CALYCINA (2009). DIDUNES (2016). DOD CONTROL CHANNEL VEGETATION & SEDIMENT REMOVAL, BULLFROGS, DEVELOPMENT (2011). VEGETATION & SEDIMENT REMOVAL, BULLFROGS, DEVELOPMENT (2011)	THIS OCCURRENCE WAS PREVIOUSIY A. WELLSII OCCURRENCE #6. INCLUDES FORMER A. PILOSULA OCCURRENCE #42. SINGLE NESTS OBSERVED IN 2009 AND 2010. 7 OVERWINTERING ADULTS OBSERVED ROOSTING ON 19 JAN 2016. 3 ADULTS SEEN FORAGING ON 13 APR, 2 FORAGING ON 27 JUL, & 1 ADULT MALE FORAGING ON 19 JAN 2 FORAGING ON 23 SEP 2016. DETECTED IN 1996, 2002, 2004, 2005, 2006, 2007, 2008. & 2009 (ALL LIFE STAGES). 2 LARVAE OBSERVED ON 7 AUG 2011. 1 ADULT OBS ON 30 MAY & 1 ON 1 AUG 2012. 2-3 JUVENIES OBS 27 AUG 2013. OBS, 2015. 5 JUVS, 1 LARVA & 1 UNKNOWN OBS IN 2017. COLLECTED IN 1895, 1941, 1945, 1977, 1981, 1985, 1989, 1995. GOBIES COMMON AND FISH COLLECTED FOR GENETIC SAMPLES ON 15-17 FEB 2008. 1 ADULT SALVAGED FROM CRAYFISH TRAPS ON 3 AUG 2016. 2 NESTS IN AREA IN 1965 & 2 PAIRS IN 1978. OVERALL POPULATION AT ODSYRA GREW FROM 32 BREEDING ADULTS IN 2002 TO 209 BREEDERS IN 2016. AT THIS SPECIFIC SITE, 5-6 NESTS DOCUMENTED IN 1997 & 1998, 2 IN 1999, 7 IN 2000, 3 IN 2001, & 3 IN 2010. SEEN IN 1981, <10 PLANTS IN 1984-1986, 404 IN 1990, -1000 RAMETS IN 1998, 7627 PLANTS IN 2006, 8881 IN 2007, 11,459 IN 2008, 10,806 IN '09, 12,790 IN '10, 9930 IN' '11, 12,171 IN '12, 13,579 IN '13, 19,312 IN '14, 22,697 IN '15, 7960 IN '16. POPULATION NUMBERS FOR PORTIONS OF OCCURRENCE: OVER 100 PLANTS OBSERVED IN 1984, ABOUT 75 PLANTS OBSERVED IN 1998, POLANTS IN 1984, ABOUT 75 PLANTS OBSERVED IN 1998, POLANTS OBSERVED IN 1984, ABOUT 75 PLANTS OBSERVED IN 1998, POLANTS OBSERVED IN 1998, POLANTS OBSERVED IN 1998, POLANTS OBSERVED IN 1998, POLANTS OBSERVED IN 1984, ABOUT 75 PLANTS OBSERVED IN 1998, POLANTS OBSERVED I
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124 Arctostaphylos pilosula manzanita Grande NE 125 Charadrius alexandrinus nivosus western snowy plover Pismo Beach 126 Rana draytonii California red-legged frog Oceano 127 Eucyclogobius newberryi tidewater goby Point Sal 128 Charadrius alexandrinus nivosus western snowy plover Oceano 129 Dithyrea maritima beach spectaclepod Point Sal 130 Monardella undulata ssp. undulata monardella Oceano 131 Agrostis hooveri Hoover's bent grass Oceano 132 Clarkia speciosa ssp. immaculata Pismo clarkia Grande NE	23 20160923 20160923 DPR-PISMO 5B Threatened None G3T3 S2S3 19 20170906 20170906 UNKNOWN Threatened None G2G3 S2S3 12 20160803 20160803 TNC Endangered None G3 S3 30 2010XXXX 2010XXXX DDR-OCEANO DUNES SVRA Threatened None G3T3 S2S3 40 201610XX 201610XX TNC, USFWS None Threatened G1 S1 1 PVT, DPR-OCEANO DUNES SVRA None None G2 S2 1 200 198805XX 198805XX PVT None None G2 S2 1 400 20160511 20160511 COUNTY Endangered Rare G4T1 S1 1	SSC NABCI_RWI; USFWS_BCC	VICINITY OF THE JUNCTION OF MOVES ROAD AND HIGHWAY 227, KEI, NORTH OF ARROYO GRANDE. 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BLACK LAKE CANYON, SOUTH OF ARROYO GRANDE, NW OF NIPOMO. BLACK LAKE CANYON, SOUTH OF ARROYO GRANDE, NW OF NIPOMO. BLACK LAKE CANYON, SOUTH OF ARROYO GRANDE, NW OF NIPOMO. BLACK LAKE CANYON, SOUTH OF ARROYO GRANDE, NW OF NIPOMO. BLACK LAKE CANYON, SOUTH OF ARROYO GRANDE, NW OF NIPOMO MESA; MOSTLY SOUTH OF HIGHWAY 1 BETWEEN CALLENDER TO THE NORTH AND LITTLE 0SO FLACO LAKE TO THE POLICE SWIPOMO MESA; MOSTLY SOUTH OF HIGHWAY 1 BETWEEN CALLENDER TO THE NORTH AND LITTLE 0SO FLACO LAKE TO THE POLICE SWIPOMO MESA; MOSTLY SOUTH OF HIGHWAY 1 BETWEEN CALLENDER TO THE NORTH AND LITTLE 0SO FLACO LAKE TO THE POLICE SWIPOMO MESA; MOSTLY SOUTH OF HIGHWAY 1 BETWEEN CALLENDER TO THE NORTH AND LITTLE 0SO FLACO LAKE TO THE POLICE SWIPOMO MESA; MOSTLY SOUTH OF HIGHWAY 1 BETWEEN CALLENDER TO THE NORTH AND LITTLE 0SO FLACO LAKE TO THE POLICE SWIPOMO MESA; MOSTLY SOUTH OF HIGHWAY 1 BETWEEN CALLENDER TO THE NORTH AND LITTLE 0SO FLACO LAKE TO THE POLICE SWIPOMO MESA; MOSTLY SOUTH OF HIGHWAY 1 BET	APPED TO INCLUDE PROVIDED COORDINATES. INCLUDES NEST TEIS 05-09 AND 056-10. APPED TO INCLUDE PROVIDED COORDINATES. INCLUDES NEST BEACH WEST OF PISMO LAGOON FOREI BREEDING HABITAT. POOLS ALONG FLO PORTION OF LOWER ARROYO GRANDE STRIHERN SLOUGH NEAR MOUTH AND SOUTHERN TRIBUTARY DOUD ADULT / BREEDING HABITAT. "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, ELIMBENT ST." "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, THE LIBE OF LIBERATY ST." "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" "LARGE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH OF THE RIVER MOUTH OF	H GROVES OF DISTURBED BY ORV TRAILS (2004). EHRHARTA CALYCINA (2009). DID CONTROL CHANNEL VEGETATION & SEDIMENT REMOVAL, BULLFROSS, DEVELOPMENT (2011). VEGETATION & SEDIMENT REMOVAL, BULLFROSS, DEVELOPMENT, BULLFROSS, DEVELOPMENT, GUESTA, CALVIONA ARE RAPIDLY INVADING THE HABITAT, OCCASIONA ORV TRESPASS. INITY OF COAST LIVE INVADING FAST END OF SITE. PROPOS WELLSIS EEN KEAREY. DEVELOPMENT (1996). TRAMPLING. SPECIES: ERICAMERIA ORVS, AGRICULTURE, EHRHARTA CALYCINA, TRAMPLING, EROSSON, SEVELOPMENT, ROADS, SEVELOPMENT, ROADS, DEVELOPMENT, ROADS,	THIS OCCURRENCE WAS PREVIOUSIY A. WELLSII OCCURRENCE #6. INCLUDES FORMER A. PILOSULA OCCURRENCE #42. SINGLE NESTS OBSERVED IN 2009 AND 2010. 7 OVERWINTERING ADULTS OBSERVED ROOSTING ON 19 JAN 2016. 3 ADULTS SEEN FORAGING ON 13 APR, 2 FORAGING ON 27 JUL, & 1 ADULT MALE FORAGING ON 13 APR, 2 FORAGING ON 27 JUL, & 1 ADULT MALE FORAGING ON 29 JUL, & 1 ADULT ROOSTING ON 23 SEP 2016. DETECTED IN 1996, 2002, 2004, 2005, 2006, 2007, 2008, & 2009 (ALL LIFE STAGES), 2 LARVAE OBSERVED ON 7 AUG 2011. 1 ADULT OBS ON 30 MAY & 1 ON 1 AUG 2012. 2-3 JUVENIES OBS 27 AUG 2013. 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NEEDS FIELDWORK. POP BS FOR PORTIONS OF SITE: 500 PLANTS IN 1996, 272 IN 1991, 200 PLANTS IN 1993, (200 PLANTS IN 1993, 620 PLANTS IN 1994, 200 PLANTS IN 1995, 640 PLANTS IN 1996, 07 PLANTS IN 1996, 1000 PLANTS IN 1990, 200 PLANTS IN 1993, 6000 PLANTS IN 1996, 8000 PLANTS IN 1996, 1000 PLANTS IN 1990, 200 PLANTS IN 1999, 6000 PLANTS IN 1990, 200 PLANTS IN 1990, 200 PLANTS IN 1990, 200 PLANTS IN 1991, 200 PLANTS IN 1991, 200 PLANTS IN 1991, 200 PLANTS IN 1991, 200 PLANTS IN
124 Arctostaphylos pilosula manzanita Grande NE 125 Charadrius alexandrinus nivosus western snowy plover Pismo Beach 126 Rana draytonii California red-legged frog Oceano 127 Eucyclogobius newberryi tidewater goby Point Sal 128 Charadrius alexandrinus nivosus western snowy plover Oceano 129 Dithyrea maritima beach spectaclepod Point Sal 130 Monardella undulata ssp. undulata San Luis Obispo monardella 131 Agrostis hooveri Hoover's bent grass Oceano Arroyo	23 20160923 20160923 DPR-PISMO SB Threatened None G3T3 S2S3 SLO COUNTY, 19 20170906 20170906 UNKNOWN Threatened None G2G3 S2S3 PVT-CHEVRON, 12 20160803 20160803 TNC Endangered None G3 S3 DPR-OCEANO 30 2010XXXX DUNES SVRA Threatened None G3T3 S2S3 40 201610XX 201610XX TNC, USFWS None Threatened G1 S1 1 PVT, DPR-OCEANO DUNES 100 20120609 20120609 SVRA None None G2 S2 1 200 198805XX 198805XX PVT None None G2 S2 1 400 20160511 20160511 COUNTY Endangered Rare G4T1 S1 1	SSC NABCI_RWI; USFWS_BCC	VICINITY OF THE JUNCTION OF MOVES ROAD AND HIGHWAY 227, KEI, NORTH OF ARROYO GRANDE. FROM ABOUT 0.4 MILES SW TO 1.0 MILES SOUTH OF HWY 101 AT PISMO CREEK, SOUTH OF THE PISMO BEACH PIER, PISMO STATE BEACH. MAR MAR SITE OCEANO LAGOON, MEADOW CREEK, AND ARROYO GRANDE CREEK FROM THE LAGOON TO ABOUT 1.4 MILES UPSTREAM (E). SANTA MARIA RIVER, FROM MOUTH TO 3.0 MILES UPSTREAM, 8 LIAK MAR MILES NORTH OF POINT SAL. OCEANO DUNES SVRA, FROM ABOUT 0.2-0.5 MILES SOUTH OF SET OF MILES SOUTH OF SET OF MILES SOUTH OF NESS UTTAIN AND ASSENT OF THE MOUTH OF THE SANTA MARIA RIVER, WEST OF GUADALUPE. VICINITY OF BLACK LAKE AND CALLENDER, SOUTH OF OCEANO. BLACK LAKE CANYON, SOUTH OF ARROYO GRANDE, NW OF NIPOMO. BLACK LAKE CANYON, SOUTH OF ARROYO GRANDE, NW OF NIPOMO. BLACK LAKE CANYON, SOUTH OF ARROYO GRANDE, NW OF NIPOMO. BLACK LAKE CANYON, SOUTH OF ARROYO GRANDE, NW OF NIPOMO. BLACK LAKE CANYON, SOUTH OF ARROYO GRANDE, NW OF NIPOMO. BLACK LAKE CANYON, SOUTH OF ARROYO GRANDE, NW OF NIPOMO. BLACK LAKE CANYON, SOUTH OF ARROYO GRANDE, NW OF NIPOMO. 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POOLS ALONG FLO PORTION OF LOWER ARROYO GRANDE DOD ADULT / BREEDING HABITAT. CEIMENS FROM LOCALITIES INCL. "SANTA MARIA RIVER, MOUTH" INCREE POND E OF MOUTH OF SANTA MARIA RIVER, MOUTH" INCRE POND E OF MOUTH OF SANTA MARIA RIVER, TOLL TRIBUTED HERE. THE LATTER LOCALITY (1941, 1977) & "LA GUINA" (1895) MAY ACTUALLY REFER TO NOW-FILLED GUADALUPE KE. APPED TO INCLUDE NEST SITES DOCUMENTED SINCE 1997. MAIN STING AREAS AT OCCURRENCE #52. THIS OCCURRENCE INCLUDES SST SITES 005-99, 007, 008, 012, 016, 019, 021, 023, 025, 028, 047, 4, & 105. VERAL POLYGONS MAPPED BY CNDDB ACCORDING TO A 1981 UNDERWIER MAP, A 1996 BOWLAND MAP, AND A 2017 PADRE SOCIATES, INC MAP. OCCURRENCE INCLUDES RESTORATION SITES STITUD AND A 1996 BOWLAND MAP, AND A 2017 PADRE SOCIATES, INC MAP. OCCURRENCE INCLUDES RESTORATION SITES STORMER MAP, A 1996 BOWLAND MAP, AND A 2017 PADRE SOCIATES, INC MAP. OCCURRENCE INCLUDES RESTORATION SITES STORMER MAP, A 1996 BOWLAND MAP, AND A 2017 PADRE SOCIATES, INC MAP. 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EHRHARTA CALYCINA (2009). DIVINES (2016). DID CONTROL CHANNEL VEGETATION & SEDIMENT REMOVAL, BULLFROSS, DEVELOPMENT (2011). REVENUE OF TRAIL WORK, ROADKILL, INVASIVE FISH (*17) OR Y FROM 1990 & 96 N SALVAGED FROM DALUPE RESTORATION OLITH (PRESUMABLY IN UNDERWAY (2016). RWINTERING AS WELL R RESTORATION OFF-ROAD VEHICLES (19805-2016). E. ASSOCIATED WITH ROBORTUS EDULIS, C. SIMUM S., CASTILLEIA SP., FOREDUNES DISTURBED BY OIL FIELD ACTIVITIES. NITY WITH ERICAMERIA WEEDY AMMOPHILA ARENARIA & TISMA AND AVENA BARBATA. INVADING FAST END OF SITE. PROPOSITION OF SITE. PROPOSITION, DEVELOPMENT (1996). TRAMPLING, CALYCINA, TRAMPLING, PERDICIDE, REFINERY EMISSIONS.	THIS OCCURRENCE WAS PREVIOUSIY A. WELLSII OCCURRENCE #6. INCLUDES FORMER A. PILOSULA OCCURRENCE #42. 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POP #5 FOR PORTIONS OF SITE: 800 PLANTS IN 1996, 5 PLANTS AT E END OF OCC 10 2006, 500 IN

SEE

135 Ceanothus impressus var. nipomens	Nipomo Mesa	Oceano	275 70100210	20190219 UNKNOWN	None	None	G3T2	S2 1B.:			VICINITY OF THE JUNCTION OF POMERGY ROAD AND WILLOW ROAD, NIPOMO MESA.	MAPPED AS 3 POLYGONS TO INCLUDE VARIOUS SOURCES OF INFORMATION. SW POLYGON IS NON-SPECIFIC TO ENCOMPASS SEVERAL COLLECTION LOCATIONS. NORTHERN POLYGON BASED ON 2004 HELMIKAMP COORDINATES. EASTERN POLYGON BASED ON 2015 BEHBMANN COORDINATES.	FOUND WITH EUCALYPTUS GLOBULUS, CEANOTHUS RAMULOSUS, QUERCUS AGRIFOLIA ON SANDY SOIL		TYPE LOCALITY. SW POLYGON: MAPPED AROUND JUNCTION OF POMERCY RO AND WILLOW RO BASED ON LOCATION INFO FROM HISTORIC COLLECTIONS. N POLYGON: ""OCCASIONAL"" IN 2004. E POLYGON SEEN IN 2019. VAGUE COLLECTIONS FROM W OF NIPOMO ATTRIBUTED HERE.
135 Ceanotrius impressus var. inpomens	is ceanourus	Oceano	375 20190219		None	None	G312	52 16					RAMIDLUSUS, QUERCUS AURIPULIA UN SANUT SUIL.		LACM 36673-3, COLLECTED 6/16/77. POPULATION PRESUMED EXTANT IN 1990 BY SWIFT. 2280 COLLECTED IN 1995. 347 COLLECTED FROM SEVERAL SAMPLE DATES IN 1996. GOBIES
136 Eucyclogobius newberryi 137 Horkelia cuneata var. puberula	tidewater goby	Pismo Beach Arroyo Grande NE	10 20080217	DPR-PISMO SB, 20080217 PVT 19770127 UNKNOWN	Endangered None			S3 S1 1B.:	SSC	AFS_EN; IUCN_VU	PISMO CREEK (PRICE CANYON), FROM MOUTH TO 1.0 MILE UPSTREAM, PISMO BEACH. CARPENTER CANYON, 2.5 MILES NORTH OF ARROYO GRANDE ON HIGHWAY 227.	SITE OCCUPIES 7.5-10 ACRES. 2/13/96, 13 FISH RELOCATED OUT OF CONSTRUCTION ZONE. MAPPED AS BEST GUESS TO ENCOMPASS THE AREA ABOUT 2.5 ROAD MILES NORTH OF WHERE HIGHWAY 227 INTERSECTS HIGHWAY 101.	COASTAL SAGE SCRUB WITH CROTON CALLFORNICUS		COMMON AND FISH COLLECTED FOR GENETIC SAMPLES ON 15-17 FEB 2008. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1977 BARBE COLLECTION. NEEDS FIELDWORK.
138 Monardella undulata ssp. undulata	San Luis Obispo monardella	Oceano		19610915 UNKNOWN	None			S2 1B.		BLM_S	ROAD AT EAST END OF WHITE LAKE, DUNE LAKES, SOUTH OF OCEANO.	MAPPED AS BEST GUESS AROUND THE EAST END OF WHITE LAKE.			SITE BASED ON A 1961 SMITH COLLECTION. A 1957 SMITH COLLECTION FROM "DUNES LAKES, SOUTH OF OCEANO" IS ALSO ATTRIBUTED TO THIS SITE.
139 Anniella pulchra	northern California legless lizard	Oceano		19870327 UNKNOWN	None			S3	SSC	USFS_S	COASTAL SAND DUNES ABOUT 0.25 MILES SW OF CALLENDER RD AT HWY 1, SOUTH OF OCEANO.	AREA REFFERED TO AS CALLENDER DUNES. MAPPED AS BEST GUESS BY CNDDB IN VICINITY OF THE HISTORIC			SEVERAL COLLECTED ON 27 MAR 1987. SITE IS BASED ON A 1906 UNANGST COLLECTION. MCLEOD AND
140 Lupinus Iudovicianus	San Luis Obispo Coun lupine northern California	ty Arroyo Grande NE	500 19860601	19060517 PVT	None	None	G1	S1 1B.		BLM_S; USFS_S	OAK PARK (SCHOOL).	LOCATION OF OAK PARK SCHOOL, ON THE NORTH SIDE OF ORMONDE RD AT THE NORTHERN TERMINUS OF OLD OAK PARK ROAD. MAPPED TO THE GENERAL AREA OF FAIROAKS AS SHOWN ON1964	COMPARED TO 1960S AERIAL IMAGERY, THIS AREA IS NOW	OAK PARK SCHOOL WAS RAZED MANY YEARS AGO AND HOUSE NOW ON SITE.	RIGGINS-PIMENTEL HAVE REPEATEDLY SEARCHED AREA, BUT NO PLANTS FOUND.
141 Anniella pulchra	legless lizard	Oceano	86 19600326	19600326 UNKNOWN	None	None	G3	S3	SSC	USFS_S	NEIGHBORHOOD OF FAIROAKS (GNIS), ARROYO GRANDE.	EDITION OF THE 1952 TOPO MAP. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB AROUND TRAILS ABOUT 1.2 MILES WEST OF BROWN RD/POINT SAL	PRIMARILY DEVELPED AS RESIDENTIAL HOUSING.	DEVELOPMENT.	ONE COLLECTED ON 26 MAR 1960. MAIN SOURCE OF INFORMATION FOR THIS SITE IS A 1982 FORBES COLLECTION; ""UNCOMMON"" IN 1982. A 1930 HOFFMANN
142 Scrophularia atrata	black-flowered figwor	rt Point Sal	700 19820502	19820502 SBA COUNTY	None	None	G2?	S2? 1B.:		SB_RSABG	1.2 MILES WEST OF JUNCTION OF BROWN RD AND PT SAL ROAD, POINT SAL STATE BEACH.		CHAPARRAL.		COLLECTION FROM POINT SAL IS ALSO ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK. SITE IS BASED ON SEVERAL COLLECTIONS FROM 1964 THROUGH 1989. MOST COLLECTIONS ARE FROM JACK LAKE, ALSO INCLUDES
143 Horkelia cuneata var. sericea	Kellogg's horkelia	Oceano	100 19890523	19890523 PVT?	None	None	G4T1?	S1? 1B.:		USFS_S	JACK LAKE, 4 AIR MILES SOUTH OF OCEANO.	WEST OF OIL REFINERY. MAPPED AS BEST GUESS BY CNDDB IN THE GENERAL VICINITY OF JACK LAKE.	LOW-LYING STABILIZED DUNES. WHEREAS THE PARK IS UNDEVELOPED, MORE DENSE	,	COLLECTIONS FROM "UNOCAL OIL REFINERY 4 AIRMI S OF OCEANO" AND "OCEANO DUNES, JUST SE OF JACK LAKE."
144 Anniella pulchra	northern California legless lizard	Nipomo	363 19830109	19830109 SLO COUNTY	None	None	G3	S3	SSC	USFS_S	NIPOMO REGIONAL PARK, JUST NW OF W TEFFT STREET AT ORCHARD ROAD, NIPOMO.	MAPPED TO DESCRIPTION OF COLLECTION LOCATION.	RESIDENTIAL HOUSING HAS BEEN DEVELOPED IN THE SURROUNDING AREA SINCE THE TIME OF COLLECTION. OPEN MASS RECEIVING SOME SHADE FROM NEARBY WILLOW		ONE COLLECTED BY S. SWEET ON 9 JAN 1983 (SSS #26145).
145 Erigeron blochmaniae	Blochman's leafy dais	y Oceano	30 19801118	19801118 DPR-PISMO SB	None	None	G2	S2 1B.:		BLM_S	ABOUT 1/3 SOUTH OF GROVER CITY BEACH RAMP TOWARDS OCEANO BEACH RAMP, PISMO DUNES.	MAPPED AS BEST GUESS BY CNDDB ABOUT 1/3 MILE SOUTH OF GRAND AVE, BETWEEN HIGHWAY 1 AND THE SHORELINE.	THICKET IN SHALLOW HOLLOW ON SOUTH SLOPE OF SANDY TRANSECT OCEANFRONT DUNE SYSTEM.		ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1980 GRIFFITHS COLLECTION. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1967 COLLECTION RY KEFEF, NO PLANTS SEFM IN 2015, MARK SKINNER VISITED AREA
146 Cirsium scariosum var. loncholepis	La Graciosa thistle	Oceano	60 201701XX	DPR-OCEANO 19670421 DUNES SVRA	Endangered	Threatened	i G5T1	S1 1B.:			1,000 YARDS SOUTHWEST OF OSO FLACO LAKE AND NORTHWEST OF SANTA MARIA. COASTAL DUNES ON THE SOUTH SIDE OF THE SANTA MARIA RIVE		GROWING IN SANDY SOIL.	VEHICLE TRACKS VISIBLE IN AREA. CONTROLLED BURN WITH WEED TREAMENT CONDUCTED IN 2009.	BY REFE. NO PLANTS SEEN IN 2015. WHARK SAINNER VISITED AREA IN JANUARY 2017 BUT DID NOT SEE ANY PLANTS, CONDITIONS WERE NOT GOOD WITH ONLY A FEW PLACES WHERE PLANTS COULD GROW.
147 Anniella pulchra	northern California legless lizard	Point Sal	20 19871128	19871128 SBA COUNTY	None	None	G3	S3	SSC	USFS_S	ABOUT 0.5 MILE SOUTH OF ITS MOUTH, 4.25 MILES WSW OF GUADALUPE.	APPEARS TO BE THE AREA BETWEEN THE PARKING LOT FOR RANCHO GUADALUPE DUNES PRESERVE AND THE RIVER.			SPECIMENS COLLECTED IN THIS AREA IN 1978, 1979, AND 1987. ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS 1977
148 Chorizanthe breweri	Brewer's spineflower	Arroyo Grande NE	300 19770321	19770321 UNKNOWN	None	None	G3	S3 1B.3		BLM_S; USFS_S	PRICE CANYON ROAD ABOUT 1 MILE SOUTHWEST OF HIGHWAY 227, SOUTH OF SAN LUIS OBISPO.	PRICE CANYON TAR SANDS PROJECT. EAST OF ROAD, +/- 1/4 MILE. MAPPED BY CNDDB AS BEST GUESS	IN OPEN GRASSLAND, SOUTH-FACING SLOPE, WITH FILAREE.		COLLECTION BY IMPER CITED BY REVEAL AND HARDHAM (PHYTOLOGIA, 1989). COLLECTION CURRENTLY IDENTIFIED AS CHORIZANTHE DIFFUSA VAR. NIVEA; ID NEEDS CONFIRMATION. SITE BASED ON A 1985 GRIFFITHS COLLECTION. A 1939 GRAHAM
149 Arctostaphylos rudis	sand mesa manzanita	Oceano	300 19850305	19850305 UNKNOWN	None	None	G2	S2 1B.:		BLM_S	ALONG RIDGE JUST SOUTH OF NATIVE SONS WHOLESALE NURSERY, EL CAMPO ROAD, NIPOMO MESA.	JUST SOUTH OF NATIVE SONS WHOLESALE NURSERY ON THE EAST SIDE OF EL CAMPO ROAD.	OPEN GRASSY FIELD AT SOUTHERN MARGIN OF OAK WOODLAND ALONG RIDGE. COASTAL SAGE SCRUB/DUNE SCRUB/MARITIME CHAPARRAL/COAST LIVE OAK WOODLAND. GROWING IN DRY SAND WITH ERICAMERIA ERICOIDES, ERIOGONUM		COLLECTION FROM "W LOS BERROS, 250 FF" IS ALSO ATTRIBUTED TO THIS SITE.
150 Arctostaphylos rudis	sand mesa manzanita	Arroyo	300 19880728		None			S2 1B.:		BLM_S	NIPOMO MESA. VICINITY OF LA CANADA ROAD AND JAMES WAY, ARROYO	ON BOTH SIDES OF UPPER CANYON, NORTH OF BLACK LAKE GOLF COURSE HOUSING DEVELOPMENT. NEAR BASINS A AND B.	PARVIFOLIUM, CEANOTHUS IMPRESSUS, TOXICODENDRON DIVERSILOBUM, PTERIDIUM AQUILINUM, AND QUERCUS AGRIFOLIA. HABITAT CONSISTS OF A GRASSY HILLSIDE WITH BRUSHY	DEVELOPMENT. THREATENED BY PLANNED HOUSING	200 PLANTS IN 1988. A 1964 HOOVER COLLECTION FROM ""2 MI S OF BERROS ON NIPOMO MESA"" IS ALSO ATTRIBUTED TO THIS SITE. FAIRLY NUMEROUS FRESH DIGGINGS AND BURROWS PRESENT ON
151 Taxidea taxus	American badger	Grande NE		19910628 UNKNOWN	None			53	SSC	IUCN_LC	GRANDE.	EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS AROUND BLACK LAKE. IF THIS SITE IS VALID AND NOT A MIS-ID, THEN IT IS	RIPARIAN AND OAK WOODLANDS INTERSPERSED.	SEARCH. IN 2017, VERY LITTLE HABITAT REMAINED AND THERE WERE	15 MAR AND 28 JUN 1991. SITE BASED ON HOOVER'S "THE VASCULAR PLANTS OF SAN LUIS OBISO CO" WHERE THIS PLANT WAS REPORTED "AT LEAST FROM BLACK LAKE SOUTHWARD." ALL SUBSEQUENT SURVEYS IN THIS
152 Cirsium scariosum var. loncholepis	La Graciosa thistle	Oceano		XXXXXXX UNKNOWN	Endangered			S1 1B.:				LIKELY EXTIRPATED. EXACT LOCATION UNKNOWN. MAPPED BY CNDDB CENTERED ON		ABUNDANT BULRUSHES.	AREA (1983, 1986, 1990, 2017) INDICATE SITE MAY BE A MIS-ID. UNKNOWN NUMBER OF PLANTS SEEN. 1975 SMITH COLLECTION FROM "DUNE LAKES, ALONG SANDY ROAD IN DUNES" ATTRIBUTED
153 Chenopodium littoreum	coastal goosefoot	Oceano	65 20100607	20100607 UNKNOWN	None	None	G1	S1 1B.:			1, GUADALUPE.	BLACK LAKE NEAR DUNES.	IN DUNES. SANDY, SEMI-STABILIZED BEACH DUNE.		TO THIS SITE. MAIN SOURCE OF INFORMATION FOR THIS SITE IS A 1947 HOOVER COLLECTION. A 1974 COWAN COLLECTION FROM "NEAR HWY 1, W
154 Delphinium parryi ssp. blochmaniae	dune larkspur	Oceano	0 19740411	19740411 UNKNOWN	None	None	G4T2	S2 1B.2		BLM_S	BLACK LAKE, SOUTH OF ARROYO GRANDE.	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN THE GENERAL VICINITY OF BLACK LAKE.	IN DRY LOOSE SAND. WITH LIPINOS ARBOREUS AND L. NANUS OLD STABILIZED DUNE FORMATION.		OF NIPOMO, 5 MI N OF TURNOFF TO OSO FLACO" IS ALSO ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK. MAIN SOURCE OF INFO FOR THIS SITE IS 1947 COLLECTION BY HOOVER. SOME EVIDENCE OF PROPER HABITAT, BUT NO PLANTS FOUND IN 1937 (M. MCLEOD) OR 1938 (CHENUT). 9 PLANTS
155 Arenaria paludicola	marsh sandwort	Oceano Arroyo	70 1999XXXX	19980906 PVT	Endangered	Endangered	d G1	S1 1B.:		SB_SBBG	BLACK LAKE, WEST OF NIPOMO MESA AND SOUTH OF ARROYO GRANDE. WEST OF HIGHWAY 227, JUST SW OF THE JUNCTION OF HIGHWA	EASEMENT OF BLACK LAKE.	IN WET GROUND AT EDGE OF LAKE, GROWING UP THROUGH DENSE MATS OF JUNCUS, TYPHA, SCIRPUS AND SPARGANIUM. HABITAT CONSISTS OF GRAZED GRASSLAND BORDERED BY OAK	APPARENT EUTROPHICATION AND BIOSTIMULATION IN WATERSHED.	TRANSPLANTED 5-16-98, 6 FOUND SEP 1998, NONE SURVIVING IN 1999.
156 Taxidea taxus	American badger	Grande NE	220 19910405	19910405 PVT	None	None	G5	S3	SSC	IUCN_LC	227 AND THE EAST FORK OF PISMO CREEK, NNE OF GROVER CITY		WOODLAND AND CHAPARRAL. HABITAT CONSISTS OF COASTAL DUNE SCRUB, DOMINATED BY ERICAMERIA ERICOIDES, LUPINUS CHAMISSONIS, AND	INTO A GOLF COURSE.	RECENT DIGGINGS AND BURROWS PRESENT ON 5 APR 1991.
157 Athene cunicularia	burrowing owl	Point Sal	70 20060316	20060316 PVT-CHEVRON	None	None	G4	S3	SSC	BLM_S; IUCN_LC; USFWS_BCC	GUADALUPE OIL FIELDS, ABOUT 3 MILES WEST OF GUADALUPE.				2 SEPARATE BURROWING OWLS OBSERVED, ON 16 MAR 2006, S USING SECTIONS OF OLD, EXPOSED PIPES, REMAINING FROM THE OILFIELD INFRASTRUCTURE, AS BURROWS.
158 Arenaria paludicola	marsh sandwort	Oceano	10 19930906	19500513 DPR-PISMO SB	Endangered	Endangered	d G1	S1 1B.:		SB_SBBG	WEST SHORE OF OSO FLACO LAKE.	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS A BEST GUESS. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB	MARSHY BORDER OF LAKE.		SITE KNOWN FROM A 1950 COLLECTION BY ROBBINS. NO PLANTS WERE FOUND BY SURVEYS CONDUCTED IN 1987 AND 1993.
159 Clarkia speciosa ssp. immaculata	Pismo clarkia	Pismo Beach	200 19830607	19280617 UNKNOWN	Endangered	Rare	G4T1	S1 1B.:		SB_RSABG; SB_SBBG	PRICE CANYON, 3 MILES SOUTH OF EDNA.	ALONG PRICE CANYON ROAD AROUND 3 ROAD MILES SOUTH OF EDNA.	DRY GRAVELLY SLOPE AT EDGE OF CHAPARRAL.	IMPACT THE SPECIES (1996).	SITE IS BASED ON A 1928 HITCHCOCK COLLECTION. AREA SEARCHED IN MCLEOD IN 1983, NO PLANTS FOUND. PLANTS WIDELY SCATTERED IN 1979. FEWER THAN 50 PLANTS
160 Erigeron blochmaniae	Blochman's leafy dais	y Oceano	40 20060517	DPR-OCEANO 20060517 DUNES SVRA	None	None	G2	S2 1B.:		BLM_S	GUADALUPE DUNES, VICINITY OF JACK LAKE & LETTUCE LAKE, ABOUT 4 MILES SOUTH OF OCEANO.	HOOVER COLLECTION FROM JACK LAKE. 1990: MAPPED TO CLUSTER DETECTION LOCATION, IN N-MOST AND	ERICOIDES, LUPINUS CHAMISSONIS, ERIOGONUM PARVIFOLIUM, AND CORETHROGYNE FILAGINIFOLIA. FOUR EUCALYPTUS GROVES IN DRAINAGES NORTH OF A	S ORV USE AND ILLEGAL HUNTING.	OBSERVED BETWEEN THIS OCCURRENCE AND OCCURRENCE #13 IN 1981. UNKNOWN NUMBER OF PLANTS SEEN DURING A SURVEY FOR LUPINUS NIPOMENSIS IN 2006. OBSERVED IN THIS AREA BEFORE 1990 (OCT 1983). ON 2 FEBRUARY
161 Danaus plexippus pop. 1	monarch - California overwintering population	Point Sal	500 19910118	19900202 UNKNOWN	None	None	G4T2T3	5253		USFS_S	ABOUT 0.75 MI SE OF MUSSEL POINT AND 1.25 MI N OF POINT SAL, 11.3 MI W OF THE SANTA MARIA AIRPORT.	LARGEST OF FOUR NEARBY GROVES. 1991: INDIVIDUAL FLYERS OBSERVED IN THE VICINITY OF ALL FOUR GROVES (S-MOST 3 GROVES NOT MAPPED). XERCES SITE #2693.	SINCE ROAD WASHOUT IN 1998. THESE ARE LIKELY AUTUMNAL STABILIZED BACKDUNES & RIDGES ON INTERFACE BETWEEN WILLOW & GRASS/SHRUB-DOMINATED COMMUNITIES.		1990, 5-10K MONARCHS WERE OBSERVED ROOSTING. A FEW FLYERS, NO CLUSTERS OBSERVED 18-19 JAN 1991 (UNABLE TO CHECK IN EARLIER IN SEASON). INACCESSIBLE IN 1998-1999. MAP DETAIL AT CNDDB. SEVERAL RARE PLANTS IN AREA. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BA
162 Central Dune Scrub	Central Dune Scrub	Point Sal	360 19800725	19800725 UNKNOWN	None	None	G2	\$2.2			ALONG STREAM APPROX 0.6 MILE EAST OF MUSSEL ROCK.		DOMINANTS INCLUDE ARTEMISIA CALIFORNICA, ERICAMERIA ERICOIDES.	ON OIL LEASE LAND.	CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. COLLECTED BY MORRIS E. CARUTHERS (NO DATE GIVEN), PROBABLY ABOUT 1930-40; ONE EMPTY SHELL, FRESH-APPEARING. NO
163 Tryonia imitator	(=California brackishwater snail)	Oceano	0 19791102 X	XXXXXXX DPR-PISMO SB	None	None	G2	S2		IUCN_DD	MOUTH OF LAGOON AT OCEANO.		HABITAT WAS FRESHWATER ON 2 NOV 1979.		SPECIMENS FOUND IN 1970 OR 2 NOV 1979; KELLOGG BELIEVES THAT TRYONIA IMITATOR HAS BEEN EXTIRPATED AT THIS SEE
164 Central Dune Scrub	Central Dune Scrub	Oceano	20 19810923	19810923 DPR-PISMO SB	None	None	G2	52.2			NIPOMO DUNES, WEST OF OSO FLACO LAKE.		BOUNDARY GENERALIZED FROM 1981 AIR PHOTO; LITTLE INFO ON COMPOSITION, SITE FORMERLY PASTED BY ORVS. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.	BEGAN RECOVERY FOLLOWING ORV	WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BA CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

	white sand bear scara	ab										THREATS INCLUDE DEVELOPMENT &	
165 Lichnanthe albipilosa	beetle	Point Sal	18 19720520 19720520 PVT-UNION OI	L None N	None G	1 51			DUNE LAKES, 7 MI S OCEANO.		LITTLE IS KNOWN REGARDING THIS BEETLE'S LIFE HISTORY. COLLECTED IN SWAMP AMONG DENSE GROWTH OF SCIRPUS AND SPARGANIUM. WILLOW THICKETS AND BULLRUSHES	ORV USE IN THE DUNES. ACTIVITY OF MAINTAINING LAKES HAS	MALE HOLOTYPE COLLECTED FROM COREOPSIS SP, CAS #13332. MAIN SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1947 COLLECTION BY HOOVER. NO PLANTS FOUND IN 1987 AND NO
166 Arenaria paludicola	marsh sandwort	Oceano	60 19870618 19470802 PVT	Endangered E	Endangered G	1 S1	18.1	SB_SBBG	NEAR SMALL TWIN LAKE, SOUTH OF ARROYO GRANDE.		SURROUNDING LAKE IN 1987.	REDUCED/ELIMINATED HABITAT.	HABITAT REMAINS, ACCORDING TO MCLEOD. ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1987 MCLEOD COMMENT: ""SITE AT THE ARROYO GRANDE CEMETERY IS
167 Clarkia speciosa ssp. immaculata	Pismo clarkia	Oceano	120 XXXXXXXX XXXXXXXX PVT	Endangered F	Rare G	4T1 S1	1B.1	SB_RSABG; SB_SBBG	ARROYO GRANDE CEMETERY, ARROYO GRANDE.	EXACT LOCATION UNKNOWN, MAPPED BY CNDDB AS A BEST GUESS.			EXTIRPATED."" UNKNOWN WHEN PLANTS SEEN. SEE
168 Coastal and Valley Freshwater Mars	Coastal and Valley Freshwater Marsh	Oceano	60 198008XX 198008XX UNKNOWN	None N	None G	3 S2.	1		BLACK LAKE CANYON APPROXIMATELY 2 MILES SOUTH OF OCEANO.	MARSH IS ALONG HIGHWAY 1 AT BASE OF CANYON. EXACT LOCATION UNKNOWN. SITE IS BASED ON 1937 EASTWOOD TYPE COLLECTION FROM "NIPOMO MESA, NOT FAR FROM THE	SLOW-MOVING STREAMS FROM SEVERAL FRESHWATER MARSHES WITH TYPHA SP DOMINANT AND RIMMED BY SCIRPUS ACUTUS.	AND RESIDENTIAL DEVELOPMENT IS BEGINNING TO ENCROACH.	WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BA CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. TYPE LOCALITY. COLLECTED IN 1937, ADDITIONAL EASTWOOD COLLECTIONS FROM 1940 & 1941 ALSO ATTRIBUTED HERE. BLACK
169 Lupinus nipomensis	Nipomo Mesa lupine	Oceano	0 19880401 19410421 UNKNOWN	Endangered E	Endangered G	1 S1	1B.1	SB_SBBG	EAST OF HIGHWAY 1 IN BLACK LAKE CANYON, EAST OF BLACK LAKE, NIPOMO MESA.	SMALL POND WHERE THE YELLOW WATER LILIES GROW." HOWELL 8 JONES SUGGEST THIS POND WAS EAST OF HWY 1, JUST NORTH OF CALLENDER ROAD.		HABITAT TOO DENSE IN 1988; DEVELOPMENT HAS ELIMINATED SOME HABITAT IN THIS AREA.	LAKE AREA SEARCHED IN 1980 & 1984, NO PLANTS FOUND. LILY E POND AREA (JUST EAST OF HWY 1) SEARCHED IN 1988, NO PLANTS FOUND. SCARCE IN 1946. MCLEOD HAS BEEN TO SITE OFTEN TO SURVEY
170 Calochortus obispoensis	San Luis mariposa-lily	Arroyo Grande NE	600 19880705 19460623 PVT	None N	None G	2 S2	18.2	BLM_S; SB_SBBG; USFS	SUMMIT AT HEAD OF CARPENTER CANYON, NORTH OF ARROYO GRANDE.		FOUND ON SANDSTONE OUTCROP AT TOP OF BURNED-OVER HILL.		CLARKIA SPECIOSA SSP. IMMACULATA AND HAS NEVER SEEN CALOCHORTUS OBISPOENSIS AT THIS SITE. HE THINKS IT WOULD BE MORE VISIBLE AFTER A FIRE, AS IN 1946.
171 Delphinium parryi ssp. blochmaniae	dune larkspur	Oceano	200 19690425 19690425 UNKNOWN	None N	None G	4T2 S2	18.2	BLM_S	STATE HIGHWAY 1, 5.3 MILES SOUTH OF JUNCTION WITH HALCYON ROAD, SOUTH OF ARROYO GRANDE.	EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB ALONG HIGHWAY 1 AROUND 5.3 ROAD MILES SOUTH OF HALCYON ROAD.	SANDY FIELD.		ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1969 DOTY COLLECTION. NEEDS FIELDWORK.
										MAPPED ALONG CHESAPEAKE PLACE FROM CAMINO PERILLO WEST TO ZENON WAY BASED MAINLY ON LOCATION DESCRIPTION FROM	PARVIFOLIUM, CROTON CALIFORNICUS, ERIASTRUM	PORTIONS OF POPULATION HAVE BEEN	
172 Arctostaphylos rudis	sand mesa manzanita	a Oceano	400 20160523 20160523 PVT	None N	None G	2 S2	1B.2	BLM_S	NORTH OF BLACK LAKE CANYON ALONG CHESAPEAKE PLACE, ABOUT 1 MILE SSW OF LOS BERROS, NIPOMO MESA.	MCLEOD IN 1988. AN UNDATED REPORT MENTIONS THAT A. RUDIS WAS THE DOMINANT JUST NORTH OF CHESAPEAKE PLACE BUT IT IS NOW EXTIRPATED. SEVERAL COLONIES MAPPED IN THIS AREA AS THREE POLYGONS. MOSTLY LOCATED AS VERTICAL BAND THRU MIDDLE OF SECTION			300 PLANTS OBSERVED IN 1988. UNKNOWN NUMBER OBSERVED DO AT EAST END OF SITE IN 2014. 2 PLANTS OBSERVED AT WEST END OF SITE IN 2016.
173 Erigeron blochmaniae	Blochman's leafy dais	y Point Sal	400 1990XXXX 1990XXXX UNKNOWN	None N	None G	2 S2	1B.2	BLM_S	NORTH OF POINT SAL AND SOUTHEAST OF MUSSEL POINT.	WITH SMALL OUTLIER TO THE EAST.	OCCURS WITHIN THE DUNE SCRUB COMMUNITY. IN FRESHWATER MARSH ON BORDERS OF DUNE LAKES IN		LOCALLY COMMON IN 1990. FEWER THAN 10 PLANTS OBSERVED IN 1981, 10-50 PLANTS IN 1984.
									VICINITY OF DIC THUN LAVE AND CAMAL THUN LAVE COLUTI OF	COLONIES HAVE BEEN RECORDED ALONG THE NORTH, SOUTH, AND EAST SHORE OF BIG TWIN LAKE, AND ALONG THE SOUTH SHORE OF	CALIFORNICA, LONICERA INVOLUCRATA, RHAMNUS	OAK. PORTIONS OF OCCURRENCE ARE	OF BIG TWIN LAKE AND SMALL TWIN LAKE. NE END OF BIG TWIN
174 Cirsium scariosum var. loncholepis	La Graciosa thistle	Oceano	10 20180405 20180405 PVT	Endangered T	Threatened G	5T1 S1	18.1		VICINITY OF BIG TWIN LAKE AND SMALL TWIN LAKE, SOUTH OF OCEANO.	SMALL TWIN LAKE. A 1958 SMITH COLLECTION FROM "WHITE LAKE" IS ALSO ATTRIBUTED TO THIS SITE.	SPICATA, BACCHARIS PILULARIS, ET AL.	ORGANIC DEBRIS, INVASIVES.	LAKE: ~245 PLANTS IN 2017. NW END OF SMALL TWIN LAKE: 41 IN 2018. MAIN SOURCE OF INFO FOR THIS SITE IS A 1961 HALLER
175 Horkelia cuneata var. sericea	Kellogg's horkelia	Oceano	100 19610601 19610601 UNKNOWN	None N	None G	4T1? S1?) 1B.1	USFS_S	ADJACENT TO HIGHWAY 1, 3.3 ROAD MILES NW OF JUNCTION WITH ROAD TO OSO FLACO LAKE, ~6.5 ROAD MIS OF ARROYO GRANDE.	MAPPED BY CNDBA AS A BEST GUESS. ALSO INCLUDES COLLECTIONS FROM "5.5 MILES SOUTH OF OCEANO ON ROAD TO GUADALUPE" AND "NIPOMO MESA, 1/2 MILE EAST OF THE UNION OIL REFINERY." MAPPED TO INCLUDE POINTS FROM SHAPEFILES OF NEST SITES	OPEN SANDY FIELD ADJACENT TO HIGHWAY. COASTAL CHAPARRAL ASSOCIATION.		COLLECTION, PLANTS NOTED AS "ABUNDANT." A 1933 KECK COLLECTION AND A 1956 TWISSELMANN COLLECTION (INTERMEDIATE BTWN SSP. SERICEA/CUNEATA) ARE ALSO ATTRIBUTED TO THIS SITE. NEEDS FILELDWORK 2 NESTS IN AREA IN 1956 & 2 PAIRS IN 1978. OVERALL POPULATION
			DPR-OCEANO								AS NESTING. REVEGETATION AND OTHER RESTORATION		AT ODSVRA GREW FROM 32 BREEDING ADULTS IN 2002 TO 209 BREEDERS IN 2016. AT THIS SITE, 2 NESTS WERE DOCUMENTED IN
176 Charadrius alexandrinus nivosus	western snowy plove	r Oceano	27 2015XXXX 2015XXXX DUNES SVRA	Threatened N	None G	3T3 S25	3	SSC NABCI_RWL; USFWS_B	CC ST AT SILVER SPUR PL, OCEANO.	98, 017-98, 035-03, & 120-15.	ACTIVITIES ARE ONGOING.	OFF-ROAD VEHICLES (1980S-2016). ROADWORK, GRAZING, SPRAYING, TRAMPLING, OIL DRILLING. SW	1998, 1 IN 1999, 1 IN 2000, 1 IN 2003, & 1 IN 2015. 300+ PLANTS SEEN IN 1983, 2000+ PLANTS IN 1987. POPULATION
177 Clarkia speciosa ssp. immaculata	Pismo clarkia	Arroyo Grande NE	300 20110514 20110514 PVT, UNKNOW	/N Endangered F	Rare G	4T1 S1	18.1	SB_RSABG; SB_SBBG	PRICE CANYON, 1 MILE SOUTH OF EDNA.	POPULATION ALSO EXTENDS ON TO PXP OIL FIELD. 3 POLYGONS MAPPED ACCORDING TO MAPS FROM 1983 AND 1987, AND 2008 CARROLL COORDINATES.	OAK WOODLAND WITH QUERCUS AGRIFOLIA ON SANDSTONE/TAR SAND.	POLYGON ELIMINATED BY CONSTRUCTION BASED ON 2015 AERIAI PHOTOS.	SEEN BY MCLEOD IN 1996 - SAME SIZE AS IN PAST YEARS. "LARGE IL COLONY" IN VICINITY IN 1998. COLLECTED IN SW POLYGON IN 2008. SEEN IN OIL FIELDS IN 2009 & 2011.
178 Ablautus schlingeri	Oso Flaco robber fly		25 19620811 19620811 DPR-PISMO SB		None G		15.1	3507.50, 35_3550	OCEANO.	BEACH DUNES MAPPED.	FOUND IN SAND DUNES.		MALE HOLOTYPE AND FEMALE ALLOTYPE, DEPOSITED AT UCR. SEE
													WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL COMM BA
	Coastal and Valley												CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF
179 Coastal and Valley Freshwater Mars		Pismo Beach	10 197510XX 197510XX DPR-PISMO SB	None M	None G	3 S2.	1		PISMO LAKE, NORTH OF GROVER CITY.		SCIRPUS SPP & TYPHA SPP. GROWING AMONG CHAMISE CHAPARRAL (HOLLAND AND OYLER, 1995) WITH ARTEMISIA CALIFORNICA, RHAMMUS	SURROUNDED BY HOUSING; RECENTLY DEGRADED BY SILTATION.	
179 Coastal and Valley Freshwater Mars 180 Calochortus obispoensis		Arroyo	10 197510XX 197510XX DPR-PISMO SB 200 1995XXXX 1995XXXX UNKNOWN		None G			BLM_S; SB_SBBG; USFS	MOUTH OF CANYON NUMBER 1 NEAR GROVER CITY, NORTH OF	NORTH END OF PROPOSED LOS ROBLES DEL MAR DEVELOPMENT; WEST OF OAK PARK BLVD AT JUNCTION WITH NOYES ROAD.	GROWING AMONG CHAMISE CHAPARRAL (HOLLAND AND OYLER, 1995) WITH ARTEMISIA CALIFORNICA, RHAMNUS CALIFORNICA, AND BACCHARIS PILULARIS (SCHREIBER, 1938). THE RABE CLARKIA SPECIOSA SSP. IMMACULATA AND ARCTOSTAPHYLOS WELLSII ARE FOUND NEARBY. PLANTS ALONG THE EDGE OF THE OAK WOODLAND THROUGH	DEGRADED BY SILTATION.	CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF
	Freshwater Marsh	Arroyo			None G		18.2	BLM_S; SB_SBBG; USFS SB_RSABG; SB_SBBG	MOUTH OF CANYON NUMBER 1 NEAR GROVER CITY, NORTH OF S ARROYO GRANDE.		GROWING AMONG CHAMISE CHAPARRAL (HOLLAND AND OYLER, 1995) WITH ATTEMISIA CALIFORNICA, RHAMNUS CALIFORNICA, AND BACCHARIS PILULARIS (SCHREIBER, 1938). THE RARE CLARKIA SPECIOSA SSP. IMMACULATA AND ARCTOSTAPHYLOS WELLSII ARE FOUND NEARBY. PLANTS ALONG THE EDGE OF THE OAK WOODLAND THROUGH THE CHAPARRAL, AND IN GRASSLAND. WITH NASSELLA PULCHRA AND AVENA BARBATA. ARCTOSTAPHYLOS WELLSII AND CALOCHORTUS OBISPOENIS ALSO REPORTED FROM THIS SITE. 160-360 FT ELEVATION.	DEVELOPMENT MAY THREATEN PLANT AT THIS SITE. PROPOSED LOS ROBLES DEL MAR	7 CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. 15 5 PLANTS OBSERVED AT THIS SITE IN 1995. AN 1895 COLLECTION BY SOWE FROM ARROYO GRANDE IS ALSO ATTRIBUTED TO THIS SITE. ABOUT 3000 PLANTS OBSERVED DURING 1995 CENSUS. PLANTS NOTED AS "OCCASIONAL" IN 2006.
180 Calochortus obispoensis	Freshwater Marsh San Luis mariposa-lily Pismo clarkia	Arroyo Grande NE Arroyo Grande NE	200 1995XXXX 1995XXXX UNKNOWN CITY OF PISMO	None M	None G	2 52	18.2		MOUTH OF CANYON NUMBER 1 NEAR GROVER CITY, NORTH OF S ARROYO GRANDE. NORTHWEST OF ARROYO GRANDE; 0.8-1.1 MILES NORTH OF HW 101, WEST SIDE OF OLD OAK PARK ROAD.	WEST OF OAK PARK BLVD AT JUNCTION WITH NOYES ROAD. POLYGON MAPPED BY CNDDB REPRESENTS SENSITIVE HABITAT Y FOUND ON PROJECT SITE; CLARKIA WAS FOUND WIDELY SCATTERED WITHIN THIS AREA. PART OF LOS ROBLES DEL MAR DEVELOPMENT.	GROWING AMONG CHAMISE CHAPARRAL (HOLLAND AND OYLER, 1995) WITH ARTEMISIA CALIFORNICA, RHAMNUS CALIFORNICA, AND BACCHARIS PILULARIS (SCHREIBER, 1938). THE RARE CLARKIA SPECIOSA SSP. IMMACULATA AND ARCTOSTAPHICOS WELSII DAIR FOUND NEARBY. PLANTS ALONG THE EDGE OF THE OAK WOODLAND THROUGH THE CHAPARRAL, AND IN GRASSLAND. WITH NASSELLA PULCHRA AND AVENA BARBATA. ARCTOSTAPHYLOS WELLSII AND CALOCHORTUS OBISPOENSIS ALSO REPORTED FROM THIS SITE. 160-366 TF ELEVATION. GROWING AMONG COASTAL LIVE OAKS (HOLLAND AND OYLER, 1995) AND IN CHAPARRAL WITH ARTEMISIA CALIFORNICA, RHAMNUS CALIFORNICA, AND BACCHARIS PILULARIS	DEVELOPMENT MAY THREATEN PLANT AT THIS SITE. PROPOSED LOS ROBLES DEL MAR RESIDENTIAL DEVELOPMENT WOULD IMPACT PLANTS FOUND HERE. DEVELOPMENT THREATENS; PROPOSEE	7 CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. TS 5 PLANTS OBSERVED AT THIS SITE IN 1995. AN 1895 COLLECTION BY SOWE FROM ARROYO GRANDE IS ALSO ATTRIBUTED TO THIS SITE. ABOUT 3000 PLANTS OBSERVED DURING 1995 CENSUS. PLANTS NOTED AS ""OCCASIONAL"" IN 2006. 10 PLANTS OBSERVED AT THIS SITE IN 1995. 1938 SCHREIBER COLLECTION AND 1990 KEIL COLLECTION ARE ALSO ATTRIBUTED TO D THIS SITE. THIS SPECIES IS APPARENTLY MORE COMMON ON
180 Calochortus obispoensis	Freshwater Marsh San Luis mariposa-lily	Arroyo Grande NE Arroyo	200 1995XXXX 1995XXXX UNKNOWN CITY OF PISMO	None M	None G. Rare G	2 52	1B.2 1B.1		MOUTH OF CANYON NUMBER 1 NEAR GROVER CITY, NORTH OF ARROYO GRANDE. NORTHWEST OF ARROYO GRANDE; 0.8-1.1 MILES NORTH OF HW. 101, WEST SIDE OF OLD OAK PARK ROAD. MOUTH OF CANYON NO. 1 NEAR GROVER CITY, NORTH OF	WEST OF OAK PARK BLVD AT JUNCTION WITH NOYES ROAD. POLYGON MAPPED BY CNDDB REPRESENTS SENSITIVE HABITAT Y FOUND ON PROJECT SITE; CLARKIA WAS FOUND WIDELY SCATTERED WITHIN THIS AREA. PART OF LOS ROBLES DEL MAR DEVELOPMENT. NORTH END OF PROPOSED LOS ROBLES DEL MAR DEVELOPMENT; WEST OF OAK PARK BLVD AT JUNCTION WITH NOYES ROAD. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB 1.	GROWING AMONG CHAMISE CHAPARRAL (HOLLAND AND OYLER, 1995) WITH ARTEMISIA CALIFORNICA, RHAMNUS CALIFORNICA, AND BACCHARIS PILULARIS (SCHREIBER, 1938). THE RARE CLARKIA SPECIOSA SSP. IMMACULATA AND ARCTOSTAPHYLOS WELLSII ARE FOUND NEARBY. PLANTS ALONG THE EDGE OF THE OAK WOODLAND THROUGH THE CHAPARRAL, AND IN GRASSLAND, WITH PASSELLA PULCHRA AND AVENA BARBATA. ARCTOSTAPHYLOS WELLSII AND CALOCHORTUS OBISPOENISS ALSO REPORTED FROM THIS STIE. 360-360 FT ELEVATION. GROWING AMONG COASTAL LIVE OAKS (HOLLAND AND OYLER, 1995) AND IN CHAPARRAL WITH ARTEMISIA CALIFORNICA, RHAMNUS CALIFORNICA, AND BACCHARIS PILULARIS (SCHREIBER, 1938). THE RARE CLARKIA SPECIOSA SSP. IMMACULATA IS FOUND NEARBY.	DEVELOPMENT MAY THREATEN PLANT AT THIS SITE. PROPOSED LOS ROBLES DEL MAR RESIDENTIAL DEVELOPMENT WOULD IMPACT PLANTS FOUND HERE. DEVELOPMENT THREATENS; PROPOSEE	7 CKGROUND ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. 15 5 PLANTS OBSERVED AT THIS SITE IN 1995. AN 1895 COLLECTION BY SOWE FROM ARROYO GRANDE IS ALSO ATTRIBUTED TO THIS SITE. ABOUT 3000 PLANTS OBSERVED DURING 1995 CENSUS. PLANTS NOTED AS ""OCCASIONAL"" IN 2006. 10 PLANTS OBSERVED AT THIS SITE IN 1995. 1938 SCHREIBER COLLECTION AND 1990 KEIL COLLECTION ARE ALSO ATTRIBUTED TO
180 Calochortus obispoensis 181 Clarkia speciosa ssp. immaculata	Freshwater Marsh San Luis mariposa-lily Pismo clarkia Santa Margarita	Arroyo Grande NE Arroyo Grande NE	200 1995XXXX 1995XXXX UNKNOWN CITY OF PISMC 260 20060525 20060525 BEACH	None N Endangered F None N	None G. Rare G- None G:	2 S2 4T1 S1	18.2	SB_RSABG; SB_SBBG	MOUTH OF CANYON NUMBER 1 NEAR GROVER CITY, NORTH OF ARROYO GRANDE. NORTHWEST OF ARROYO GRANDE; 0.8-1.1 MILES NORTH OF HW. 101, WEST SIDE OF OLD OAK PARK ROAD. MOUTH OF CANYON NO. 1 NEAR GROVER CITY, NORTH OF	WEST OF OAK PARK BLVD AT JUNCTION WITH NOYES ROAD. POLYGON MAPPED BY CNDDB REPRESENTS SENSITIVE HABITAT Y FOUND ON PROJECT SITE; CLARKIA WAS FOUND WIDELY SCATTERED WITHIN THIS AREA. PART OF LOS ROBLES DEL MAR DEVELOPMENT. NORTH END OF PROPOSED LOS ROBLES DEL MAR DEVELOPMENT; WEST OF OAK PARK BLVD AT JUNCTION WITH NOYES ROAD.	GROWING AMONG CHAMISE CHAPARRAL (HOLLAND AND OYLER, 1995) WITH ARTEMISIA CALIFORNICA, RHAMNUS CALIFORNICA, AND BACCHARIS PILULARIS (SCHREIBER, 1938). THE RARE CLARKIA SPECIOSA SSP. IMMACULATA AND ARCTOSTAPHYLOS WELLSII BAR FOUND NEARBY. PLANTS ALONG THE EDGE OF THE OAK WOODLAND THROUGH THE CHAPARRAL, AND IN GRASSLAND. WITH NASSELLA PULCHRA AND AVEND ABRASTA. ARCTOSTAPHYLOS WELLSII AND CALOCHORTUS OBISPOENSIS ALSO REPORTED FROM THIS SITE. 160-360 FT ELEVATION. GROWING AMONG COASTAL LIVE OAKS (HOLLAND AND OYLER, 1995) AND IN CHAPARRAL WITH ARTEMISIA CALIFORNICA, RHAMNUS CALIFORNICA, MOD BACCHARIS PILULARIS (SCHREIBER, 1938). THE RARE CLARKIA SPECIOSA SSP. IMMACULATA IS FOUND NEARBY.	DEVELOPMENT MAY THREATEN PLANT AT THIS SITE. PROPOSED LOS ROBLES DEL MAR RESIDENTIAL DEVELOPMENT WOULD IMPACT PLANTS FOUND HERE. DEVELOPMENT THREATENS; PROPOSEE MITIGATION WOULD AVOID IMPACTS	7 CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. TS 5 PLANTS OBSERVED AT THIS SITE IN 1995. AN 1895 COLLECTION BY SOWE FROM ARROYO GRANDE IS ALSO ATTRIBUTED TO THIS SITE. ABOUT 3000 PLANTS OBSERVED DURING 1995 CENSUS. PLANTS NOTED AS ""OCCASIONAL" IN 2006. 10 PLANTS OBSERVED AT THIS SITE IN 1995. 1938 SCHREIBER COLLECTION AND 1990 KEIL COLLECTION ARE ALSO ATTRIBUTED TO DIHIS SITE IN 115 SPECIES IS APPARENTLY MORE COMMON ON NEARBY SITES. THIS OCCURRENCE WAS PREVIOUSLY A. WELLSII OCCURRENCE #7.
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S2; 4T1 S1 2 S2 1G2 S15 1 S1. 3333 S2S	18.2 18.1 18.2 18.2 22	SB_RSABG; SB_SBBG BLM_S; SB_SBBG; USFS USFS_S BLM_S	MOUTH OF CANYON NUMBER 1 NEAR GROVER CITY, NORTH OF ARROYO GRANDE. NORTHWEST OF ARROYO GRANDE; 0.8-1.1 MILES NORTH OF HW 101, WEST SIDE OF OLD OAK PARK ROAD. MOUTH OF CANYON NO. 1 NEAR GROVER CITY, NORTH OF ARROYO GRANDE. 1.1 MILES NE OF PISMO. 0.7 MILE SE FROM NOYES ROAD ON HIGHWAY 227, ARROYO GRANDE. PISMO BEACH. DUE WEST OF GRAND AVE IN GROVER CITY AND EXTENDING ON MILE IN BOTH THE NORTH AND SOUTH DIRECTIONS. PISMO STATE BEACH; 500 YARDS EAST OF OCEAN, 800 YARDS CWNW OF CAMPGROUND.	WEST OF OAK PARK BLVD AT JUNCTION WITH NOYES ROAD. POLYGON MAPPED BY CNDDB REPRESENTS SENSITIVE HABITAT Y FOUND ON PROJECT SITE; CLARKIA WAS FOUND WIDELY SCATTERED WITHIN THIS AREA. PART OF LOS ROBLES DEL MAR DEVELOPMENT. NORTH END OF PROPOSED LOS ROBLES DEL MAR DEVELOPMENT; WEST OF OAK PARK BLVD AT JUNCTION WITH NOYES ROAD. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB 1. 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DEVELOPMENT MAY THREATEN PLANT AT THIS SITE. PROPOSED LOS ROBLES DEL MAR RESIDENTIAL DEVELOPMENT WOULD IMPACT PLANTS FOUND HERE. DEVELOPMENT THREATENS; PROPOSEE MITIGATION WOULD AVOID IMPACTS TO THE SPECIES. HEAVY RECREATIONAL AND ORV USE. HEAVY RECREATIONAL AND ORV USE.	/ CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. S PLANTS OBSERVED AT THIS SITE IN 1995. AN 1895 COLLECTION BY SOWE FROM ARROYO GRANDE IS ALSO ATTRIBUTED TO THIS SITE. ABOUT 3000 PLANTS OBSERVED DURING 1995 CENSUS. PLANTS NOTED AS ""OCCASIONAL"" IN 2006. 10 PLANTS OBSERVED AT THIS SITE IN 1995. 1938 SCHREIBER COLLECTION AND 1990 KEIL COLLECTION ARE ALSO ATTRIBUTED TO D THIS SITE. THIS SPECIES IS APPARENTLY MORE COMMON ON NEARBY SITES. THIS OCCURRENCE WAS PREVIOUSLY A. WELLSII OCCURRENCE #7. SITE BASED ON A 1936 CARLSON COLLECTION. 1911 COLLECTIONS FROM PRICE CANYON ARE ALSO ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1967 GANKIN COLLECTION. NEEDS FIELDWORK. PRESENCE OF A POPULATION DOCUMENTED IN A 1976 PAPER. HOWEVER THIS PAPER ALSO NOTES THAT BEFTLES HAVE NOT BEEN FOUND ""FOR ABOUT 20 YEARS" (SINCE MID 1950'S?) AND MAY BE EXTIRPATED AT THIS SITE. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BA CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. 3 EGGS SEEN ON EACH OF TWO NESTS ON SAND DUNES IN 1965. DURING A MAY TO JULY 1978 SURVEY NO BIRDS WERE OBSERVED. HISTORICAL RECORDS. 3 COLLECTED 7 JUN 1916; 2 COLLECTED 31 JUL 1924; UNKNOWN NUMBER COLLECTED 12 JUN 1939; 6 COLLECTED 3 SEP 1955. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BA CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.
180 Calochortus obispoensis 181 Clarkia speciosa ssp. immaculata 182 Arctostaphylos pilosula 183 Horkelia cuneata var. puberula 184 Arctostaphylos rudis 185 Coelus globosus 186 Central Foredunes 187 Charadrius alexandrinus nivosus 188 Cicindela hirticollis gravida	Freshwater Marsh San Luis mariposa-lily Pismo clarkia Santa Margarita manzanita mesa horkelia sand mesa manzanita globose dune beetle Central Foredunes western snowy ploves sandy beach tiger bee	Arroyo Grande NE Arroyo Grande NE Arroyo Grande NE Pismo Beach Arroyo Grande NE Oceano Oceano r Pismo Beach	200 1995XXXX 1995XXXX UNKNOWN CITY OF PISMO 260 20060525 20060525 BEACH 200 1995XXXX 1995XXXX UNKNOWN 250 19360319 19360319 UNKNOWN 500 19671012 19671012 UNKNOWN 40 XXXXXXX DPR-PISMO SB 40 19801010 19801010 DPR-PISMO SB 120 1978XXXX 19650426 DPR-PISMO SB 10 19550903 19550903 DPR-PISMO SB	None None None None None None None None	None G: None G:	2 S2 44T1 S1 22? S227 44T1 S1 51 51 51 51 51 51 51 51 51 51	18.2 18.1 18.2 18.1 18.2 2.33	SB_RSABG; SB_SBBG BLM_S; SB_SBBG; USFS USFS_S BLM_S	MOUTH OF CANYON NUMBER 1 NEAR GROVER CITY, NORTH OF ARROYO GRANDE. NORTHWEST OF ARROYO GRANDE; 0.8-1.1 MILES NORTH OF HW. 101, WEST SIDE OF OLD OAK PARK ROAD. MOUTH OF CANYON NO. 1 NEAR GROVER CITY, NORTH OF ARROYO GRANDE. 1.1 MILES NE OF PISMO. 0.7 MILE SE FROM NOYES ROAD ON HIGHWAY 227, ARROYO GRANDE. PISMO BEACH. DUE WEST OF GRAND AVE IN GROVER CITY AND EXTENDING ON MILE IN BOTH THE NORTH AND SOUTH DIRECTIONS. PISMO STATE BEACH; 500 YARDS EAST OF OCEAN, 800 YARDS CWNW OF CAMPGROUND. PISMO BEACH. SOUTHWEST OF CIENEGA VALLEY & WNW OF DUNE LAKES ALON	WEST OF OAK PARK BLVD AT JUNCTION WITH NOYES ROAD. POLYGON MAPPED BY CNDDB REPRESENTS SENSITIVE HABITAT Y FOUND ON PROJECT SITE; CLARKIA WAS FOUND WIDELY SCATTERED WITHIN THIS AREA. PART OF LOS ROBLES DEL MAR DEVELOPMENT. NORTH END OF PROPOSED LOS ROBLES DEL MAR DEVELOPMENT, WEST OF OAK PARK BLVD AT JUNCTION WITH NOYES ROAD. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB 1. MILES NE OF THE TOWN OF PISMO BEACH ALONG PRICE CANYON ROAD. GIVEN ELEVATION IS 250 FEET WHICH SUGGESTS COLLECTION WAS NOT MADE IN CANYON BUT HIGHER UP ON SLOPES. COLLECTION LABEL SAYS ""O.7 MILE SOUTHWEST FROM NOYES ROAD ON STATE ROUTE 227" BUT HIGHWAY 227 DOES NOT GO IN A SW DIRECTION FROM ITS JUNCTION WITH NOYES RD. MAPPED BY CNDDB AS BEST GUESS 0.7 MILE SE FROM NOYES ROAD ON HIGHWA LOCATION GIVEN ONLY AS PISMO BEACH, MAPPED TO THE CENTRAL FOREDUNES COMMUNITY WEST OF GRAND AVE IN GROVER CITY AND EXTENDING I MILE TO THE NORTH AND SOUTH. E AREA BORDERED BY THE BEACH TO THE WEST AND DUNE SCRUB TO THE EAST. G TWO AREAS OF FOREDUNE VEGETATION BORDERED BY OPEN BEACH AND ACTIVE SAND DUNES.	GROWING AMONG CHAMISE CHAPARRAL (HOLLAND AND OYLER, 1995) WITH ARTEMISIA CALIFORNICA, RHAMNUS CALIFORNICA, AND BACCHARIS PILULARIS (SCHREIBER, 1938). THE RARE CLARKIA SPECIOSA SSP. IMMACULATA AND ARCTOSTAPHYLOS WELLSII ARE FOUND NEARBY. PLANTS ALONG THE EDGE OF THE OAK WOODLAND THROUGH THE CHAPARRAL, AND IN GRASSLAND. WITH NASSELLA PULCHRA AND AVENA BARBATA. ARCTOSTAPHYLOS WELLSII AND CALOCHORTUS OBISPOENSIS ALSO REPORTED FROM THIS SITE. 160–360 FT ELEVATION. GROWING AMONG COASTAL LIVE OAKS (HOLLAND AND OYLER, 1995) AND IN CHAPARRAL WITH ARTEMISIA CALIFORNICA, RHAMNUS CALIFORNICA, AND BACCHARIS PILULARIS (SCHREIBER, 1938). THE RARE CLARKIA SPECIOSA SSP. IMMACULATA IS FOUND NEARBY. ABRONIA LATIFOLIA, A. MARITIMA, MALACOTHRIX INCANA, CAKILE CARPROBROTUS, CALYSTEGIA SOLDANELLA, AMBROSIA CHAMISSONIS. DOTTO FOR FORDUNE COMMUNITY. ABRONIA LATIFOLIA, A. MARITIMA, MALACOTHRIX INCANA, CAKILE CARPROBROTUS, CALYSTEGIA SOLDANELLA, AMBROSIA CHAMISSONIS. 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MAPPED BY CNDDB AS 3 POLYGONS ACCORDING TO 1981 AND 1994 FOREDUNES. DOMINANTS IN THE VICINITY OF THE NORTHERN OIL DEVELOPMENT; DRILLING SITES ARE 1981 AND 1986 BUT VANDERWIER MAPPED 3 COLONIES IN THIS MAPS. LAND ONCE PRIVATELY OWNED BUT NOW APPEARS TO BE POLYGON ARE AMBROSIA CHAMISSONIS AND ABRONIA LONG ESTABLISHED IN AREA: ORVS. SITE VICINITY IN 1981, NORTHERN POLYGON: 7 LIVING AND 4 GUADALUPE OIL FIELD. ABOUT 0.6 TO 1.3 AIR MILES NNE OF THE GUADALUPE WITHIN THE GUADALUPE-NIPOMO DUNES PRESERVE (THE NATURE LATIECITA WITH SOME CAKILE MARITIMA AND LARGE SUBJECT TO STRONG WINDS SHIFTING SENESCENT PLANTS ORSERVED IN 1994 INCLUDES FORMER BLM S: SB SBBG STRETCHES OF CARPOBROTUS IN SOME AREAS. 192 Cirsium rhothophilun MOUTH OF THE SANTA MARIA RIVER. OCCURRENCE #26. 1000+ PLANTS SEEN IN 1983, AROUT 100 PLANTS SEEN IN EASTERN FHRHARTA TAKING OVER, PART OF 3 POLYGONS MAPPED ACCORDING TO A 1983 MCLEOD MAP AND A POLYGON IN 1987, WESTERN POLYGONS EXTIRPATED BY HOUSING 1987 DUNN MAP. INCLUDES COLLECTIONS FROM "BETWEEN PISMO DEVELOPMENT. BASED ON 2015 AERIAL PHOTOS, EASTERN AREA MOWED REGULARLY. GROVER BEACH: EAST AND WEST SIDES OF 12TH STREET AT AND ARROYO GRANDE. 1.5 MILES FROM ARROYO GRANDE" AND COASTAL SCRUB/OAK WOODLAND IN SAND. ASSOCIATED WITH DEVELOPMENT HAS EXTIRPATED MOST POLYGON MAY HAVE ALSO BEEN ELIMINATED BY DEVELOPMENT: 19870523 19870523 PVT OMUS, ERODIUM, ERICAMERIA ERICOIDES, ETC. ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1983 COLLECTION ROADSIDE OCCURRENCE, DITCH BY BEVIER; PLANTS UNCOMMON. ELVIN HAS VISITED SITE NUMEROUS TIMES (INCLUDING 2005 AND 2013) BUT NEVER SEEN MAINTENANCE SURROUNDED BY INTENSIVE AG AND DEVELOPMENT; WEST MAIN STREET. ONE-HALF MILE WEST OF WEST MAIN IN THE ROADSIDE. MAPPED ALONG WEST MAIN STREET 0.5 MILE Guadalupe 194 Cirsium scariosum var. loncholenis La Graciosa thistle 80 20170321 19830625 UNKNOWN Endangered Threatened G5T1 1B.1 STREET AND GUADALUPE. IN GUADALUPE WESTSIDE. WEST OF GUADALUPE STREET. GROWING IN THE ROADSIDE ON SANDY TO LOAMY SOIL. LIKELY EXTIRPATED. THIS SPECIES HERE, NO PLANTS SEEN BY KOERON IN 2017. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB
ALONG HIGHWAY 1 AROUND GIVEN ELEVATION OF 150 FT, WHICH IS SAND/CLAY AREA CONSISTING OF FORMER DUNES WITH MUCH ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 2003 195 Frigeron blochmania Blochman's leafy daisy Oceano 150 20030729 20030729 UNKNOWN 1B.2 BIM S 0.6 MILE SOUTH OF NIPOMO HILL IN ARROYO GRANDE AREA. ABOUT 0.6 MILE SOUTH OF NIPOMO HILL. LUPINUS ARBORFUS AND L. CHAMISSONIS. COLLECTION BY HELMKAMP. SITE IS A WORKING OIL FIELD AND IS LOW, FAIRLY STABLE DUNES. ASSOCIATED WITH LUPINUS HUNDREDS OF PLANTS OBSERVED IN 1991. PLANTS ARE IN DENSE SOUTHWEST OF SANTA MARIA ALONG BLACK ROAD, ABOUT 0.5 ARBOREUS, DISTICHLIS SPICATA, AND CAMISSONIA GRAZED BY HORSES, COASTAL 196 Erigeron blochmania 187 10010522 10010522 DVT 1R 2 BIM S MILE NORTH OF RETTERAVIA ROAD WEST SIDE OF BOAD IN OIL FIELD CHEIRANTHIEOLIA ACHEDITICT CONSTRUCTION CLUMPS ABOUT 4-10 EFFT IN DIAMETER Blochman's leafy daisy Santa Maria ROAD ALONG JACK LAKE, APPROXIMATELY 9 KM SOUTH OF EXACT LOCATION UNKNOWN. MAPPED BY CNDDB ALONG DIRT cnastal gonsefont 52 19660515 19660515 LINKNOWN 1B.2 ARROYO GRANDE. ROAD TO THE SOUTH, NEAREST TO JACK LAKE AND EDGE OF DUNES THREAT. COLLECTION. MAPPED BY CNDDR AS 4 POLYGONS ACCORDING TO A 1981 HOWALD S POLYGON SHOWN ON 1981 HOWALD MAP. NORTHERN POLYGON: MAP (SOUTH POLYGON) AND 2015 ROWLAND DIGITAL DATA (3 OFF LIMITS TO ORV, BUT HAS 100+ IN 1983, 85 IN 1998, 23 IN 2008, 7 IN 2012, 688 IN 2013, NORTH POLYGONS), SITE ONCE OWNED BY UNION OIL: CURRENTLY CARPOBROTUS CHILENSIS, CAKILE MARITIMA, AMBROSIA SUSTAINED DAMAGE FROM PAST ABOUT 315 IN 2014, TWO MIDDLE POLYGONS: 280 PLANTS IN 1998. ABOUT 0.5 TO 1.2 AIR MILES SSW OF OSO FLACO LAKE, SOUTH OF PART OF USFWS-GUADALUPE-NIPOMO DUNES & DPR-OCEANO CHAMISSONIS, CAMISSONIA CHEIRANTHOIDES, MALACOTHRIX ACTIVITIES. AMMOPHILA ARENARIA 169 IN 2008, 542 IN 2012, ~1623 IN 2014. INCLUDES FORMER EC 40 20140618 20140618 DPR USEWS BLM S; SB SBBG INCANA, AND AMMOPHII A ARENARIA. INVADING AREA, PIG ROOTING (2013). WET DRAINAGE DITCHES AT EDGE OF IRRIGATED FIELDS WITH BASE OF NIPOMO MESA 0.25 MILE SOUTHWEAST OF HALCYON EXACT LOCATION UNKNOWN. MAPPED ALONG ROAD HEADING LOWS AND STINGING NETTLE IN SOIL RELATED TO OLD ONLY SOURCE OF INFORMATION FOR THIS SITE IS 2003 COLLECTION 1B.2 BLM S ROAD ALONG AN UNNAMED ROAD NEAR THE RAILROAD TRACKS. SOUTHWEST TOWARDS RR TRACKS FROM HALCYON ROAD. 199 Erigeron blochmania Blochman's leafy daisy Oceano 45 20031008 20031008 UNKNOWN SAND DUNES. BY HEI MKAME ONLY SOLIRCE OF INFORMATION FOR THIS SITE IS A 1993 IONES. COLLECTION. ID IS UNCERTAIN FOR THIS SPECIMEN, AND COUNTY PART WAY UP STEEP, BRUSHY SLOPE ALONG SOUTH SIDE OF AND THE SOUTHERN PACIFIC RAILROAD OVERPASS, ARROYO COULD BE TOO FAR NORTH FOR THE SPECIES RANGE. NEEDS 200 Symphyotrichum defoliatur 19931118 19931118 LINKNOWN 1B.2 BLM_S; USFS_S MOLINTAIN VIEW ROAD COASTAL ADOBE AND AGRICULTURAL SAND FIFI DWORK FEMALE COLLECTED 7 SEPT 1965. 1 MILE NORTH OF OCEANO BEACH DUNES MAPPED FOUND ALONG SAND DUNES. 10 19650907 19650907 DPR-PISMO SB 201 Ablautus schlingeri Oso Flaco robber fly Oceano DUNE SLACK AREA IN CENTRAL DUNE SCRUB WITH CAREX PRAEGRACILIS, ANEMOPSIS CALIFORNICA, PLANTAGO SUBNUDA, URTICA DIOICA, SALIX LASIOLEPIS, DISTICHLIS 137 PLANTS IN 1990 31 IN 1995 IN 3 SURPOPS LINKNOWN CATTLE GRAZING GOPHER ACTIVITY ABOUT 0.5 MILE NORTH OF SANTA MARIA RIVER, NEAR BEND IN FERAL PIGS THREATEN. POTENTIALLY NUMBER IN 2000-2002. 2240 IN 2006, 1558 IN 2007, 1005 IN 2008 PVT-UNOCAL LINOCAL GUADALUPE OIL FIELD: APPROXIMATELY 3.0 AIR MILES. RIVER, MAPPED BY CNDDR AS 4 POLYGONS ACCORDING TO A 2017 SPICATA, BACCHARIS PILULARIS, VUI PIA MYUROS, ISOCOMA THREATENED BY OIL DEVELOPMENT 280 IN 2009, 240 IN 2010, 247 IN 2011, 649 IN 2012, 2812 IN 2013. PADRE ASSOCIATES MAP.
SEVERAL COLONIES REPORTED & MAPPED SINCE 1984 INCL S EDGE MENZIESII, AND CONIUM MACULATUM. 80 2017XXXX 2017XXXX NW OF THE JUNCTION OF HWYS 1 AND 166 AT EDGE OF FRESHWATER MARSH VEGETATION. INLAND FROM OF LAKE, ALONG FITHER SIDE OF CAUSEWAY & ALONG NEARM OF LAKE EDGE AMONG TYPHA LATIFOLIA WITH SPARGANIUM ORVS. RECREATION, DREDGING FOR AG., W. OF ROAD, N. SHORE: 100 IN 1984: 300 IN 1989: 0 IN 1992 & 1998. LAKE. LAST PURE N. GAMBELII SEEN ~1986; ALL NOW SHOW EURYCARPUM, AND CAREX CUSICKII. ALSO IN WILLOW SHIFTING SANDS, FLUCTUATING WATER W OF ROAD, S SHORE: 10 IN 1988; 68 IN 1998. E OF ROAD, NE OSO FLACO LAKE, ALONG THE NORTHEAST & SOUTH EDGES OF OCEANO DUNES INTROGRESSION W/ N. OFFICINALE, PURE N. GAMBELII MAY BE RIPARIAN THICKET WITH SALIX LASIOLEPIS, BERULA ERECTA. LEVELS, & INVASIVES, INTROGRESSION IS SHORE: <5 IN 1988: 0 IN 1989: >150 IN 1998, E OF ROAD, S SHORE 20 20140510 20140510 5VPA 1R 1 SB RSABG: SB SBBG THE LAKE, SOUTH OF OCEANO. EXTIRPATED HERE. AND BURIS UPSINIS SATURATED SOUS >400 IN 1998. SEEN IN 1999, 2001, 2005, 2010, & 2014. ONCE PART OF A 1,000 ACRE BLUE GUM EUCALYPTUS monarch - California PLANTATION, SET ASIDE AS PRESERVE WHEN SURROUNDING 60K OBSERVED IN 1999-2000. PRIOR TO DEVELOPMENT, 50 IN 2005-DEVELOPMENT OF SURROUNDING MONARCH DUNES BUTTERFLY HABITAT; SE SIDE OF VIA CONCHA ALSO KNOWN AS ""WOODLANDS VILLAGE"" SITE. XERCES SITE #3167. LAND WAS DEVELOPED IN THE EARLY 2000S. UNDERGOING 06. THANKSGIVING COUNTS/YEAR: 164/2009, 50-1,500/2010, 1,075 204 Danaus plexippus pop. 1 population 300 201411XX 201411XX UNKNOWN USFS_S RD, ABOUT 0.4 MI E OF THE HWY 1 JUNCTION, NIPOMO MESA. MAPPED TO 2014 SHAPEFILE. RESTORATION TO IMPROVE MONARCH HABITAT. HABITAT. 10K/2011, 3,100-5K/2012, 5,150/2013, 4,255-5,125/2014. ALSO KNOWN AS HALCYON-HELENA SITE, LOCATED AT 1783 HELENA OVERWINTERING SITE IN PLANTED ROWS OF EUCALYPTUS ON 1000 OBSERVED, 1990-91, 5K, 1992-93, 2500, 1993-94, 4K, 1994-95, AVENUE, ON THE HILL SOUTH OF THE SOUTH END OF HELENA A SMALL HILL. PREVIOUSLY THOUGHT TO BE AN AUTUMNA L5K, 3 JAN 1996. 14K, 7 JAN 1998. 3063, DEC 2002. COUNT/YEAR: "HALCYON HILL" SITE, AT THE SOUTH END OF HELENA AVENUE. AVENUE, XERCES SITE #3067, MAPPED TO PROVIDED SHAPEFILE POSSIBLE THREAT FROM PERIODIC TREE 6400/2003, 0/04, 4100/05, 2460/06, 177/07, 825/08, 622/09, SITE, 2003 SURVEYORS NOTED THAT SOME NATURAL GAPS 100 201411XX 201411XX PVT-HALCYON None USFS S HALCYON SOUTH OF ARROYO GRANDE HAD DEVELOPED WITHIN THE STAND 4693/10 7547/11 4255/12 2769/13 3750/14 205 Danaus nlevinnus non 1 G4T2T3 5253 (2014) CLITTING (FIREWOOD?) (1998) VERY FEW PLANTS FOUND IN 1964. AREA VISITED IN 1987 BUT NO PLANTS FOUND; LAKE OVERGROWN SO PRIME HABITAT NO LONGER EXISTS NO PLANTS ORSERVED IN 1998: RIPARIAN WILLOW COMMUNITY HAD EXPANDED INTO WHAT WAS PREVIOUSLY 206 Arenaria paludicola marsh sandwort Oceano 100 19980519 19640814 UNKNOWN 1B.1 SB SBBG JACK LAKE, WEST OF NIPOMO MESA. TANGLED AMONG RUSHES. ARENARIA HABITAT. MAIN SOURCE OF INFORMATION FOR THIS SITE IS A 1967 CALL COLLECTION. A 2001 WHITE COLLECTION FROM "PRICE CYN, WHERE ORMONDE RD GOES LINDER RR AFTER TURNOFF FROM MAPPED AS BEST GUESS BY CNDDB IN PRICE CANYON, AROUND INLAND FROM PISMO BEACH, UNION PACIFIC ROW, USGS OUAD ON N-FACING ROCKY HILLSIDE. SB_RSABG PRICE CYN ROAD ARROYO GRANDE NE" IS ALSO ATTRIBUTED HERE. NEEDS VICINITY OF MISTY GLEN PL AT WILLOW RD, ABOUT 0.25 MILE THIS AREA WAS UNDEVELOPED THROUGH 1994, AND THEN northern California 208 Anniella pulchra legless lizard Oceano 422 19860223 19860223 PVT USFS S WEST OF POMEROY RD. NIPOMO. DEVELOPED AS RESIDENTIAL HOMES BY THE EARLY 2000S. DEVELOPMENT. ONE COLLECTED IN EER 1985, AND ONE COLLECTED IN EER 1986 HABITAT DESCRIBED AS COASTAL DUNE SCRUB WITH SANDY USFWS-SOMEWHAT OF A DRIVEWAY BETWEEN AGRICULTURAL FIELDS SOILS. AFRIAL IMAGES SHOW THAT THE AREA TO THE NORTH IS GUADALUPE 0.2 MILES SSW OF OSO FLACO LAKE RD ABOUT 2.4 MI WNW OF GATED AND SIGNED BY THE USFWS, LIKELY PROVIDING ACCESS TO PRIMARILY AGRICULTURE, WHEREAS AREAS TO THE SOUTH northern Californi HWY 1, NORTH SIDE OF GUADALUPE DUNES, WEST OF NIPOMO. THE DUNES. AND WEST ARE COASTAL DUNES. 43 20141218 20141218 NIPOMO DUNES None USFS_S 1 FOUND AND PHOTOGRAPHED ON 18 DEC 2014. legless lizard NORTH SIDE OF BLACK LAKE CANYON JUST FAST OF HWY 1. ABOUT 0.25 MILES NORTH OF CALLENDER RD AT HWY 1, SOUTH 210 Anniella pulchra SEVERAL COLLECTED IN 1982 AND 1987. 60 19870314 19870314 UNKNOWN legless lizard USFS_S OF OCEANO. SOUTH-FACING SLOPE OF UNSTABILIZED DUNE IN ASSOCIATION WITH SALIX LASIOLEPIS, AMBROSIA CHAMISSONIS, AND MAPPED AS BEST GUESS BY CNDDB AROUND THE SOUTH-FACING SITE IS BASED ON A 1993 HAZEBROOK COLLECTION; PLANTS NOTED 1B.2 NORTH SIDE OF LITTLE OSO FLACO LAKE. 211 Erigeron blochmaniae Blochman's leafy daisy Oceano 0 19930109 19930109 DUNES SVRA BLM S SLOPE ON THE NORTH SIDE OF OSO FLACO LAKE. JUNCUS LESEURII. AS ""RARE"" IN 1993 orthern Californi SOUTH OF ZENON WAY AND NORTH OF BLACK LAKE CANYON 2 USFS S AIR MILES EAST OF HWY 1, CALLENDER legless lizard BEFORE DEVELOPMENT AREA WAS DESCRIBED AS A FLAT OPEN FIFI D WITH NON-NATIVE GRASS & LIMITED BUSH LUPINE, THREE WERE RECOVERED DEAD DURING WILDLIFE SURVEYS ON 5 MAPPED NON-SPECIFICALLY WITH RESPECT TO PROVIDED MAP AND WITH FINE, SANDY SOILS. A SEDIMENT BASIN WAS ABOUT 0.75 MILE NNE OF BETTERAVIA RD AT BLACK RD, 2.75 NOV 2009. TOPSOIL SALVAGE ATTEMPTED TO MINIMIZE IMPACT IN northern Californi MILES WNW OF HIGHWAY 135 AT BETTERAVIA RD. WEST OF DESCRIPTION, AND AERIAL VIEW OF AREA WHERE A SEDIMENT CONSTRUCTED & THE TOPSOIL WAS MOVED TO ADJACENT CONSTRUCTION: POTENTIAL FUTURE OCT 2010 WHERE FOUR LIVE INDIVIDUALS WHERE KNOWN TO BE 183 201010XX 201010XX PVT USFS_S **SANTA ΜΑΡΙΑ** BASIN WAS CONSTRUCTED SITE. PRIMARILY SURROUNDED BY AGRICULTURE. DEVELOPMENT OF AREA MOVED, AND MANY MORE ASSUMED IN RELOCATED SOIL MAPPED BY CNDDB ACCORDING TO COORDINATES PROVIDED BY A FEW INDIVIDUALS OBSERVED BY HOLSTEIN IN 1969. PLANTS NOT HOLSTEIN IN 2017 (INDICATING THE LOCATION OF HIS 1969) SEEN IN 1976 OR 1986 WETLAND AROLIND PONDS NEAR PISMO OBSERVATION). A 1910 CONDIT COLLECTION FROM ""OCEANO"" IS GROWING IN SAND ON LEVEL GROUND IN SMALL OPENINGS IN ICEPLANT HAS TAKEN OVER THE AREA STATE BEACH WERE SEARCHED IN 1990, NO SUITABLE HABITAT PISMO STATE BEACH; NW OF THE JUNCTION OF PIER AVENUE FOUND. NO PLANTS OBSERVED BY SKINNER IN 2017. 214 Cirsium scariosum var. loncholepis La Graciosa thistle 10 2017XXXX 1969XXXX UNKNOWN Threatened G5T1 1B.1 AND NORSWING DRIVE. ALSO ATTRIBUTED HERE. ARROYO WILLOW FOREST. ACCORDING TO POWELL. COLLECTED FROM PRICE CANYON IN FER 1960, FOLIND DEAD W SIDE OF PRICE CANYON ROAD ABOUT 1.25 AIR MILES SSW OF PART OF ARROYO GRANDE OIL FIELD; 2 MILES ESE OF INDIAN KNOB. DOMINANT PLANTS WERE NON-NATIVE GRASSES, COAST LIVE EXTRACTION ON 29 APR 2011; POPULATION ESTIMATE UNKNOWN OAK, POISON OAK, AND HUMMINGBIRD SAGE. SURROUNDING OIL EXTRACTION, BRUSH CLEARING, AREA USED FOR OIL EXTRACTION. AND GRADING. ITS JUNCTION WITH HWY 227 (EDNA RD), 3 MILES N OF PISMO COLLECTION FROM FEB 1960 LABLED ONLY AS ""PRICE CANYON"" BUT AVAILABLE SUITABLE HABITAT IN THE AREA SUGGESTS MORE USFS S NDIVIDUALS LIKELY PRESENT. legless lizard SANDY SOIL DEGRADED COASTALLIVE OAK WOODLAND WITH VELDT GRASS UNDERSTORY, ASSOCIATED WITH CEANOTHUS FEWER THAN 50 DI ANTS ORSERVED IN THE VICINITY IN 1000 IMPRESSUS, ARTEMISIA CALIFORNICA, ERICAMERIA ERICOIDES, AREA HAD BEEN RECENTLY WIDENED ""UNCOMMON"" AT MAPPED SITE IN 1999. NEED MAP DETAIL FOR QUERCUS AGRIFOLIA, ADENOSTOMA FASCICULATUM, & AND PAVED WHEN SURVEYED IN 1990. THIS AREA. A 1938 MCMINN COLLECTION FROM ""ABOUT 3 MILES 220 SUMMIT STATION ROAD, ARROYO GRANDE, NIPOMO MESA. MAPPED AROUND ADDRESS PROVIDED. NEARBY HOUSING CONSTRUCTION NW OF NIPOMO"" IS ALSO ATTRIBUTED TO THIS SITE SOUTH SLOPE OF NIPOMO MESA, 0.25 MILES SE OF HWY 1 AT PROFESSIONAL PKWY, 0.75 MILES NE OF OSO FLACO RD AT HWY 1, SOUTH SLOPE OF NIPOMO MESA, NORTH SIDE OF SANTA USFS S ARIA VALLEY WHICH IS ENTIRELY USED FOR AGRICULTURE ONE COLLECTED ON 24 OCT 1987. legless lizard LANDOWNER PULLED PLANTS SO THAT UNKNOWN NUMBER OF PLANTS OBSERVED IN 2000, UNCERTAIN HE COULD OBTAIN PERMIT TO BUILD ON WHETHER THE DEVELOPMENT OCCURRED IN THE AREA WHERE ON THE CORNER OF STANTON ROAD AND CHESAPEAKE PLACE, EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB IN SITE. DEVELOPMENT HAS OCCURRED THE CLARKIA PLANTS WERE KNOWN TO OCCUR. NEEDS 218 Clarkia speciosa ssp. immaculata Pismo clarkia 375 2000XXXX 2000XXXX PVT G4T1 1B.1 SB RSABG: SB SBBG NIPOMO MESA. THE VICINITY OF GIVEN INTERSECTION. SINCE THE VIOLATION. FIELDWORK. Oceano COASTALLIVE OAK WOODLAND (OUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CYN MAPPED ACCORDING TO 2015 KEIL COORDINATES. THE ADENOSTOMA FASCICULATUM. CERCOCARPUS BETULOIDES. INVASION BY VELDT GRASS & OTHER ABOUT 10 PLANTS OBSERVED IN 2015; ONLY DRY SKELETAL RD AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTER COORDINATES ON FIELD SURVEY FORM ARE DIFFERENT THAN THOSE CEANOTHUS CUNEATUS VAR. FASCICULATUS). SANDY SOILS. CYN. ON COLLECTION LABEL; MAPPED TO INCLUDE BOTH POINTS. GENTLE TO MODERATE SLOPES. WEEDS. LANDOWNER HAS DONE MAJOR REMAINS WERE FOUND. PLANTS GROWING IN AREA THAT HAD 2B.2 BEEN CLEARED OF SHRUB COVER. 219 Senecio aphanactis chaparral ragwort Grande N 440 20150619 20150619 PVT UNAUTHORIZED GRADING.

ON CENTRAL COASTAL FOREDLINE AND NORTHERN

TWO SOLITHERN POLYGONS: 1 PLANT ORSERVED IN THIS AREA IN

												SOME INDIVIDUALS MAY STILL PERSIST IN MARGINAL HABITAT,		
220 Anniella pulchra	northern California legless lizard	Oceano	102 19870327 19870327 PVT	None	None	G3	S3	SSC	USFS_S	VICINITY OF PRESENT DAY MONADELLA ST ABOUT 0.5 MILES SSE OF BLACK LAKE CANYON AT HWY 1, CALLENDER.		BUT IT'S LIKELY DEVELOPMENT HAS DIMINISHED THIS POPULATION.	DEVELOPMENT.	TWO WERE COLLECTED ON 27 MAR 1987.
220 Anniena puicina	northern California	Oceano		None	None	93	33		_	SOUTH OF HWY 1 AT WINTERHAVEN WAY, ABOUT 1 AIR MILE SSE		FOFULATION.	DEVELOPMENT.	
221 Anniella pulchra	legless lizard	Oceano	130 19870404 19870404 UNKNOWN	None	None	G3	S3	SSC	USFS_S	OF BLACK LAKE CANYON AT HWY 1, CALLENDER.		FRESHWATER MARSH WITH SALIX LASIOLEPIS, MYRICA		ONE COLLECTED ON 4 APR 1987. TRANSPLANTED HERE IN 1998. 14 FOUND IN SEPT 1998, 11 IN MAY
											E EDGE OF ""BASIN G"". 3 PLANTS FROM 8"" POTS TRANSPLATED 4-	CALIFORNICA, SPARGANIUM EURYCARPUM SSP. EURYCARPUM,		1999, & 8 IN NOV 1999. REPEATED SURVEYS SINCE THEN, MOST
											15-98 & 12 PLANTS FROM 4"" POTS ON 5-16-98. ALL DERIVED FROM SINGLE CLONE OF ARENARIA PALUDICOLA PREVIOUSLY LOCATED IN		APPARENT EUTROPHICATION AND BIOSTIMULATION IN WATERSHED, GON	RECENTLY IN 2005, FOUND NO PLANTS; PRESUMED EXTIRPATED IE (ELVIN, 2007). HABITAT CONVERSION DUE TO HIGH NUTRIENT
222 Arenaria paludicola	marsh sandwort	Oceano	120 2005XXXX 19991111 PVT	Endangered	d Endange	ered G1	S1 1B.1		SB_SBBG	BLACK LAKE CANYON AT GUADALUPE ROAD, SOUTH OF OCEANO.	""BASIN H"" OF BLACK LAKE. TRANSPLANT W/IN 1/4 MI OF EO #10 &		BY 2007 OR EARLIER.	LOAD.
													COMPETITION FROM OTHER PLANTS.	SEVERAL RAMETS OBSERVED GROWING VEGETATIVELY IN 1998, LIKELY ASEXUAL REPRODUCTION OF RAMET TRANSPLANTED TO D.
													APPARENT EUTROPHICATION AND	GURNEY'S PROPERTY IN 1995. REPEATED SURVEYS SINCE, MOST
223 Arenaria paludicola	marsh sandwort	Oceano	120 2005XXXX 19980405 UNKNOWN	Endangered	d Endange	red G1	S1 1B.1		SB_SBBG	BLACK LAKE CANYON, IN VICINITY OF PIPELINE CROSSING, SOUTH OF OCEANO.	IN A SMALL BACKED-UP POND IN BLACK LAKE CANYON. ADJACENT TO WHERE CANYON HAS BEEN CLEARED FOR PIPELINE CROSSING.		BIOSTIMULATION IN WATERSHED. GON BY 2007 OR EARLIER.	IE RECENTLY IN 2005, FOUND NO PLANTS. PRESUMED EXTIRPATED (ELVIN, 2007).
									·			HABITAT CONSISTS OF A RESERVOIR, SURROUNDED BY		
												DISTURBED GRASSLANDS, DOMINATED BY NON-NATIVE GRASSES/ANNUAL HERBS. DOMINANTS ALONG THE BANK		
	California red-legged									EAST OF THE NORTH END OF ARROYO GRANDE VALLEY. 0.5 MILE		INCLUDE HEMIZONIA SPP, HIRSCHFELDIA INCANA, ARTEMISIA	THREATENED BY LANDOWNER'S PLANS	
224 Rana draytonii	frog	Grande NE	525 20020903 20020903 PVT	Threatened	d None	G2G3	S2S3	SSC	IUCN_VU	SE OF INTERSECTION OF ORCUTT ROAD AND LOPEZ DRIVE.	1.3 MILES SOUTHWEST THE INTERSECTION OF HIGHWAY 1 AND THE	CALIFORNICA. SCIRPUS SPP DOMINATES POND EDGE.	TO DRAIN AND FILL THE RESERVOIR.	1 ADULT AND 20 JUVENILES OBSERVED ON 3 SEP 2002.
	California tiger									NORTHEAST SLOPE OF CASMALIA HILLS, 1.4 MILES WEST OF		HABITAT CONSISTS OF A SMALL, VERNAL SAG POND		
225 Ambystoma californiense	salamander	Guadalupe	900 20060424 20060424 PVT	Ihreatened	d Threaten	ned G2G3	S2S3	WL	IUCN_VU	WALDORF.		SURROUNDED BY GRASSLAND. HABITAT CONSISTS PRIMARILY OF OAK		5 LARVAE OBSERVED ON 24 APR 2006.
												WOODLAND/GRASSLAND/COASTAL SCRUB, DOMINATED BY		_
		Arroyo								CANYON DE LOS ALISOS, 0.3 MILE NORTH OF HUASNA ROAD, 4		MOCK HEATHER AND TAR PLANT; SLOPE ~15%. SITE CONTAINS PATCHES OF OPEN GROUND, BUT SOIL NOT CHARACTERIZED AS		Y
226 Phrynosoma blainvillii	coast horned lizard	Grande NE	330 20030821 20030821 PVT	None	None	G3G4	S3S4	SSC	BLM_S; IUCN_LC	MILES NE OF ARROYO GRANDE.		"SANDY" SOIL.	DEVELOPMENT.	1 JUVENILE OBSERVED ON 21 AUG 2003.
												HABITAT CONSISTS OF OPEN, NON-NATIVE GRASSLAND WITH SCATTERED COAST LIVE OAK (QUERCUS AGRIFOLIA)		
												WOODLANDS IN THE RAVINES. PRICE CANYON ROAD		
227 Taxidea taxus	American badger	Arroyo Grande NE	130 20020708 20020708 UNKNOWN	None	None	G5	S3	SSC	IUCN_LC	PRICE CANYON ROAD, 3 MILES NORTH OF PISMO BEACH.		PARALLELS PISMO CREEK, A RIPARIAN CORRIDOR WITH A MATURE VEGETATION STRUCTURE.	THREATENED BY ROADWAY TRAFFIC.	1 JUVENILE BADGER KILLED ON PRICE CANYON ROAD ON 8 JUL 2002.
	_								- · · - ·					MANY MONARCHS OBSERVED FLYING LATE IN THE DAY (4:30 PM)
	monarch - California overwintering									NORTH SIDE OF CALVIN COURT JUST EAST OF THE S 4TH STREET	NEAR (EAST OF) THE NORTH PISMO STATE BEACH CAMPGROUND, A PROVEN MAJOR COLONY. XERCES SITE #3063, MAPPED TO PROVIDED			ON 18 DEC 1982, INDICATING THE PRESENCE OF A SUBSTANTIAL CLUSTER SITE. OBSERVER NOTED THAT IT "DESERVES MORE
228 Danaus plexippus pop. 1	population	Oceano	20 19821218 19821218 UNKNOWN	None	None	G4T2T3	S2S3		USFS_S	JUNCTION, GROVER CITY.		HABITAT IS PLANTED EUCALYPTUS.		INVESTIGATION;" STILL NEEDS FIELD WORK.
	monarch - California overwintering		LUCIA MAR UNIFIED SCHO	OL						ALONG PRICE CANYON RD BETWEEN BELLO ST AND SOLAR WAY.	"PRICE & SOLAR" SITE, XERCES SITE #3098. MAPPED TO PROVIDED			THANKSGIVING COUNT/YEAR: 40/2001, 184/2002, 50/2003, 210/2004, 20/2005, 150/2006, 38/2007, 26/2008, 0/2009, 162/2010,
229 Danaus plexippus pop. 1	population	Pismo Beach	60 201411XX 201411XX DIST	None	None	G4T2T3	S2S3		USFS_S	PISMO BEACH (TOWN).	SHAPEFILE (2014).			20/2011, 238/2012, 0/2013, 87/2014.
											AKA "PISMO BEACH, MAINTENANCE YARD COMPLEX." ORIGINAL SITE WAS LARGE PINE NEXT TO THE OFFICE; NOT USED SINCE 1992-93.			50 OBSERVED ON 11 FEB 1987, 10K IN 1990, NONE OBS, NOV 1992.
	monarch - California										ALTERNATE SITES WERE EUCALYPTUS ROW IN FRONT OF HOUSING &	WINDROW ALONG MEADOW CREEK WAS USED ALTERNATELY	ORIGINAL ROOST SITE DESTROYED BY	
230 Danaus plexippus pop. 1	overwintering population	Oceano	DPR-OCEANO 25 201311XX 19971128 DUNES SVRA		None	G4T2T3	S2S3		USFS_S	PISMO DUNES SVRA DISTRICT OFFICE, AT THE NW CORNER OF HWY 1 AT PISMO STATE BEACH RD, W OF GROVER CITY.		THEREAFTER. NORMALLY TEMPORARY, BUT CLUSTERS PERSISTED DURING THE 1987-88 SEASON.	TREE-TRIMMERS DURING THE 1987-88 SEASON.	96. 700 OBS ON 28 NOV 1997. NONE IN 1998 & 99. 4 IN 2000. 0 IN 2001, 02, 03, 04, 05, 07, 08, & 13.
The second secon	, , , , , , , , , , , , , , , , , , , ,									,		HABITAT CONSISTS OF 3 DEEP POOLS IN TALLY HO CREEK,		
	California red-legged	Arrovo								TALLY HO CREEK, NEAR THE ENDS OF MAY STREET AND PASEO		SURROUNDED BY A WILLOW RIPARIAN CORRIDOR, WITH WILLOW BRANCHES HANGING INTO THE POOLS AND KIKUYU	THREATENED BY FERAL CATS, EROSION , SEDIMENTATION, BULLFROGS, AND	ADULT FROGS OBSERVED IN 1999, 2000, AND 2001. 1 ADULT AND
231 Rana draytonii	frog	Grande NE	150 20020802 20020802 PVT	Threatened	d None	G2G3	S2S3	SSC	IUCN_VU	STREET, ARROYO GRANDE.	BULLFROGS PRESENT IN AN UPSTREAM POOL / DEVELOPMENT.	GRASS ON THE BANKS.	DEVELOPMENT.	10 JUVENILE FROGS OBSERVED ON 2 AUG 2002.
232 Anniella pulchra	northern California legless lizard	Oceano	DPR-OCEANO 44 20180907 20180907 DUNES SVRA	None	None	G3	S3	SSC	USFS_S	1 MILE WEST OF BLACK LAKE, OCEANO DUNES STATE VEHICULAR RECREATION AREA, WEST OF NIPOMO.		COASTAL SAND DUNE SCRUB.		3 FOUND AND PHOTOGRAPHED ON 8 MAR 2018. 1 FOUND AND PHOTOGRAPHED ON 7 SEP 2018.
												HABITAT CONSISTS OF COASTAL DUNE SCRUB, DOMINATED BY		1 INDIVIDUAL WAS OBSERVED BY D. CORDOVA ON 4 SEP 07, 1
			PVT-CHEVRON	l,						WITHIN GUADALUPE-NIPOMO DUNES PRESERVE, 1 MI NE OF SANTA MARIA RIVER MOUTH ALONG UNNAMED DIRT RD, 4 MI W		ERICAMERIA, LUPINUS, & BACCHARIS SPECIES ON SANDY SOILS. INDIVIDUALS FOUND ON ASPHALT PAD/ROAD & THEY		JUVENILE WAS OBSERVED BY D. CORDOVA ON 14 SEP 07, 1 ADULT WAS OBSERVED BY V. TRAUTMAN ON 8 OCT 07, 1 ADULT WAS
233 Thamnophis hammondii	two-striped gartersna	ake Point Sal	31 20080331 20080331 TNC	None	None	G4	S3S4	SSC	BLM_S; IUCN_LC; USFS_S		HISTORICAL OIL FIELD OPERATION SITE.	RELOCATED TO NEARBY COAST DUNE SCRUB HABITAT.	VEHICLES.	OBSERVED BY D. CORDOVA ON 31 MAR 08.
												SITE IS UNUSUALLY FAR (2 MI) INLAND. 1993: GROVE OF PINES		
														150 OBSERVED 9 JAN 1993. 750+ OBS 4 JAN 1994. 5 OBS DEC 1994.
	monarch - California										1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK.	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD. 1999:		150 OBSERVED 9 JAN 1993. 750+ OBS 4 JAN 1994. 5 OBS DEC 1994. 550 OBS 13 JAN 1996. 350 OBS 1 DEC 1997; ONLY 4 BY 7 JAN 1998.
234 Danaus plexippus pop. 1	monarch - California overwintering population	Santa Maria	CITY OF SANT 210 201411XX 201211XX MARIA	A None	None	G4T2T3	\$2\$3		USFS S		1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK. 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK;	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD. 1999: TRANSITORY, MAINLY AUTUMNAL ROOST. 2012: ORNAMENTAL	EUCALYPTUS LEAF BEETLE; PAVEMENT (PARKING LOT & ROAD) (2012).	
234 Danaus plexippus pop. 1	overwintering	Santa Maria			None	G4T2T3	\$2\$3		USFS_S	PREISKER PARK; AT SOUTHWEST CORNER OF HIDDEN PINES WAY AND PREISKER LANE, SANTA MARIA.	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK. 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; OBSERVATIONS DURING THANKSGIVING COUNT. XERCES SITE #2676. MAP PROVIDED IN FSF UNCLEAR, SO MAPPED ACCORDING TO	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD. 1999: TRANSITORY, MAINLY AUTUMNAL ROOST. 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK.	(PARKING LOT & ROAD) (2012).	550 OBS 13 JAN 1996. 350 OBS 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN
234 Danaus plexippus pop. 1	overwintering	Santa Maria Arroyo			None	G4T2T3	S253		USFS_S	AND PREISKER LANE, SANTA MARIA.	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK. 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; OBSERVATIONS DURING THANKSGIVING COUNT. XERCES SITE #2676. MAP PROVIDED IN FSF UNCLEAR, SO MAPPED ACCORDING TO	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD, 1999: TRANSITIORY, MAINLY AUTUMNAL ROOST, 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK;	550 OBS 13 JAN 1996. 350 OBS 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014.
234 Danaus plexippus pop. 1 235 Emys marmorata	overwintering		210 201411XX 201211XX MARIA		None None	G4T2T3 G3G4	S2S3 S3	SSC	_	AND PREISKER LANE, SANTA MARIA.	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK. 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; OBSERVATIONS DURING THANKSGIVING COUNT. XERCES SITE #2676. MAP PROVIDED IN FSF UNCLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY.	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD, 1999: TRANSITIORY, MAINLY AUTUMNAL ROOST, 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH	550 OBS 13 JAN 1996. 350 OBS 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK; PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES.
	overwintering population	Arroyo	210 201411XX 201211XX MARIA PVT-MICHAEL	None				SSC	_	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY.	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK, 2012: DOUBLE ROW OF TREES ALONG \$ & E EDGES OF THE PARK; OBSERVATIONS DURING THANKSGIVING COUNT. XERCES SITE #2676. MAP PROVIDED IN FSF UNCLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNDDB. MAPPED WEST OF STAGECOACH	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD. 1999: TRANSTORY, MAINLY AUTUMNAL ROOST. 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM 4 TO 7 FEET; DEPTH	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH	550 085 13 JAN 1996. 350 085 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK; PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF
	overwintering population	Arroyo Grande NE	210 201411XX 201211XX MARIA PVT-MICHAEL	None	None			SSC	_	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY.	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK, 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; OBSERVATIONS DURING THANKSGIVING COUNT. KERCES SITE #2676. MAP PROVIDED IN FSF UNICLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNDDB. MAPPED WEST OF STAGECOACH ROAD AT VINTON LANE, EAST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY.	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD, 1999: TRANSITORY, MAINLY AUTUMNAL ROOST, 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM A TO 7 FEET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET. INTRODUCED ANNUAL GRASSLAND. ON FRINGE OF COASTAL SCRUB HABITAT. SANDY SOILS.	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES.	550 OBS 13 JAN 1996. 350 OBS 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK, PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS, DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WESTERN POLYGON & 300-400 INDIVIDUALS OBSERVED AT MIDDLE POLYGON. 770 INDIVIDUALS OBSERVED AT MIDDLE POLYGON. 700 INDIVIDUALS OBSERVED AT MESTERN POLYGON IN 2016.
235 Emys marmorata	overwintering population western pond turtle	Arroyo Grande NE Arroyo	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA	None	None	G3G4	S3	SSC	BLM_S; IUCN_VU; USFS_	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK, 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; OBSERVATIONS DURING THANKSGIVING COUNT. KERCES SITE #2676. MAP PROVIDED IN FSF UNICLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNDDB. MAPPED WEST OF STAGECOACH ROAD AT VINTON LANE, EAST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY.	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD, 1999: TRANSITIORY, MAINLY AUTUMNAL ROOST, 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM A TO 7 FEET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET. INTRODUCED ANNUAL GRASSLAND, ON FRINGE OF COASTAL SCRUB HABITAT, SANDY SOILS. AT THE BASES OF SMALL TRANSVERSE SAND RIDGES, FROM	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES.	550 085 13 JAN 1996. 350 085 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK; PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WIDDLE POLYGON. 770 400 INDIVIDUALS OBSERVED AT MIDDLE POLYGON. 770
235 Emys marmorata 236 Clarkia speciosa ssp. immaculata	overwintering population western pond turtle Pismo clarkia	Arroyo Grande NE Arroyo Grande NE	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA 350 20160517 20160517 PVT USFWS- GUADALUPE-	None None Endangered	None d Rare	G3G4 G4T1	53 51 1B.1	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK, 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; OBSERVATIONS DURING THANKSGIVING COUNT. KERCES SITE #2676. MAP PROVIDED IN FSF UNLCLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNDDB. MAPPED WEST OF STAGECOACH ROAD AT VINTON LAME, EAST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY. MAPPED ABOUT 0.2 MILE WEST OF "DEE" BENCHMARK, FORMERLY REFERRED TO AS THE "MOBIL PROPERTY"; MANAGED BY TM C (1990);	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD, 1999: TRANSITORY, MAINLY AUTUMNAL ROOST, 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM A TO 7 FEET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET. INTRODUCED ANNUAL GRASSLAND. ON FRINGE OF COASTAL SCRUB HABITAT. SANDY SOILS. AT THE BASES OF SMALL TRANSVERSE SAND RIDGES, FROM THE FOREDUNES EXTENDING INLAND ABOUT 0.3 MILE. WITH HAPLOPAPPUS ERICOIDES, SENECIO BLOCHMANIAE, AND THE	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST; PROPOSED HARBOR (1986). ALSO	550 085 13 JM 1996. 350 085 1 DFC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK; PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WESTERN POLYGON & 300-400 INDIVIDUALS OBSERVED AT WESTERN POLYGON. 770 INDIVIDUALS OBSERVED AT EASTERN POLYGON IN 2016. 3 COLONIES MAPPED BY VANDERWIRE IN 1981. POPULATION HAS BEEN REDUCED IN SIZE ACCORDING TO MCLEOD, 1986. 554 PLANTS COUNTED IN 1990. UNKNOWN NUMBER OF PLANTS SEEN DURING
235 Emys marmorata	overwintering population western pond turtle	Arroyo Grande NE Arroyo	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA 350 20160517 20160517 PVT USFWS-	None None Endangered	None	G3G4 G4T1	S3	SSC	BLM_S; IUCN_VU; USFS_	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227.	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK, 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; OBSERVATIONS DURING THANKSGIVING COUNT. KERCES SITE #2676. MAP PROVIDED IN FSF UNLELAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNDDB. MAPPED WEST OF STAGECOACH ROAD AT VINTON LANK, EAST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY. MAPPED ABOUT 0.2 MILE WEST OF "DEE" BENCHMARK, FORMERLY REFERRED TO AS THE "MOBIL PROPERTY"; MANAGED BY TNC (1990);	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD. 1999: TRANSITORY, MAINLY AUTUMNAL ROOST. 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM 4 TO 7 FEET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET. INTRODUCED ANNUAL GRASSLAND. ON FRINGE OF COASTAL SCRUB HABITAT. SANDY SOILS. AT THE BASES OF SMALL TRANSVERSE SAND RIDGES, FROM THE FOREDUNES EXTENDING INLAND ABOUT 0.3 MILE. WITH	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST;	550 OBS 13 JAM 1996. 350 OBS 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK; PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WIDDLE POLYGON. 770 INDIVIDUALS OBSERVED AT MIDDLE POLYGON. 770 INDIVIDUALS OBSERVED AT MIDDLE POLYGON IN 2016. 3 COLONIES MAPPED BY VANDERWIER IN 1981. POPULATION HAS BEEN REDUCED IN SIZE ACCORDING TO MCLEOD, 1986. 554 PLANTS COUNTED IN 1990. UNKNOWN NUMBER OF PLANTS SEEN DURING 1998 SURVEY FOR DITHYREA MARITIMA. 30 P PLANTS SEEN IN EASTERN POLYGON AND 100 PLANTS IN
235 Emys marmorata 236 Clarkia speciosa ssp. immaculata	overwintering population western pond turtle Pismo clarkia	Arroyo Grande NE Arroyo Grande NE	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA 350 20160517 20160517 PVT USFWS- GUADALUPE-	None None Endangered	None d Rare	G3G4 G4T1	53 51 1B.1	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK. 2012: DOUBLE ROW OF TREES ALONG \$ & E EDGES OF THE PARK; OBSERVATIONS DURING THANKSGIVINIG COUNT. KERCES SITE #2676. MAP PROVIDED IN FSF UNCLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNDDB. MAPPED WEST OF STAGECOACH ROAD AT VINITON LANK, EAST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY. MAPPED ABOUT 0.2 MILE WEST OF "DEE" BENCHMARK. FORMERLY REFERRED TO AS THE "MOBBLE PROPERTY"; MANAGED BY TNC (1990); AS OF 2015, SITE LOOKS TO BE OWNED BY THE USFWS.	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD. 1999: TRANSITORY, MAINLY AUTUMNAL ROOST. 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM A TO 7 FEET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET. INTRODUCED ANNUAL GRASSLAND. ON FRINGE OF COASTAL SCRUB HABITAT. SANDY SOILS. AT THE BASES OF SMALL TRANSVERSE SAND RIDGES, FROM THE FOREDUNES EXTENDING INLAND ABOUT 0.3 MILE. WITH HAPLOPAPPUS ERICOIDES, SENECIO BLOCHMANIAE, AND THE RARE CASTILLEJA MOLLIS AND DITHYREA MARITIMA.	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST; PROPOSED HARBOR (1986). ALSO THREATENED BY FOOT TRAFFIC.	550 085 13 JM 1996. 350 085 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK; PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WESTERN POLYGON & 300-400 INDIVIDUALS OBSERVED AT WESTERN POLYGON, 770 INDIVIDUALS OBSERVED AT MEDILE POLYGON, 770 INDIVIDUALS OBSERVED AT EXPENDED IN 2016. 3 COLONIES MAPPED BY VANDERWIER IN 1981. POPULATION HAS BEEN REDUCED IN SIZE ACCORDING TO MCLEOD, 1986. 554 PLANTS COUNTED IN 1990. UNKNOWN NUMBER OF PLANTS SEEN DURING 1998 SURVEY FOR DITHYREA MARITIMA. 30+ PLANTS SEEN IN EASTERN POLYGON AND 100 PLANTS IN WESTERN POLYGON IN 2003. COMMENT ON COLLECTION
235 Emys marmorata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's	Arroyo Grande NE Arroyo Grande NE Point Sal	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA 350 20160517 20160517 PVT USFWS- GUADALUPE- 40 19980724 19980724 NIPOMO DUN	None None Endangered	None d Rare	G3G4 G4T1 ned G1	\$3 \$1 18.1 \$1 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER. NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIR MILE	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK. 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; OBSERVATIONS DURING THANKSGIVING COUNT. KERCES SITE #2676. MAP PROVIDED IN FSF UNICLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNDDB. MAPPED WEST OF STAGECOACH ROAD AT VINTON LANE, EAST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY. MAPPED ABOUT 0.2 MILE WEST OF "DEE" BENCHMARK, FORMERLY REFERRED TO AS THE "MOBIL PROPERTY"; MANAGED BY TNC (1990); AS OF 2015, SITE LOOKS TO BE OWNED BY THE USFWS. 3 COLONIES MAPPED AS 2 POLYGON IN THE SOUTH 1/2 OF SECTION 16. WESTERN POLYGON IS IN OPEN SPACE AREA AT CORNER OF LA	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD, 1999: TRANSITORY, MAINLY AUTUMNAL ROOST, 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM A TO 7 FEET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET. INTRODUCED ANNUAL GRASSLAND. ON FRINGE OF COASTAL SCRUB HABITAT. SANDY SOILS. AT THE BASES OF SMALL TRANSVERSE SAND RIDGES, FROM THE FOREOUNES EXTENDING INLAND ABOUT 0.3 MILE. WITH HAPLOPAPPUS ERICOIDES, SENECIO BLOCHMANIAE, AND THE RARE CASTILLEJA MOLLIS AND DITHYREA MARITIMA. CALIFORNIA ANNUAL GRASSLAND DOMINATED BY EHRHARTA CALYCINA. PATCHES WERE ALSO FOUND IN DISTURBED AREA	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST; PROPOSED HARBOR (1986). ALSO THREATENED BY FOOT TRAFFIC. EASTERN POLYGON: FUTURE DEVELOPMENT. WESTERN POLYGON:	550 085 13 JM 1996. 350 085 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK; PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WESTERN POLYGON & 300- 400 INDIVIDUALS OBSERVED AT MIDDLE POLYGON. 770 INDIVIDUALS OBSERVED AT MIDDLE POLYGON IN 2016. 3 COLONIES MAPPED BY VANDERWIRE IN 1981. POPULATION HAS BEEN REDUCED IN SIZE ACCORDING TO MCLEOD, 1986. 554 PLANTS COUNTED IN 1990. UNKNOWN NUMBER OF PLANTS SEEN DURING 1998 SURVEY FOR DITHYREA MARITIMA. 30 PLANTS SEEN IN EASTERN POLYGON AND 100 PLANTS IN WESTERN POLYGON IN 2003. COMMENT ON COLLECTION ASSOCIATED WITH EASTERN POLYGON. ""THE FAR LEFT SPECIMEN APPEARS TO BE A HYBRID WITH C. DENSIFLORA SSP. DENSIFLORA.""
235 Emys marmorata 236 Clarkia speciosa ssp. immaculata	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's	Arroyo Grande NE Arroyo Grande NE Point Sal	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA 350 20160517 20160517 PVT USFWS- GUADALUPE-	None None Endangered	None d Rare	G3G4 G4T1	53 51 1B.1	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER.	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK. 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; 0BSERVATIONS DURING THANKSGIVING COUNT. KERCES SITE #2676. MAP PROVIDED IN FSF UNCLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNDDB. MAPPED WEST OF STAGECOACH ROAD AT VINTON LANE, EAST OF STAGECOACH ROAD AT VINTON LANE, EAST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY. MAPPED ABOUT 0.2 MILE WEST OF "DEE" BENCHMARK. FORMERLY REFERRED TO AS THE "MOBIL PROPERTY"; MANAGED BY TNC (1990); AS OF 2015, SITE LOOKS TO BE OWNED BY THE USFWS. 3 COLONIES MAPPED AS 2 POLYGONS IN THE SOUTH 1/2 OF SECTION 16. WESTERN POLYGON IS IN OPEN SPACE AREA AT CORNER OF LA CANADA AND JAMES WAY.	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD. 1999: TRANSITORY, MAINLY AUTUMNAL ROOST. 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM AT 0.7 FEET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET. INTRODUCED ANNUAL GRASSLAND. ON FRINGE OF COASTAL SCRUB HABITAT. SANDY SOILS. AT THE BASES OF SMALL TRANSVERSE SAND RIDGES, FROM THE FOREDUNES EXTENDING INLAND ABOUT 0.3 MILE. WITH HAPLORAPPUS ERICOIDES, SENECIO BLOCHMANIAE, AND THE RARE CASTILLEJA MOLLIS AND DITHYREA MARITIMA. CALIFORNIA ANNUAL GRASSLAND DOMINATED BY EHRHARTA CALYCINA. PATCHES WERE ALSO FOUND IN DISTURBED AREA ALONG MARGIN OF QUERCUS AGRIFOLIA WOODLAND.	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST; PROPOSED HARBOR (1986). ALSO THREATENED BY FOOT TRAFFIC. EASTERN POLYGON: FUTURE DEVELOPMENT. WESTERN POLYGON: INVASION OF VELDT GRASS.	550 085 13 JM 1996. 350 085 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) 085 OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012.0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK, PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WESTERN POLYGON & 300-400 INDIVIDUALS OBSERVED AT WESTERN POLYGON. 770 INDIVIDUALS OBSERVED AT MIDDLE POLYGON. 770 INDIVIDUALS OBSERVED AT WESTERN POLYGON IN 2016. 3 COLONIES MAPPED BY VANDERWIER IN 1981. POPULATION HAS BEEN REDUCED IN SIZE ACCORDING TO MCLEOD, 1986. 554 PLANTS COUNTED IN 1990. UNKNOWN NUMBER OF PLANTS SEEN DURING 1998 SURVEY FOR DITHYREA MARITIMA. 30+ PLANTS SEEN IN EASTERN POLYGON AND 100 PLANTS IN WESTERN POLYGON IN 200. COMMENT ON COLLECTION ASSOCIATED WITH EASTERN POLYGON. ""THE FAR LEFT SPECIMEN APPEARS TO BE A HYBRID WITH C. DENSIFLORA."" INCLUDES FORMER E 0921.
235 Emys marmorata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's	Arroyo Grande NE Arroyo Grande NE Point Sal	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA 350 20160517 20160517 PVT USFWS- GUADALUPE- 40 19980724 19980724 NIPOMO DUN	None Rodangered EN None	None d Rare Threaten	G3G4 G4T1 ned G1	\$3 \$1 18.1 \$1 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER. NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIR MILE	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK. 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; 2013: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; 2014: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; 2015: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; 2015: DOUBLE ROW OF THE PARK; 2016: DOUBLE PROPOSED FOR DOUBLE POPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNODB. MAPPED WEST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY. MAPPED ABOUT 0.2 MILLE WEST OF "DEE" BENCHMARK, FORMERLY REFERRED TO AS THE "MOBIL PROPERTY"; MANAGED BY TNC (1990); AS OF 2015, SITE LOOKS TO BE OWNED BY THE USFWS. 3 COLONIES MAPPED AS 2 POLYGONS IN THE SOUTH 1/2 OF SECTION 16. WESTERN POLYGON IS IN OPEN SPACE AREA AT CORNER OF LA CANADA AND JAMES WAY.	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD. 1999: TRANSITORY, MAINLY AUTUMNAL ROOST. 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PHACES, WILLOWS; WIDTH VARIES FROM 4 TO 7 FET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET. INTRODUCED ANNUAL GRASSLAND. ON FRINGE OF COASTAL SCRUB HABITAT. SANDY SOILS. AT THE BASES OF SMALL TRANSVERSE SAND RIDGES, FROM THE FOREDURES SEXTEMDING INLAND ABOUT 0.3 MILE. WITH HAPLOPAPPUS ERICOIDES, SENECIO BLOCHMANIAE, AND THE RARE CASTILLEJA MOLLIS AND DITHYREA MARITIMA. CALIFORNIA ANNUAL GRASSLAND DOMINATED BY EHRHARTA CALYCINA, PATCHES WERE ALSO FOUND IN DISTURBED AREA ALONG MARGIN OF QUERCUS AGRIFOLIA WOODLAND. ON FOREDUNES WITH SMALL EAST-WEST TERNDING RIDGES.	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST; PROPOSED HARBOR (1986). ALSO THREATENED BY FOOT TRAFFIC. EASTERN POLYGON: FUTURE DEVELOPMENT. WESTERN POLYGON: INVASION OF VELDT GRASS.	550 085 13 JAN 1996. 350 085 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK; PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WESTERN POLYGON. 370 INDIVIDUALS OBSERVED AT MIDDLE POLYGON. 770 INDIVIDUALS OBSERVED AT ANDREWIER IN 1981. POPULATION HAS BEEN REDUCED IN SIZE ACCORDING TO MCLEOD, 1986. 554 PLANTS COUNTED IN 1990. UNKNOWN NUMBER OF PLANTS SEEN DURING 1998 SURVEY FOR DITHYREA MARITIMA. 30+ PLANTS SEEN IN EASTERN POLYGON AND 100 PLANTS IN WESTERN POLYGON IN 2003. COMMENT ON COLLECTION ASSOCIATED WITH EASTERN POLYGON. "THE FAR LEET SPECIMEN APPEARS TO BE A HYBRID WITH C. DENSIFLORA SSP. DENSIFLORA."" INCLUDES FORMER EO#21.
235 Emys marmorata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's	Arroyo Grande NE Arroyo Grande NE Point Sal Arroyo Grande NE	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA 350 20160517 20160517 PVT USFWS- GUADALUPE- 40 19980724 19980724 NIPOMO DUN	None Rodangered EN None	None d Rare Threaten	G3G4 G4T1 ned G1 G5T2	\$3 \$1 18.1 \$1 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER. NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIR MILE	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK. 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; OBSERVATIONS DURING THANKSGIVING COUNT. KERCES SITE #2676. MAP PROVIDED IN FSF UNCLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNODB. MAPPED WEST OF STAGECOACH ROAD AT YNTON LANE, EAST OF STAGECOACH ROAD AT VINTON LANE, EAST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY. MAPPED ABOUT 0.2 MILE WEST OF "DEE" BENCHMARK. FORMERLY REFERRED TO AS THE "MOBIL PROPERTY"; MANAGED BY TNC (1990); AS OF 2015, SITE LOOKS TO BE OWNED BY THE USFWS. 3 COLONIES MAPPED AS 2 POLYGONS IN THE SOUTH 1/2 OF SECTION 16. WESTERN POLYGON IS IN OPEN SPACE AREA AT CORNER OF LA CANADA AND JAMES WAY. INLAND SIDE OF FOREDUNES.	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD. 1999: TRANSITORY, MAINLY AUTUMNAL ROOST. 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM 4 TO 7 FEET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET. INTRODUCED ANNUAL GRASSLAND. ON FRINGE OF COASTAL SCRUB HABITAT. SANDY SOILS. AT THE BASES OF SMALL TRANSVERSE SAND RIDGES, FROM THE FOREDUNES EXTENDING INLAND ABOUT 0.3 MILE. WITH HAPLOPAPPUS ERICOIDES, SENECIO BLOCHMANIAE, AND THE RARE CASTILLEJA MOLLIS AND DITHYREA MARITIMA. CALIFORNIA ANNUAL GRASSLAND DOMINATED BY EHRHARTA CALYCINA. PATCHES WERE ALSO FOUND IN DISTURBED AREA ALONG MARGIN OF QUENCUS AGRIPCIOL WOODLAND. ON FOREDUNES WITH SMALL EAST-WEST TRENDING RIDGES. DUNE SCRUB WITH AMBROSIA, ABRONIA LATIFOLIA, AND MALACCTHERIK INCANA.	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST; PROPOSED HARBOR (1986). ALSO THREATENED BY FOOT TRAFFIC. EASTERN POLYGON: FUTURE DEVELOPMENT. WESTERN POLYGON: INVASION OF VELDT GRASS. AREA PREVIOUSLY OVERRUN BY ORVS.	550 085 13 JAN 1996. 350 085 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK; PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WESTERN POLYGON. 370 INDIVIDUALS OBSERVED AT MIDDLE POLYGON. 770 INDIVIDUALS OBSERVED AT ANDREWIER IN 1981. POPULATION HAS BEEN REDUCED IN SIZE ACCORDING TO MCLEOD, 1986. 554 PLANTS COUNTED IN 1990. UNKNOWN NUMBER OF PLANTS SEEN DURING 1998 SURVEY FOR DITHYREA MARITIMA. 30+ PLANTS SEEN IN EASTERN POLYGON AND 100 PLANTS IN WESTERN POLYGON IN 2003. COMMENT ON COLLECTION ASSOCIATED WITH EASTERN POLYGON. "THE FAR LEET SPECIMEN APPEARS TO BE A HYBRID WITH C. DENSIFLORA SSP. DENSIFLORA."" INCLUDES FORMER EO#21.
235 Emys marmorata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum 238 Castilleja densiflora var. obispoensi	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's clover	Arroyo Grande NE Arroyo Grande NE Point Sal Arroyo Grande NE	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA 350 20160517 20160517 PVT USFWS- GUADALUPE- 40 19980724 19980724 NIPOMO DUN 200 20030519 20030519 PVT	None Endangered ES None None	None d Rare Threaten	G3G4 G4T1 ned G1 G5T2	53 51 18.1 51 18.2 52 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG BLM_S	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER. NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIR MILE SOUTHWEST OF POORMAN CANYON. ABOUT 0.5 MILE NORTH OF MUSSEL ROCK, NORTH OF POINT SAL.	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK, 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; OBSERVATIONS DURING THANKSGIVING COUNT. KERCES SITE #2676. MAP PROVIDED IN PSE FUNCLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNDDB. MAPPED WEST OF STAGECOACH ROAD AT VINTON LAME, EAST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY. MAPPED ABOUT 0.2 MILE WEST OF "DEE" BENCHMARK, FORMERLY REFERRED TO AS THE "MOBIL PROPERTY"; MANAGED BY TMC (1990); AS OF 2015, SITE LOOKS TO BE OWNED BY THE USFWS. 3 COLONIES MAPPED AS 2 POLYGONS IN THE SOUTH 1/2 OF SECTION 16. WESTERN POLYGON IS IN OPEN SPACE AREA AT CORNER OF LA CANADA AND JAMES WAY.	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD. 1999: TRANSITORY, MAINLY AUTUMNAL ROOST. 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM A TO 7 FEET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET. INTRODUCED ANNUAL GRASSLAND. ON FRINGE OF COASTAL SCRUB HABITAT. SANDY SOILS. AT THE BASES OF SMALL TRANSVERSE SAND RIDGES, FROM THE FOREDURE SEXTEMDING INLAND ABOUT 0.3 MILE. WITH HAPLOPAPPUS ERICOIDES, SENECIO BLOCHMANIAE, AND THE RARE CASTILLEIA MOLLIS AND DITHYREA MARITIMA. CALIFORNIA ANNUAL GRASSLAND DOMINATED BY EHRHARTA CALYCINA. PATCHES WERE ALSO FOUND IN DISTURBED AREA ALONG MARGIN OF QUERCUS AGRIFOLIA WOODLAND. ON FOREDUNES WITH SMALL EAST-WEST TERNOING RIDGES. DUNE SCRUB WITH AMALE AST-WEST TERNOING RIDGES. DUNE SCRUB WITH AMBROSIA, ABRONIA LATIFOLIA, AND MALACOTHRIX INCANA. IN DRAINAGES LEADING TO PISMO CREEK. IN RIPARIAN AND	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST; PROPOSED HARBOR (1986). ALSO THREATENED BY FOOT TRAFFIC. EASTERN POLYGON: FUTURE DEVELOPMENT. WESTERN POLYGON: INVASION OF VELDT GRASS. AREA PREVIOUSLY OVERRUN BY ORVS. HEAVY WINTER SURF IN 1983 REMOVEE	550 085 13 JM 1996. 350 085 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) 085 OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK; PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WESTERN POLYGON & 300-400 INDIVIDUALS OBSERVED AT WESTERN POLYGON IN 2016. 3 COLONIES MAPPED BY VANDERWIER IN 1981. POPULATION HAS BEEN REDUCED IN SIZE ACCORDING TO MCLEOD, 1986. 554 PLANTS COUNTED IN 1990. UNKNOWN NUMBER OF PLANTS SEEN DURING 1998 SURVEY FOR DITHYREA MARITIMA. 30+ PLANTS SEEN IN EASTERN POLYGON AND 100 PLANTS IN WESTERN POLYGON IN 2003. COMMENT ON COLLECTION ASSOCIATED WITH 4.63TERN POLYGON." "THE FAR LEFT SPECIMEN APPEARS TO BE A HYBRID WITH C. DENSIFLORA SSP. DENSIFLORA."" INCLUDES FORMER EOH21.
235 Emys marmorata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum 238 Castilleja densiflora var. obispoensi	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's clover	Arroyo Grande NE Arroyo Grande NE Point Sal	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA 350 20160517 20160517 PVT USFWS- GUADALUPE- 40 19980724 19980724 NIPOMO DUN 200 20030519 20030519 PVT 40 19840629 19840629 PVT	None Endangered ES None None	None d Rare Threaten	G3G4 G4T1 ned G1 G5T2	53 51 18.1 51 18.2 52 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG BLM_S	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER. NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIR MILE SOUTHWEST OF POORMAN CANYON. ABOUT 0.5 MILE NORTH OF MUSSEL ROCK, NORTH OF POINT SAL.	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHLIDREN'S GROVE." 1999: E SIDE OF GRANDCHLIDREN'S GROVE. 1999: E SIDE OF BARK; OBSERVATIONS DURING THANKSGIVING COUNT. KERCES SITE #2676. MAP PROVIDED IN FSF UNCLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNDDB. MAPPED WEST OF STAGECOACH ROAD AT VINTON LANE, EAST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY. MAPPED ABOUT 0.2 MILE WEST OF "DEE" BENCHMARK, FORMERLY REFERRED TO AS THE "MOBIL PROPERTY"; MANAGED BY THC (1990); AS OF 2015, SITE LOOKS TO BE OWNED BY THE USFWS. 3 COLONIES MAPPED AS 2 POLYGONS IN THE SOUTH 1/2 OF SECTION 16. WESTERN POLYGON IS IN OPEN SPACE AREA AT CORNER OF LA CANADA AND JAMES WAY. INLAND SIDE OF FOREDUNES. NORTH FROM SEWAGE TREATMENT FACILITY. APPROXIMATELY 2000 FEET FROM HIGHWAY 101. 2 POLYGONS MAPPED IN THE WEST 1/2	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD. 1999: TRANSITORY, MAINLY AUTUMNAL ROOST. 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM A TO 7 FEET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET. INTRODUCED ANNUAL GRASSLAND. ON FRINGE OF COASTAL SCRUB HABITAT. SANDY SOILS. AT THE BASES OF SMALL TRANSVERSE SAND RIDGES, FROM THE FOREDURE SEXTEMDING INLAND ABOUT 0.3 MILE. WITH HAPLOPAPPUS ERICOIDES, SENECIO BLOCHMANIAE, AND THE RARE CASTILLEIA MOLLIS AND DITHYREA MARITIMA. CALIFORNIA ANNUAL GRASSLAND DOMINATED BY EHRHARTA CALYCINA. PATCHES WERE ALSO FOUND IN DISTURBED AREA ALONG MARGIN OF QUERCUS AGRIFOLIA WOODLAND. ON FOREDUNES WITH SMALL EAST-WEST TERNOING RIDGES. DUNE SCRUB WITH AMALE AST-WEST TERNOING RIDGES. DUNE SCRUB WITH AMBROSIA, ABRONIA LATIFOLIA, AND MALACOTHRIX INCANA. IN DRAINAGES LEADING TO PISMO CREEK. IN RIPARIAN AND	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST; PROPOSED HARBOR (1986). ALSO THREATENED BY FOOT TRAFFIC. EASTERN POLYGON: FUTURE DEVELOPMENT. WESTERN POLYGON: INVASION OF VELDT GRASS. AREA PREVIOUSLY OVERRUN BY ORVS. HEAVY WINTER SURF IN 1983 REMOVEE	550 085 13 JM 1996. 350 085 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK, PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WISTERN POLYGON & 300-400 INDIVIDUALS OBSERVED AT WISTERN POLYGON IN 2016. 3 COLONIES MAPPED BY VANDERWIER IN 1981. POPULATION HAS BEEN REDUCED IN SIZE ACCORDING TO MCLEOD, 1986. 554 PLANTS COUNTED IN 1990. UNKNOWN NUMBER OF PLANTS SEEN DRING 1998 SURVEY FOR DITHYREA MARITIMA. 30+ PLANTS SEEN IN EASTERN POLYGON AND 100 PLANTS IN WESTERN POLYGON IN OCULECTION ASSOCIATED WITH EASTERN POLYGON. ""THE FAR LEFT SPECIMEN APPEARS TO BE A HYBRID WITH C. DENSIFLORA SSP. DENSIFLORA."" INCLUDES FORMER EO#21. OMORE THAN 100 PLANTS OBSERVED IN 1984. 300-400 PLANTS SEEN IN 2003; PLANTS IN LARGE POPULATIONS WITH DENSE CLUSTERS.
235 Emys marmorata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum 238 Castilleja densiflora var. obispoensi 239 Dithyrea maritima	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's clover beach spectaclepod	Arroyo Grande NE Arroyo Grande NE Point Sal	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA 350 20160517 20160517 PVT USFWS- GUADALUPE- 40 19980724 19980724 NIPOMO DUN 200 20030519 20030519 PVT 40 19840629 19840629 PVT PVT, SLO	None None Endangerec ES None None	None d Rare Threaten None	G3G4 G4T1 ned G1 G5T2	\$3	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG BLM_S BLM_S	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER. NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIR MILE SOUTHWEST OF POORMAN CANYON. ABOUT 0.5 MILE NORTH OF MUSSEL ROCK, NORTH OF POINT SAL. EAST SIDE OF PRICE CANYON, EAST OF PISMO CREEK, JUST NORTH	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK. 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK; 0BSERVATIONS DURING THANKSGIVING COUNT. KERCES SITE #2676. MAP PROVIDED IN FSF UNCLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNDDB. MAPPED WEST OF STAGECOACH ROAD AT VINTON LANE, EAST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY. MAPPED ABOUT 0.2 MILE WEST OF "DEE" BENCHMARK, FORMERLY REFERRED TO AS THE "MOBIL PROPERTY"; MANAGED BY TNC (1990); AS OF 2015, SITE LOOKS TO BE OWNED BY THE USFWS. 3 COLONIES MAPPED AS 2 POLYGON IS IN OPEN SPACE AREA AT CORNER OF LA CANADA AND JAMES WAY. INLAND SIDE OF FOREDUNES. NORTH FROM SEWAGE TREATMENT FACILITY. APPROXIMATELY 2000 FEET FROM HIGHWAY 101. 2 POLYGONS MAPPED IN THE WEST 1/2 OF THE NW 1/4 OF SECTION 18.	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD. 1999: TRANSITORY, MAINLY AUTUMNAL ROOST. 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM AT 0.7 FEET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET. INTRODUCED ANNUAL GRASSLAND. ON FRINGE OF COASTAL SCRUB HABITAT. SANDY SOILS. AT THE BASES OF SMALL TRANSVERSE SAND RIDGES, FROM THE FOREDUNES EXTENDING INLAND ABOUT 0.3 MILE. WITH HAPLOPAPPUS ERICOIDES, SENECIO BLOCHMANIAE, AND THE RARE CASTILLEJA MOLLIS AND DITHYREA MARITIMA. CALIFORNIA ANNUAL GRASSLAND DOMINATED BY EHRHARTA CALYCINA. PATCHES WERE ALSO FOUND IN DISTURBED AREA ALONG MARGIN OF QUERCUS AGRIFOLIA WOODLAND. ON FOREDUNES WITH SMALL EAST-WEST TRENDING RIDGES. DUINE SCRUB WITH AMBROSIA, ABRONIA LATIFOLIA, AND MALACOTHRIX INCANA. IN DRAINAGES LEADING TO PISMO CREEK. IN RIPARIAN AND LOVOYOTE BRUSH SCRUB HABITAT DAJACENT TO INTERMITTENT	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST; PROPOSED HARBOR (1986). ALSO THREATENED BY FOOT TRAFFIC. EASTERN POLYGON: FUTURE DEVELOPMENT. WESTERN POLYGON: INVASION OF VELDT GRASS. AREA PREVIOUSLY OVERRUN BY ORVS. HEAVY WINTER SURF IN 1983 REMOVED PART OF FOREDUNES.	550 085 13 JM 1996. 350 085 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) 085 OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK; PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WESTERN POLYGON & 300-400 INDIVIDUALS OBSERVED AT WESTERN POLYGON, 770 INDIVIDUALS OBSERVED AT AT WESTERN POLYGON, 770 INDIVIDUALS OBSERVED AT AT WESTERN POLYGON, 170 INDIVIDUALS OBSERVED AT ENDILE POLYGON, 170 INDIVIDUALS OBSERVED AT WESTERN POLYGON IN 2016. 3 COLONIES MAPPED BY VANDERWIER IN 1981. POPULATION HAS BEEN REDUCED IN SIZE ACCORDING TO MCLEOD, 1986. 554 PLANTS COUNTED IN 1990. UNKNOWN NUMBER OF PLANTS SEEN DURING 1998 SURVEY FOR DITHYREA MARITIMA. 30-PLANTS SEEN IN EASTERN POLYGON AND 100 PLANTS IN WESTERN POLYGON IN 2003. COMMENT ON COLLECTION ASSOCIATED WITH EASTERN POLYGON: ""THE FAR LEFT SPECIMEN APPEARS TO BE A HYBRID WITH C. DENSIFLORA."" INCLUDES FORMER EOW21.
235 Emys marmorata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum 238 Castilleja densiflora var. obispoensi 239 Dithyrea maritima 240 Scrophularia atrata	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's clover beach spectaclepod black-flowered figwo	Arroyo Grande NE Arroyo Grande NE Point Sal	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA 350 20160517 20160517 PVT USFWS- GUADALUPE- 40 19980724 19980724 NIPOMO DUN 200 20030519 20030519 PVT 40 19840629 19840629 PVT PVT, SLO 200 20030403 20030403 COUNTY	None Endangerec ES None None None	None d Rare Threaten None Threaten	G3G4 G4T1 ened G1 G5T2 ened G1 G2?	\$3 \$1 18.1 \$1 18.2 \$2 18.2 \$1 18.1 \$2? 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG BLM_S BLM_S SB_RSABG	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. 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WESTERN POLYGON: INVASION OF VELDT GRASS. AREA PREVIOUSLY OVERRUN BY ORVS. HEAVY WINTER SURF IN 1983 REMOVED PART OF FOREDUNES. POTENTIAL DEVELOPMENT. ONGOING OILFIELD ACTIVITIES. NON-	550 085 13 JM 1996. 350 085 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK, PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WESTERN POLYGON & 300-400 INDIVIDUALS OBSERVED AT MIDDLE POLYGON. 770 INDIVIDUALS OBSERVED AT MIDDLE POLYGON IN 2016. 3 COLONIES MAPPED BY VANDERWIRE IN 1981. POPULATION HAS BEEN REDUCED IN SIZE ACCORDING TO MCLEOD, 1986. 554 PLANTS COUNTED IN 1990. UNKNOWN NUMBER OF PLANTS SEEN DURING 1998 SURVEY FOR DITHYREA MARITIMA. 30.9 PLANTS SEEN IN EASTERN POLYGON AND 100 PLANTS IN WESTERN POLYGON IN 2003. COMMENT ON COLLECTION ASSOCIATED WITH EASTERN POLYGON: ""THE FAR LEFT SPECIMEN APPEARS TO BE A HYBRID WITH C. DENSIFLORA SSP. DENSIFLORA."" INCLUDES FORMER EOH21. 300-400 PLANTS SEEN IN 2003; PLANTS IN LARGE POPULATIONS WITH DENSE CLUSTERS. FEWER THAN 100 PLANTS SEEN IN THE SAGE SCRUB IN 1981; 50-100 SEEN IN 1984-1986 IN THE DURSS. 1994 SMITH COLLECTION AFROM THE SECTION OF GUADALUPE OIL FIELD" ATTRIBUTED TO
235 Emys marmorata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum 238 Castilleja densiflora var. obispoensi 239 Dithyrea maritima	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's clover beach spectaclepod	Arroyo Grande NE Arroyo Grande NE Point Sal	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA 350 20160517 20160517 PVT USFWS- GUADALUPE- 40 19980724 19980724 NIPOMO DUN 200 20030519 20030519 PVT 40 19840629 19840629 PVT PVT, SLO	None None Endangerec ES None None	None d Rare Threaten None	G3G4 G4T1 ned G1 G5T2	\$3	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG BLM_S BLM_S	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. 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WITH HAPLOPAPPUS ERICOIDES, SENECIO BLOCHMANIAE, AND THE RARE CASTILLEIA MOLLIS AND DITHYREA MARITIMA. CALIFORNIA ANNUAL GRASSLAND DOMINATED BY EHRHARTA CALYCINA. PATCHES WERE ALSO FOUND IN DISTURBED AREA ALONG MARGIN OF QUERCUS AGRIFOLIA WOODLAND. ON FOREDUNES WITH SMALL EAST-WEST TRENDING RIDGES. DUNE SCRUB WITH AMBROSIA, ABRONIA LATIFOLIA, AND MALACOTHRIK INCAMA. IN DRAINAGES LEADING TO PISMO CREEK. IN RIPARIAN AND COYOTE BRUSH SCRUB HABITAT ADJACENT TO INTERMITTENT DRAINAGE CHANNELS. HIGHLY DISTURBED ACTIVE TO PARTIALLY STABILIZED (COVERED WITH THIN ASPHALT) SAND DUNES. ASSOCIATED WITH SCATTERED CASTILLEIA MOULIS, SOME CARPOBROTUS. CENTRAL MARRITIME CHAPARRAL DOMINATED BY A. RUDIS, A. RUDIS.	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST; PROPOSED HARBOR (1986). ALSO THREATENED BY FOOT TRAFFIC. EASTERN POLYGON: FUTURE DEVELOPMENT. 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NORTH SIDE OF POINT SAL RIDGE, WEST SIDE OF CORRALITOS CANYON ABOUT 2.5 MILES EAST OF POINT SAL, SOUTHWEST OF	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK, 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK, 2015: POUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK, OBSERVATIONS DURING THANKSCIVING COUNT. XERCES SITE #2676. MAP PROVIDED IN FSE FUNCLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNDDB. MAPPED WEST OF STAGECOACH ROAD AT VINTON LANE, EAST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY. MAPPED ABOUT 0.2 MILE WEST OF "DEE" BENCHMARK, FORMERLY REFERRED TO AS THE "MOBIL PROPERTY"; MANAGED BY TNC (1990); AS OF 2015, SITE LOOKS TO BE OWNED BY THE USFWS. 3 COLONIES MAPPED AS 2 POLYGONS IN THE SOUTH 1/2 OF SECTION 16. 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235 Emys marmorata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum 238 Castilleja densiflora var. obispoensi 239 Dithyrea maritima 240 Scrophularia atrata	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's clover beach spectaclepod black-flowered figwo	Arroyo Grande NE Arroyo Grande NE Point Sal	210 201411XX 201211XX MARIA PVT-MICHAEL 190 19920405 19920405 SILVA 350 20160517 20160517 PVT USFWS- GUADALUPE- 40 19980724 19980724 NIPOMO DUN 200 20030519 20030519 PVT 40 19840629 19840629 PVT 200 20030403 20030403 COUNTY 100 19940909 19940909 PVT DOD-	None Endangerec ES None None None	None d Rare Threaten None Threaten	G3G4 G4T1 ened G1 G5T2 ened G1 G2?	\$3 \$1 18.1 \$1 18.2 \$2 18.2 \$1 18.1 \$2? 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG BLM_S BLM_S SB_RSABG	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. 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IN RIPARIAN AND COYOTE BRUSH SCRUB HABITAT ADJACENT TO INTERMITTENT DRAINAGES LEADING TO PISMO CREEK. IN RIPARIAN AND COYOTE BRUSH SCRUB HABITAT ADJACENT TO INTERMITTENT DRAINAGE CHANNELS. HIGHLY DISTURBED ACTIVE TO PARTIALLY STABILIZED (COVETED WITH THIM ASPHALT) SAND DUNES. ASSOCIATED WITH SCATTERED CASTILLEJA MOLLIS, SOME CARPOBROTUS. CENTRAL MARITIME CHAPABRAL DOMINATED BY A. RUDIS, A. PURISSIMA, ADDINOSTOMA FASCICULATUM, CEANOTHUS, CUNEATUS VAR. FASCICULATUM, CEANOTHUS CUNEATUS VAR. FASCICULATUS, BEACHARIS PILLUARIS, QUERCUS AGRIFOLIAC, HETEROMELES ARBUTIFOLIA, ET AL.	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST; PROPOSED HARBOR (1986). ALSO THREATENED BY FOOT TRAFFIC. EASTERN POLYGON: FUTURE DEVELOPMENT. WESTERN POLYGON: INVASION OF VELDT GRASS. AREA PREVIOUSLY OVERRUN BY ORVS. HEAVY WINTER SURF IN 1983 REMOVED PART OF FOREDUNES. 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235 Emys marmorata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum 238 Castilleja densiflora var. obispoensi 239 Dithyrea maritima 240 Scrophularia atrata 241 Monardella undulata ssp. crispa	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's clover beach spectaclepod black-flowered figwo	Arroyo Grande NE Arroyo Grande NE Point Sal	210 201411XX 201211XX MARIA PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT USFWS-GUADALUPE- GUADALUPE- 40 19980724 19980724 NIPOMO DUN 200 20030519 20030519 PVT 40 19840629 19840629 PVT PVT, SLO 200 20030403 20030403 COUNTY 100 19940909 19940909 PVT DOD-VANDENBERG 1050 19960314 19960314 AFB, PVT	None Endangerec ES None None None None	None d Rare Threaten None Threaten None	G3G4 G4T1 med G1 G5T2 med G1 G2? G3T2	53 51 18.1 51 18.2 52 18.2 51 18.1 52? 18.2 52 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG BLM_S BLM_S BLM_S BLM_S	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER. NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIR MILE SOUTHWEST OF POORMAN CANYON. ABOUT 0.5 MILE NORTH OF MUSSEL ROCK, NORTH OF POINT SALEAST SIDE OF PRICE CANYON, EAST OF PISMO CREEK, JUST NORTH OF PISMO BEACH. GUADALUPE OIL FIELD, ABOUT 1.4 MILES NORTH OF THE SANTA MARIA RIVER AND 3.5 MILES WEST OF GUADALUPE. 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G3T2	53 51 18.1 51 18.2 52 18.2 51 18.1 52? 18.2 52 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG BLM_S BLM_S BLM_S BLM_S	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER. NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIR MILE SOUTHWEST OF POORMAN CANYON. ABOUT 0.5 MILE NORTH OF MUSSEL ROCK, NORTH OF POINT SALEAST SIDE OF PRICE CANYON, EAST OF PISMO CREEK, JUST NORTH OF PISMO BEACH. GUADALUPE OIL FIELD, ABOUT 1.4 MILES NORTH OF THE SANTA MARIA RIVER AND 3.5 MILES WEST OF GUADALUPE. 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235 Emys marmorata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum 238 Castilleja densiflora var. obispoensi 239 Dithyrea maritima 240 Scrophularia atrata 241 Monardella undulata ssp. crispa 242 Arctostaphylos purissima	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's clover beach spectaclepod black-flowered figwo crisp monardella La Purisima manzanit	Arroyo Grande NE Arroyo Grande NE Point Sal Arroyo Grande NE Point Sal rt Pismo Beach Point Sal a Point Sal	200 20030519 20030519 PVT 40 19980724 19980724 NIPOMO DUN 200 20030519 20030519 PVT 40 19840629 19840629 PVT 200 20030403 20030403 COUNTY 100 19940909 19940909 PVT DOD-VANDENBERG 1050 19960314 19960314 AFB, PVT DOD-VANDENBERG VANDENBERG VANDENBERG VANDENBERG VANDENBERG VANDENBERG VANDENBERG VANDENBERG VANDENBERG	None Endangerec ES None None None None None	None Threaten None Threaten None None	G3G4 G4T1 G5T2 G62? G3T2	53 51 18.1 51 18.2 52 18.2 51 18.1 52? 18.2 52 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG BLM_S BLM_S BLM_S SB_RSABG BLM_S SB_RSABG	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER. NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIR MILE SOUTHWEST OF POORMAN CANYON. ABOUT 0.5 MILE NORTH OF MUSSEL ROCK, NORTH OF POINT SAL. EAST SIDE OF PRICE CANYON, EAST OF PISMO CREEK, JUST NORTH OF PISMO BEACH. GUADALUPE OIL FIELD, ABOUT 1.4 MILES NORTH OF THE SANTA MARIA RIVER AND 3.5 MILES WEST OF GUADALUPE. NORTH SIDE OF POINT SAL RIDGE, WEST SIDE OF CORRALITOS CANYON ABOUT 2.5 MILES EAST OF POINT SAL, SOUTHWEST OF GUADALUPE. 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WITH HAPLOPAPPUS ERICOIDES, SENECIO BLOCHMANIAE, AND THE RARE CASTILLEJA MOLLIS AND DITHYREA MARITIMA. CALIFORNIA ANNUAL GRASSLAND DOMINATED BY EHRHARTA CALYCINA. PATCHES WERE ALSO FOUND IN DISTURBED AREA ALONG MARGIN OF QUERCUS AGRIFIOLIA WOODLAND. ON FOREDUNES WITH SMALL EAST-WEST TRENDING RIDGES. DUNE SCRUB WITH AMBROSIA, ABRONIA LATIFOLIA, AND MALACOTHRIK INCAMA. IN DRAINAGES LEADING TO PISMO CREEK. IN RIPARIAN AND MALACOTHRIK INCAMA. IN DRAINAGES LEADING TO PISMO CREEK. IN RIPARIAN AND COYOTE BRUSH SCRUB HABITAT ADJACENT TO INTERMITTENT DRAINAGE CHANNELS. HIGHLY DISTURBED ACTIVE TO PARTIALLY STABILIZED (COVERED WITH THIM ASPHALT) SAND DUNES. ASSOCIATED WITH SCATTERED CASTILLEJA MOLLIS, SOME CARPOBROTUS. CENTRAL MARITIME CHAPARRAL DOMINATED BY A. RUDIS, A. PURISSIMA, ADENOSTOMA FASCICULATUM, CEANOTHUS CUNEATUS VAR FASCICULARID, SACCHARIS PILLULARIS, QUERCUS AGRIFOLIA, SALVIA MELLIFERA, ARTEMISIA CALIFORNICA, HETEROMELES ARBUTIFOLIA, ET AL. 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235 Emys marmorata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum 238 Castilleja densiflora var. obispoensi 239 Dithyrea maritima 240 Scrophularia atrata 241 Monardella undulata ssp. crispa 242 Arctostaphylos purissima	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's clover beach spectaclepod black-flowered figwo crisp monardella La Purisima manzanit	Arroyo Grande NE Arroyo Grande NE Point Sal The Point Sal Point Sal Point Sal Point Sal Point Sal	200 20030519 20030519 PVT 40 19980724 19980724 NIPOMO DUN 200 20030519 20030519 PVT 40 19840629 19840629 PVT 200 20030403 20030403 COUNTY 100 19940909 19940909 PVT DOD-VANDENBERG 1050 19960314 19960314 AFB, PVT DOD-VANDENBERG VANDENBERG VANDENBERG VANDENBERG VANDENBERG VANDENBERG VANDENBERG VANDENBERG VANDENBERG	None Endangerec ES None None None None None	None Threaten None Threaten None None	G3G4 G4T1 G5T2 G62? G3T2	53 51 18.1 51 18.2 52 18.2 51 18.1 52? 18.2 52 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG BLM_S BLM_S BLM_S SB_RSABG BLM_S SB_RSABG	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER. NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIR MILE SOUTHWEST OF POORMAN CANYON. ABOUT 0.5 MILE NORTH OF MUSSEL ROCK, NORTH OF POINT SAL. EAST SIDE OF PRICE CANYON, EAST OF PISMO CREEK, JUST NORTH OF PISMO BEACH. GUADALUPE OIL FIELD, ABOUT 1.4 MILES NORTH OF THE SANTA MARIA RIVER AND 3.5 MILES WEST OF GUADALUPE. 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UNDERSINADA BORDOSTOMA FASCICULATUM, CEANOTHUS CUNEATUS VAR. FASCICULARIS, BACCHARIS PILULARIS, QUERCUS AGRIFOLIA, SALVIA MELLIEFAR, ARTEMISIS CUNEATUS VAR. FASCICULARIS, BACCHARIS PILULARIS, CULRENTISMA, ADDINOSTOMA FASCICULATUM, CEANOTHUS CUNEATUS VAR. FASCICULARIS, BACCHARIS PILULARIS, CULRENTISMA, ADDINOSTOMA FASCICULATUM, CEANOTHUS CUNEATUS VAR. FASCICULARIS, BACCHARIS PILULARIS, CULRECUS AGRIFOLIA, SALVIA MELLIEFER, ARTEMISIS CULRETUS VAR. FASCICULARIS, BACCHARIS PILULARIS, CULRECUS AGRIFOLIA, SALVIA MELLIEFER, ARTEMISIS CULRECUS AGRIFOLIA, SALVIA MELLIEFER, ARTEMISIS CULRETIONA CHEETEMOMELES ARBUTIFOLIA, ET AL. CENTRAL MARTITIME CHAPABRAL DOMINA	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST; PROPOSED HARBOR (1986). ALSO THREATENED BY FOOT TRAFFIC. EASTERN POLYGON: FUTURE DEVELOPMENT. WESTERN POLYGON: INVASION OF VELDT GRASS. 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236 Clarkia speciosa ssp. immaculata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum 238 Castilleja densiflora var. obispoensi 239 Dithyrea maritima 240 Scrophularia atrata 241 Monardella undulata ssp. crispa 242 Arctostaphylos purissima	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's clover beach spectaclepod black-flowered figwo crisp monardella La Purisima manzanita	Arroyo Grande NE Arroyo Grande NE Point Sal Arroyo Grande NE Point Sal rt Pismo Beach Point Sal a Point Sal Arroyo	210 201411XX 201211XX MARIA PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT USFWS- GUADALUPE- GUADALUPE- 40 19980724 19980724 NIPOMO DUN 200 20030519 20030519 PVT 40 19840629 19840629 PVT PVT, SLO 200 20030403 20030403 COUNTY 100 19940909 19940909 PVT DOD- VANDENBERG 1050 19960314 19960314 AFB, PVT DOD- VANDENBERG 1050 19920807 19920807 AFB, PVT	None Endangered ES None None None None None None	None Threaten None Threaten None None	G3G4 G4T1 G5T2 G62? G3T2 G2	53 51 18.1 51 18.2 52 18.2 51 18.1 52? 18.2 52 18.2 52 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG BLM_S BLM_S SB_RSABG BLM_S SB_RSABG BLM_S	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER. NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIR MILE SOUTHWEST OF POORMAN CANYON. ABOUT 0.5 MILE NORTH OF MUSSEL ROCK, NORTH OF POINT SALEAST SIDE OF PRICE CANYON, EAST OF PISMO CREEK, JUST NORTH OF PISMO BEACH. GUADALUPE OIL FIELD, ABOUT 1.4 MILES NORTH OF THE SANTA MARIA RIVER AND 3.5 MILES WEST OF GUADALUPE. NORTH SIDE OF POINT SAL RIDGE, WEST SIDE OF CORRALITOS CANYON ABOUT 2.5 MILES EAST OF POINT SAL, SOUTHWEST OF GUADALUPE. 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WITH HAPLOPAPPUS ERICOIDES, SENECIO BLOCHMANIAE, AND THE RARE CASTILLEIA MOLLIS AND DITHYREA MARITIMA. CALIFORNIA ANNUAL GRASSLAND DOMINATED BY EHRHARTA CALYCINA. PATCHES WERE ALSO FOUND IN DISTURBED AREA ALONG MARGIN OF QUERCUS AGRIFOLIA WOODLAND. ON FOREDUNES WITH SMALL EAST-WEST TERNOING RIDGES. DUNE SCRUB WITH AMBROSIA, ABRONIA LATIFOLIA, AND MALACOTHRIX INCANA. IN DRAINAGES LEADING TO PISMO CREEK. IN RIPARIAN AND COYOTE BRUSH SCRUB HABITAT ADJACENT TO INTERMITTENT DRAINAGE CHANNELS. HIGHLY DISTURBED ACTIVE TO PARTIALLY STABILIZED (COVERED WITH THIM ASPHALT) SAND DUNES. ASSOCIATED WITH SCATTERED CASTILLEIA MOLLIS, SOME CARPOBROTUS. CENTRAL MARRIME CHAPARRAL DOMINATED BY A. RUDIS, A. PURISSIMA, ADENOSTOMA FASCICULATUM, CEANOTHUS CALIFORNICA, HETEROMELES ARBUTFIOLIA, ET AL. CENTRAL MARRIME CHAPARRAL DOMINATED BY A. RUDIS, A. PURISSIMA, ADENOSTOMA FASCICULATUM, CEANOTHUS CUNEATUS VAR. 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HEAVY WINTER SURF IN 1983 REMOVED PART OF FOREDUNES. POTENTIAL DEVELOPMENT. ONGOING OILFIELD ACTIVITIES. NON- NATIVE PLANTS.	550 085 13 JM 1996. 350 085 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK; PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WESTERN POLYGON & 300-400 INDIVIDUALS OBSERVED AT WESTERN POLYGON & 300-400 INDIVIDUALS OBSERVED AT EASTERN POLYGON IN 2016. 3 COLONIES MAPPED BY VANDERWIER IN 1981. POPULATION HAS BEEN REDUCED IN SIZE ACCORDING TO MCLEOD, 1986. 554 PLANTS COUNTED IN 1990. UNKNOWN NUMBER OF PLANTS SEEN DURING 1998 SURVEY FOR DITHYREA MARITIMA. 304-PLANTS SEEN IN EASTERN POLYGON AND 100 PLANTS IN WESTERN POLYGON IN 2003. 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236 Clarkia speciosa ssp. immaculata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum 238 Castilleja densiflora var. obispoensi 239 Dithyrea maritima 240 Scrophularia atrata 241 Monardella undulata ssp. crispa 242 Arctostaphylos purissima	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's clover beach spectaclepod black-flowered figwo crisp monardella La Purisima manzanita	Arroyo Grande NE Arroyo Grande NE Point Sal Arroyo Grande NE Point Sal rt Pismo Beach Point Sal a Point Sal Arroyo	200 2030519 2030519 PVT 40 19940629 19940629 PVT 40 19940629 19940909 PVT 100 19940909 19940909 PVT DOD-VANDENBERG 1050 19920807 19920807 AFB, PVT 200 19920528 PVT 200 19920528 19920528 PVT USFWS-	None Endangered ES None None None None None None	None Threaten None Threaten None None	G3G4 G4T1 G5T2 G62? G3T2 G2	53 51 18.1 51 18.2 52 18.2 51 18.1 52? 18.2 52 18.2 52 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG BLM_S BLM_S SB_RSABG BLM_S SB_RSABG BLM_S	EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER. NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIR MILE SOUTHWEST OF POORMAN CANYON. ABOUT 0.5 MILE NORTH OF MUSSEL ROCK, NORTH OF POINT SAL. EAST SIDE OF PRICE CANYON, EAST OF PISMO CREEK, JUST NORTH OF PISMO BEACH. GUADALUPE OIL FIELD, ABOUT 1.4 MILES NORTH OF THE SANTA MARIA RIVER AND 3.5 MILES WEST OF GUADALUPE. NORTH SIDE OF POINT SAL RIDGE, WEST SIDE OF CORRALITOS CANYON ABOUT 2.5 MILES EAST OF POINT SAL, SOUTHWEST OF GUADALUPE. 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FEWER THAN 10 PLANTS SEEN IN THE SAGE SCRUB IN 1981; 50-100 SEEN IN 1984. 1986 IN THE DUNES. 1994 SMITH COLLECTION FROM PLANTS SEEN IN THE SAGE SCRUB IN 1981; 50-100 SEEN IN 1984. 1986 IN THE DUNES. 1994 SMITH COLLECTION FROM 1959 TO 1996 COLLECTED FROM THE NORTH BASE OF POINT SAL RIGHT SHOWN NUMBER OF PLANTS OBSERVED DURING 1988 ARCTOSTAPHYLOS RUDIS SURVEYS. VAGUE COLLECTIONS FROM 1959 TO 1996 COLLECTED FROM THE NORTH BASE OF POINT SAL RIGHT SARE ASCAS ATTRIBUTED TO THIS SITE, "COMMON" IN 1996. 1000 PLANTS OBSERVED BETWEEN OCCURRENCES #4, 6, AND 29 IN 1988. THIS AREA SERVES AS A BUFFER FOR USAF MISSEL CHUNCHES AND MAY BE SET ASIDE BY DPR. 1992 KEELEY COLLECTIONS FROM "ROAD TO PT SAL, 6 KM NE OF PT SAL" ALSO ATTRIBUTED HERE.
236 Clarkia speciosa ssp. immaculata 236 Clarkia speciosa ssp. immaculata 237 Cirsium rhothophilum 238 Castilleja densiflora var. obispoensi 239 Dithyrea maritima 240 Scrophularia atrata 241 Monardella undulata ssp. crispa 242 Arctostaphylos purissima	overwintering population western pond turtle Pismo clarkia surf thistle San Luis Obispo owl's clover beach spectaclepod black-flowered figwo crisp monardella La Purisima manzanita	Arroyo Grande NE Arroyo Grande NE Point Sal Arroyo Grande NE Point Sal rt Pismo Beach Point Sal a Point Sal Arroyo Grande NE	210 201411XX 201211XX MARIA PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL PVT-MICHAEL STATE USFWS- GUADALUPE- GUADALUPE- 19980724 NIPOMO DUN 200 20030519 20030519 PVT PVT, SLO 200 20030403 20030403 COUNTY 100 19940909 19940909 PVT DOD- VANDENBERG 1050 19960314 19960314 AFB, PVT DOD- VANDENBERG 1050 19920807 19920807 AFB, PVT 200 19920528 19920528 PVT	None Endangered ES None None None None None None Endangered	None Threaten None Threaten None None	G3G4 G4T1 G5T2 G62? G3T2 G2	53 51 18.1 51 18.2 52 18.2 51 18.1 52? 18.2 52 18.2 52 18.2	SSC	BLM_S; IUCN_VU; USFS_ SB_RSABG; SB_SBBG BLM_S; SB_SBBG BLM_S BLM_S SB_RSABG BLM_S SB_RSABG BLM_S	AND PREISKER LANE, SANTA MARIA. EAST FORK OF PISMO CREEK FROM WHERE BRIDGE ON HWY 227 S CROSSES CREEK, NW TO PROPERTY LINE; NNE OF GROVER CITY. EAST OF CORBIT CANYON, BETWEEN 0.7 TO 1.3 AIR MILES NE OF THE JUNCTION OF CORBETT CANYON ROAD AND HIGHWAY 227. DUNES NORTH OF GUADALUPE OIL FIELD, ABOUT 1.7 MILES NNE OF THE MOUTH OF SANTA MARIA RIVER. NORTH OF ARROYO GRANDE, APPROXIMATELY 0.5 AIR MILE SOUTHWEST OF POORMAN CANYON. ABOUT 0.5 MILE NORTH OF MUSSEL ROCK, NORTH OF POINT SALEAST SIDE OF PRICE CANYON, EAST OF PISMO CREEK, JUST NORTH OF PISMO BEACH. GUADALUPE OIL FIELD, ABOUT 1.4 MILES NORTH OF THE SANTA MARIA RIVER AND 3.5 MILES WEST OF GUADALUPE. NORTH SIDE OF POINT SAL RIDGE, WEST SIDE OF CORRALITOS CANYON ABOUT 2.5 MILES EAST OF POINT SAL, SOUTHWEST OF GUADALUPE. NORTH SIDE OF POINT SAL RIDGE, WEST SIDE OF CORRALITOS CANYON ABOUT 2.5 MILES EAST OF POINT SAL, SOUTHWEST OF GUADALUPE.	1993: ROOSTS IN PINE GROVE IN THE SW CORNER OF PREISKER PARK, KNOWN AS "GRANDCHILDREN'S GROVE." 1999: E SIDE OF PARK, 2012: DOUBLE ROW OF TREES ALONG S & E EDGES OF THE PARK, OBSERVATIONS DURING THANKSCIVING COUNT. KERCES SITE #2676. MAP PROVIDED IN FSF UNCLEAR, SO MAPPED ACCORDING TO COORDINATES PROVIDED; SITE HAS BEEN PROPOSED FOR DEVELOPMENT INTO GOLF COURSE, BUT DELAYED DUE TO OWNER GOING INTO BANKRUPTCY. 3 POLYGONS MAPPED BY CNDDB. MAPPED WEST OF STAGECOACH ROAD AT VINTON LANE, EAST OF STAGECOACH ROAD AT PALOMA PLACE, AND JUST NORTH OF THE END OF EL SUENO WAY. MAPPED ABOUT 0.2 MILE WEST OF "DEE" BENCHMARK, FORMERLY REFERRED TO AS THE "MOBIL PROPERTY"; MANAGED BY TNC (1990); AS OF 2015, SITE LOOKS TO BE OWNED BY THE USFWS. 3 COLONIES MAPPED AS 2 POLYGONS IN THE SOUTH 1/2 OF SECTION 16. WESTERN POLYGON IS IN OPEN SPACE AREA AT CORNER OF LA CANADA AND JAMES WAY. INLAND SIDE OF FOREDUNES. NORTH FROM SEWAGE TREATMENT FACILITY. APPROXIMATELY 2000 FEET FROM HIGHWAY 101. 2 POLYGONS MAPPED IN THE WEST 1/2 OF THE NW 1/4 OF SECTION 18. MAPPED AS AN ASSOCIATE. NORTH TRENDING RIDGE OF POINT SAL RIDGE. MAPPED AS 2 POLYGONS MAPPED ACCORDING TO A 1986 BOWLAND MAP. ON SILVA PROPERTY NEAR PATCHETT ROAD. 2 POLYGONS MAPPED TO A 1988 NICHOLS MAP. ON SILVA PROPERTY NEAR PATCHETT ROAD. 2 POLYGONS MAPPED TO A 1988 NICHOLS MAP. ON SILVA PROPERTY NEAR PATCHETT ROAD. 2 POLYGONS MAPPED ACCORDING TO 2013 & 2014 ELVIN COORDINATES. N POLYGON: "SNAKEBIKE" NORTH OF "3-POND VALLEY", 650 M FROM THE S BOUNDARY OF THE REFUGE. S POLYGON'-4-POND VALLEY", COLORADO POND, "80 M FROM S	& EUCALYPTUS BISECTED BY PARK ROAD; MONARCHS ROOSTED IN THE OPENING CREATED BY THE ROAD, 1999: TRANSITORY, MAINLY AUTUMNAL ROOST, 2012: ORNAMENTAL PLANTS & PONDS THROUGHOUT PARK. PERMANENT CREEK BORDERED BY GRASSLAND AND IN A FEW PLACES, WILLOWS; WIDTH VARIES FROM A TO 7 FEET; DEPTH VARIABLE FROM INCHES TO A COUPLE OF FEET. INTRODUCED ANNUAL GRASSLAND. ON FRINGE OF COASTAL SCRUB HABITAT. SANDY SOILS. AT THE BASES OF SMALL TRANSVERSE SAND RIDGES, FROM THE FOREDURES EXTEMDING INLAND ABOUT 0.3 MILE. WITH HAPLOPAPPUS ERICOIDES, SENECIO BLOCHMANIAE, AND THE RARE CASTILLEIA MOLLIS AND DITHYREA MARITIMA. CALIFORNIA ANNUAL GRASSLAND DOMINATED BY EHRHARTA CALYCINA. PATCHES WERE ALSO FOUND IN DISTURBED AREA ALONG MARGIN OF QUERCUS AGRIFOLIA WOODLAND. ON FOREDUNES WITH SMALL EAST-WEST TERNOING RIDGES. DUNE SCRUB WITH AMBROSIA, ABRONIA LATIFOLIA, AND MALACOTHRIX INCANA. IN DRAINAGES LEADING TO PISMO CREEK. IN RIPARIAN AND COYOTE BRUSH SCRUB HABITAT ADJACENT TO INTERMITTENT DRAINAGE CHANNELS. HIGHLY DISTURBED ACTIVE TO PARTIALLY STABILIZED (COVERED WITH THIM ASPHALT) SAND DUNES. ASSOCIATED WITH SCATTERED CASTILLEIA MOLLIS, SOME CARPOBROTUS. CENTRAL MARRIME CHAPARRAL DOMINATED BY A. RUDIS, A. PURISSIMA, ADENOSTOMA FASCICULATUM, CEANOTHUS CALIFORNICA, HETEROMELES ARBUTFIOLIA, ET AL. CENTRAL MARRIME CHAPARRAL DOMINATED BY A. RUDIS, A. PURISSIMA, ADENOSTOMA FASCICULATUM, CEANOTHUS CUNEATUS VAR. FASCICULARIS, BACCHARIS FILLULARIS, QUERCUS AGRIFOLIA, SALVIM MELLIFERA, ARTEMISIA CALIFORNICA, HETEROMELES ARBUTFIOLIA, ET AL. CENTRAL MARRIME CHAPARRAL DOMINATED BY A. RUDIS, A. PURISSIMA, ADENOSTOMA FASCICULATUM, CEANOTHUS CUNEATUS VAR. FASCICULARIS, BACCHARIS FILLULARIS, QUERCUS AGRIFOLIA, SALVIM MELLIFERA, ARTEMISIA CALIFORNICA, HETEROMELES ARBUTFIOLIA, ET AL. CENTRAL MARRIME CHAPARRAL DOMINATED BY A. RUDIS, A. PURISSIMA, ADENOSTOMA FASCICULATUM, CEANOTHUS CUNEATUS VAR. FASCICULARIS, BACCHARIS FILLULARIS, QUERCUS AGRIFOLIA, SALVIM RELIFERA, ARTEMISIA CALIFORNICA, HETEROMELES ARBUTFIOLIA, ET AL. CENTRAL MARTIME CHAPARRAL DOMINATE	(PARKING LOT & ROAD) (2012). CATTLE GRAZING ALONG CREEK; PROPOSED DEVELOPMENT WITH POTENTIAL LOSS OF NESTING SITES. AREA NOW OFF LIMITS TO ORVS, BUT THEY DAMAGED SITE IN PAST; PROPOSED HARBOR (1986). ALSO THREATENED BY FOOT TRAFFIC. EASTERN POLYGON: FUTURE DEVELOPMENT. WESTERN POLYGON: INVASION OF VELDT GRASS. AREA PREVIOUSLY OVERRUN BY ORVS. HEAVY WINTER SURF IN 1983 REMOVED PART OF FOREDUNES. POTENTIAL DEVELOPMENT. CONGOING OILFIELD ACTIVITIES. NON- NATIVE PLANTS. COM LINES AND FACILITY DEVELOPMENT, FIRE CONTROL. POTENTIAL DEVELOPMENT OF SITE.	550 085 13 JM 1996. 350 085 1 DEC 1997; ONLY 4 BY 7 JAN 1998. 50-77 (MAX) OBS OCT 1998-MAR 1999. 450 IN 2000. 21 IN 2012. 0 IN 2014. "MANY" INDIVIDUALS (ADULTS AND JUVENILES) OBSERVED IN CREEK; PROTECTION OF CREEK ACCOMMODATED IN ORIGINAL PLANS; DEVELOPMENT IN ABEYANCE, BUT WITH OR IF DEVELOPMENT OCCURS, THEN POTENTIAL LOSS OF NESTING SITES. IN 2003, 200 INDIVIDUALS OBSERVED AT WESTERN POLYGON & 300-400 INDIVIDUALS OBSERVED AT WESTERN POLYGON & 300-400 INDIVIDUALS OBSERVED AT EASTERN POLYGON IN 2016. 3 COLONIES MAPPED BY VANDERWIER IN 1981. POPULATION HAS BEEN REDUCED IN SIZE ACCORDING TO MCLEOD, 1986. 554 PLANTS COUNTED IN 1990. UNKNOWN NUMBER OF PLANTS SEEN DURING 1998 SURVEY FOR DITHYREA MARITIMA. 304-PLANTS SEEN IN EASTERN POLYGON AND 100 PLANTS IN WESTERN POLYGON IN 2003. COMMENT ON COLLECTION ASSOCIATED WITH EASTERN POLYGON: "THE FAR LEFT SPECIMEN APPEARS TO BE A HYBRID WITH C. DENSIFLORA."" INCLUDES FORMER EOR21. MORE THAN 100 PLANTS OBSERVED IN 1984. 300-400 PLANTS SEEN IN 2003; PLANTS IN LARGE POPULATIONS WITH DENSE CLUSTERS. FEWER THAN 10 PLANTS SEEN IN THE SAGE SCRUB IN 1981; 50-100 SEEN IN 1984-1986 IN THE DUNES. 1994 SMITH COLLECTION FROM" FROM"NE SECTION OF GUADALUPPE OIL FELDIO" ATTRIBUTED TO THIS SITE; EXACT LOCATION OF COLLECTION UNKNOWN. UNKNOWN NUMBER OF PLANTS OBSERVED DURING 1988 ARCTOSTAPHYLOS RUDIS SURVEYS. VAGUE COLLECTIONS FROM 1999 TO 1996 COLLECTED FROM THE NORTH BASE OF POINT SAL RIDGE ARE ALSO ATTRIBUTED TO THIS SITE; EXACT LOCATION OF COLLECTION THASE OF POINT SAL RIDGE ARE ALSO ATTRIBUTED TO THIS SITE; EXACT LOCATION OF PDR. 1992 FELE PLOY THIS SEE ALSO BOYNES FOR THE PORT OF SALF, AND 99 IN 1998. THIS AREA SERVES AS A BUFFER FOR USAF MISSLE LAUNCHES AND MAY BE SET ASIDE BY DPR. 1992 PLESTEY COLLECTIONS FROM "ROAD TO PLANTS OBSERVED BETWEEN OCCURRENCES #4, 6, AND 29 IN 1988. THIS AREA SERVES AS A BUFFER FOR USAF MISSLE LAUNCHES AND MAY BE SET ASIDE BY DPR. 1992 PLESTEY COLLECTIONS FROM "ROAD TO PLANTS OBSERVED BETWEEN OCCURRENCES #4, 6, AND 29 IN 1988. THIS AREA SERVES AS A BU

THIS AREA WAS UNDEVELOPED UNTIL 2003; SITE WAS GRADED BY 2004 AND RESIDENTIAL HOMES CONSTRUCTED BY 2005.

													HABITAT CONSISTS OF RIPARIAN DOMINATED BY WILLOW,		
											SANTA MARIA RIVER, APPROXIMATELY 3 MILES WEST		WITH A STEADY WATER FLOW MAINLY DUE TO IRRIGATION RETURN; SURROUNDED BY OPEN GRASSLAND AND	THREATENED BY IRRIGATION RUNOFF	
246 Rana draytonii	California red-legged frog	Santa Maria	155 20070206 20070206 UNKNOWN	I Thre	eatened No	ne G2G3	s S2S3		SSC	IUCN_VU	(DOWNSTREAM) OF THE HIGHWAY 101 RIVER CROSSING, NW OF SANTA MARIA.		AGRICULTURE. CHANNEL IS 75 FEET WIDE. WESTERN SPADEFOOT TOAD WAS ALSO FOUND HERE IN 1995.	OF FERTILIZERS AND PESTICIDES INTO	3 ADULTS OBSERVED ON 1 APR 1995. 3 EGG MASSES OBSERVED ON 6 FEB 2007.
240 Kana diaytonii	nog	Santa Iviana	133 20070200 20070200 ONKNOWN	11116	raterieu ivo	iie	3233		330	IOCN_VO	SANTA WARIA.		HABITAT CONSISTS OF RIPARIAN DOMINATED BY WILLOW,	THE SAINTA WANTA RIVER.	0 FEB 2007.
											SANTA MARIA RIVER, APPROXIMATELY 3 MILES WEST		WITH A STEADY WATER FLOW (STEADY WATER FLOW IS MAINLY DUE TO IRRIGATION RETURN); SURROUNDED BY OPEN		
247 Spea hammondii	western spadefoot	Santa Maria	155 19950606 19950606 UNKNOWN	l Non	e No	ne G3	S3		SSC	BLM_S; IUCN_NT	(DOWNSTREAM) OF THE HIGHWAY 101 RIVER CROSSING, NW OF SANTA MARIA.		GRASSLAND AND AGRICULTURE. CHANNEL IS 75 FEET WIDE. RED-LEGGED FROG IS ALSO FOUND HERE.	OF FERTILIZERS AND PESTICIDES INTO THE SANTA MARIA RIVER.	1 TADPOLE OBSERVED ON 6 JUN 1995.
												2 POLYGONS MAPPED BY CNDDB. MAPPED JUST NORTHWEST OF	AREAS OF DISTURBED AND UNDISTURBED CALIFORNIA ANNUAL GRASSLAND DOMINATED BY EHRHARTA CALYCINA ON		W POLYGON: 12 PLANTS IN 1997, 100S OF PLANTS IN 1998, 20,000 PLANTS IN 2003, LOCALLY COMMON IN 2006. E POLYGON: 8,000
248 Clarkia speciosa ssp. immaculata	Pismo clarkia	Arroyo Grande NE	200 20080812 20080812 PVT	End	angered Ra	re G4T1	S1	1B.1		SB_RSABG; SB_SBBG		JAMES WAY/LA CANADA JUNCTION AND 0.3 MILE NORTHEAST OF JUNCTION.			PLANTS OBSERVED IN 2003. PLANTS WERE "PREVALENT" IN THIS AREA IN 2008.
2-to clarka speciosa ssp. immacalata	rismo ciarno	Grande HE	200 2000012 2000012 1 1 1	Liidi	angered no		. 51	10.1		35_13/130, 35_3550	7,111, 52, 53, 110, 111, 152,	Solicion.	CENTRAL COAST FOREDUNES. ASSOCIATED WITH CARPOBROTUS CHILENSIS, CAKILE MARITIMA, AMBROSIA	GINESS. FOTOILE DEVELOT MENT.	POPULATION NUMBERS ARE FOR PORTIONS OF SITE: 40 PLANTS
												MAPPED BY CNDDB AS 7 POLYGONS ACCORDING TO 2015-2019	CHAMISSONIS, CAMISSONIA CHEIRANTHOIDES, MALACOTHRIX		(115 RAMETS) ESTIMATED IN 1998, ~300 IN 2008, 368 IN 2012, 545
249 Dithyrea maritima	beach spectaclepod	Oceano	DPR-OCEAN 38 20190219 20190219 DUNES SVR		e Th	reatened G1	S1	1B.1		BLM_S	OCEANO.	DIGITAL DATA. COLLECTIONS FROM DUNES SOUTH OF OSO FLACO LAKE ARE ALSO ATTRIBUTED TO THIS SITE.	THE RARE CIRSIUM RHOTHOPHILUM.	AREA (2013), SAND ENCROACHMENT.	
														ORVS THREATEN THE HABITAT.	NOT FOUND AT OSO FLACO LAKE IN 1986. 34 PLANTS FOUND IN TWO COLONIES IN 1990 BY HENDRICKSON. NONE SEEN IN 1998 OR
			DPR-OCEAN	NO								MAPPED ALONG SOUTHERN SHORE OF PENINSULA AT WEST END OF		POOR/LOW REPRODUCTION. USFWS (2018) INDICATES SITE IS LIKELY	2015. VAGUE COLLECTIONS FROM 1949, 1960, 1962, AND 1968 COLLECTED NEAR "OSO FLACO LAKE" ARE ALSO ATTRIBUTED TO
250 Cirsium scariosum var. loncholepis	La Graciosa thistle	Oceano	15 2015XXXX 19900717 DUNES SVR	RA Enda	angered Th	reatened G5T1	. S1	1B.1			NORTHWEST SHORE OF OSO FLACO LAKE, SOUTH OF OCEANO.	LAKE; JUST EAST OF OUTLET.	IN SANDY SOIL WITH GRASSES.	EXTIRPATED.	THIS SITE. SEVERAL PLANTS OBSERVED. UNKNOWN WHEN PLANTS WERE
251 Ceanothus impressus var. nipomensis	Nipomo Mesa ceanothus	Pismo Beach	415 XXXXXXXX XXXXXXXX PVT	Non	e No	ine G3T2	52	1B.2			NW SIDE OF PRICE CANYON; APPROXIMATELY 2.1 AIR MILES NORTH OF THE JUNCTION OF PRICE CANYON ROAD WITH US-101.	NORTH RANCH. MAPPED ACCORDING TO A 2009 LFR INC MAP, NEAF	CENTRAL MARITIME CHAPARRAL ON THE TOP OF RIDGE.		OBSERVED; SURVEYS PERFORMED IN THIS AREA IN 1996, 2003, 2007, AND 2008.
						ine G3T2		1B.2		DIM C	DUNES OF THE GUADALUPE OIL FIELD, ABOUT 1 MILE NNE OF	ABOUT 0.6 MILE SW OF DEE BENCHMARK; TWO COLONIES MAPPED AS SINGLE POLYGON AT THIS SITE.			UNKNOWN NUMBER OF PLANTS REPORTED BY VANDERWEIR IN
252 Monardella undulata ssp. crispa	crisp monardella	Point Sal	80 1981XXXX 1981XXXX UNKNOWN USFWS-		ie No	ine G312	. 32	16.2		BLM_S			CENTRAL COASTAL DUNE SCRUB.		ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL
253 Erigeron blochmaniae	Blochman's leafy daisy	Oceano	GUADALUP 100 198112XX 198112XX NIPOMO DI		e No	ne G2	S2	1B.2		BLM_S	DUNES WEST OF SANTA MARIA VALLEY, ABOUT 1.5 MILES SSE OF OSO FLACO LAKE.	ELEVATION MARKER.			PROVIDED BY VANDERWIER; DATA IS FROM "TNC STUDY 12/81," UNKNOWN IF THIS REPRESENTS SURVEY DATE OR REPORT DATE.
											GUADALUPE DUNES, ABOUT 2 MILES SOUTH OF OSO FLACO LAKE OUTLET AND 3.5 MILES WEST OF HIGHWAY 1, NORTHWEST OF				ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1981 REPORT AND MAP BY J. VANDERWIER, UNKNOWN NUMBER OF PLANTS
254 Dithyrea maritima	beach spectaclepod	Oceano	80 1981XXXX 1981XXXX UNKNOWN	l Non	e Th	reatened G1	S1	1B.1		BLM_S	GUADALUPE.	VANDERWIER.	CENTRAL COASTAL FOREDUNES.		SEEN. ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL
255 Erigeron blochmaniae	Blochman's leafy daisy	Point Sal	40 198112XX 198112XX UNKNOWN	I Non	e No	ne G2	S2	1B.2		BLM_S	DUNES NEAR SANTA MARIA RIVER, ABOUT 1.5 MILES NORTH OF MOUTH OF RIVER.	SITE MAPPED ABOUT 0.25 MILE SOUTHWEST OF THE ""DEE"" ELEVATION MARKER.			PROVIDED BY VANDERWIER; DATA IS FROM "TNC STUDY 12/81," UNKNOWN IF THIS REPRESENTS SURVEY DATE OR REPORT DATE.
												MAPPED ACC TO A 1985 BOWLAND MAP & A 1989 PRICE MAP. A 1998 CHESNUT MAP SHOWS THAT THE W POLY SHOULD BE FURTHE	NIN DRAINAGE DITCH ADIACENT TO EARMED'S EIEI DS NEAD	ACDICULTURE LOTS OF TRASH DUMBER	D E-POLY: ~300 IN 1989 FORMING PURE STAND IN DITCH; ~500 IN
			PVT (LEASE	·D								SE & THERE IS ANOTHER POP TO THE NW OF THE E POLY; NO PLANT	TYPHA/SCIRPUS VEGETATION ALONG MARGIN OF LAKE.	IN AREA, DRAINAGE DITCH DREDGED,	1993 & 1994; 0 IN 1998. W-POLY: <10 IN 1985, 0 IN 1989 & 2005.
256 Nasturtium gambelii	Gambel's water cress	Oceano	20 20051221 19940806 FROM STAT		angered Th	reatened G1	S1	1B.1		SB_RSABG; SB_SBBG	SOUTHERN END OF LITTLE OSO FLACO LAKE, SOUTH OF OCEANO.	WERE FOUND HERE & CNDDB HAS NO INFO TO SUPPORT THESE LOCATIONS.	FORMING A PURE STAND IN THE DITCH BORDERED BY CONIUN MACULATUM AND URTICA.	WITH INTROGRESSION.	SPECIMENS FROM SITE APPEAR TO BE EITHER N. OFFICINALE OR N. GAMBELII X OFFICINALE; PURE N. GAMBELII MAY BE EXTIRPATED.
													CHAPARRAL, COAST LIVE OAK WOODLAND, AND ANNUAL		5 MANZANITA SHRUBS OCCUR IN A BAND ACROSS A SE FACING SLOPE BETWEEN OAK WOODLAND AND CHAPARRAL AREAS.
	Santa Margarita	Arroyo										ON SOUTHEAST FACING SLOPE AND ALSO AT TOP OF SLOPE APPROXIMATELY 100 FEET EAST OF LARGE WATER TANK. MAPPED A	GRASSLANDS ARE THE DOMINANT HABITATS ON THIS PARCEL. S SOILS ARE A SANDY LOAM. RARE CHORIZANTHE RECTISPINA		INDIVIDUALS MORE THAN 40 YARDS APART, WITH TWO ADDITIONAL DEAD SHRUBS ONSITE. THIS OCCURRENCE WAS
257 Arctostaphylos pilosula	manzanita	Grande NE	320 20030801 20030801 PVT	Non	e No	ne G2?	S2?	1B.2		BLM_S; SB_SBBG; USFS_S	S SOUTH NOYES ROAD, CANYON NO. 2, ARROYO GRANDE.	2 POLYGONS NEAR WATER TANK. TWO COLONIES ALONG THE NORTH EDGE OF THE GUADALUPE	ALSO OCCURS HERE.	FUTURE DEVELOPMENT.	PREVIOUSLY A. WELLSII OCCURRENCE #17. MORE THAN 300 PLANTS OBSERVED IN 1998. UNKNOWN NUMBER
												DUNES; ONE COLONY MAPPED 0.25 MILE SOUTH OF OSO FLACO LAKE, THE SECOND COLONY ABOUT 0.5 MILE SE OF LAKE. WITHIN			SEEN IN 1999. INCLUDES SEVERAL COLLECTIONS AND OBSERVATIONS FROM OSO FLACO, "JUST S OSO FLACO LAKE," "BIG
258 Delphinium parryi ssp. blochmaniae	dune larkspur	Oceano	DPR-OCEAN 80 19990321 19990321 DUNES SVR		e No	ine G4T2	. S2	1B.2		BLM_S	COREOPSIS HILL, JUST SOUTH OF OSO FLACO LAKE, SOUTH OF OCEANO.	THE SW 1/4 SE 1/4 OF SECTION 13 AND THE NE 1/4 NE 1/4 OF SECTION 24.	NORTH-FACING SLOPE IN STABILIZED DUNE SCRUB.		COREOPSIS HILL, NE BASE OF HILL," "ALMOND MEADOWSNEAR OSO FLACO LAKE,"
250 500,000,000,000	danc landpar	Occurs	00 13330321 13330321 801123311				. 52	10.2		Sam_3		2 POLYGONS MAPPED ACCORDING TO 2004 HELMKAMP COORDINATES. INCLUDES COLLECTIONS FROM "1.5 MI N OF BLACK			MAIN SOURCES FOR THIS SITE ARE TWO 2004 HELMKAMP COLLECTIONS, PLANTS NOTED AS UNCOMMON. 1993 GRAFF
												LAKE," "1-3 MI S OF PISMO BEACH," "ARROYO GRANDE," "OCEANO,"	OCCASIONAL RATHER PURE STANDS OF MONARDELLA CRISPA		COLLECTIONS FROM VICINITY REPORT PLANTS AS LOCALLY
259 Monardella undulata ssp. crispa	crisp monardella	Oceano	23 20040430 20040430 DPR-PISMO	SB Non	e No	ne G3T2	S2	1B.2		BLM_S		"DUNE LAKES S OF OCEANO," ETC. POP LIKELY MORE EXTENSIVE; MAP DETA	AND LUPINUS CHAMISSONIS AND HIGHER CRESTS DOMINATED BY WILLOWS.)	INFREQUENT TO ABUNDANT. INCLUDES HISTORIC COLLECTIONS FROM 1920-1972. POSSIBLE HYBRIDS.
												XERCES SITES #3064 (WEST) & #3065 (EAST; AKA "PIKE" SITE). AGGREGATIONS WERE IN WINDROW ADJACENT TO THE HALCYON			W: REPORTEDLY A LARGE SITE PRIOR TO 1990; 0 FOUND 1990, 93-
	monarch - California overwintering										ALONG THE SOUTH SIDE OF THE PIKE, BETWEEN ELM STREET AND	CEMETERY BEFORE 1990 (W). AFTER VEGETATION REMOVAL (CA. D 1990) MONARCHS AGGREGATED FURTHER EAST, BEHIND A	AUTUMNAL ROOST IN EUCALYPTUS WINDROW ALONG THE	VEGETATION CLEARING ELIMINATED	94, & 94. E, COUNT/YR: 1K/1990; 10/93-94; 15/96; 0/98; 450/2001, 0-32/02, 470-1300/03, 5503/04, 1800/05, 1900/06, 455/07, 175/08,
260 Danaus plexippus pop. 1	population	Oceano	90 201411XX 201311XX PVT	Non	e No	ne G4T2	T3 S2S3			USFS_S	GAYNFAIR TERRACE, HALCYON (ARROYO GRANDE).	RESIDENCE (E).	SOUTH SIDE OF THE PIKE (STREET).	ORIGINAL ROOST SITE.	296/09, 2944/10, 199/11, 179/12, 35/13, 0/14. SEE
											SOUTH OF THE CONFLUENCE OF LOS BERROS AND ARROYO	AREA BOUNDED BY BEACH TO THE WEST AND DUNE SCRUB TO THE	ABRONIA LATIFOLIA, A. MARITIMA, MALACOTHRIX INCANA, AMBROSIA CHAMISSONIS. CALYSTEGIA SOLDANELLA.		WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BA CKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF
261 Central Foredunes	Central Foredunes	Oceano	40 19801010 19801010 UNKNOWN	l Non	e No	ne G1	S1.2				GRANDE CREEKS, SW OF OCEAN AIRPORT.	EAST.	CARPROBROTUS CAKILE. CHAPARRAL, COAST LIVE OAK WOODLAND, AND ANNUAL	HEAVY RECREATIONAL USE.	RARE COMMUNITIES. 150-700 SHRUBS OBSERVED IN 2003. 50 SHRUBS OBSERVED ON
											CARPENTER CANYON; JUST WEST OF CARPENTER CANYON ROAD		GRASSLANDS ARE THE DOMINANT HABITATS. SOILS ARE A SANDY LOAM. ASSOCIATED WITH ADENOSTOMA	FUTURE DEVELOPMENT. POSSIBLY	ADJACENT PROPERTY IN 2005. THE RARE CHORIZANTHE RECTISPINA AND CASTILLEJA DENSIFLORA SSP. OBISPOENSIS ALSO OCCUR ON
202 Australia de Localdos de	Santa Margarita	Arroyo	200 20054245 20054245 81/5				522	40.3		DIAL C CD CDDC UCTC	(HWY 227) ABOUT 0.5 MILE NORTH OF PRINTZ ROAD, ARROYO	PLANTS OCCUR IN A BAND ACROSS A SOUTHEAST FACING SLOPE	FASCICULATUM, DENDROMECON RIGIDA, MIMULUS	VEGETATION MAINTENANCE BY	SITE. THIS OCCURRENCE WAS PREVIOUSLY A. WELLSII OCCURRENCE
262 Arctostaphylos pilosula	manzanita	Grande NE	300 20051215 20051215 PVT	Non	e No	ne G2?	S2?	1B.2		BLM_S; SB_SBBG; USFS_S	s GRANDE.	BETWEEN OAK WOODLAND AND CHAPARRAL AREAS.	AURANTIACUS, AND HELIANTHEMUM SCOPARIUM. SUBPOPULATIONS ASSOCIATED WITH ANNUAL GRASSLAND	LANDOWNER.	#16.
												10 SUBPOPULATIONS LOCATED WITHIN DESIGNATED POLYGON AS			2500-3000 INDIVIDUALS OBSERVED IN 2001. ""MANY"" INDIVIDUALS OBSERVED IN 2003. 500-1000 INDIVIDUALS SLATED IN
263 Clarkia speciosa ssp. immaculata	Pismo clarkia	Arroyo Grande NE	395 20030501 20030501 PVT	Enda	angered Ra	re G4T1	. S1	1B.1		SB_RSABG; SB_SBBG		PROVIDED BY REPORTER. SITE LOCATED IN THE SOUTH HALF OF THE SE 1/4 OF SECTION 12.	LAYER. CLARKIA PURPUREA AND CLARKIA UNGUICULATA ALSO PRESENT.	 PROPOSED IMMEDIATELY ADJACENT TO SITE. 	2001 TO BE PRESERVED IN CONSERVATION EASEMENT WELL OUTSIDE HOMESITE LOT LINES.
										_				ADVERSELY AFFECTED BY CATTLE GRAZING AND TRAMPLING.	
											GUADALUPE DUNES; E OF GUADALUPE OIL FIELD ALONG UNICAL	SWALE NORTH OF ENTRANCE ROAD. PORTION OF OCCURRENCE IS ON CHEVRON PROPERTY. MAPPED ACCORDING TO ELVIN DIGITAL		THREATENED BY GROUNDWATER DROPPING (DROUGHT-RELATED) &	420 PLANTS IN 2005, 280 IN 2006, 119 IN 2007, 94 IN 2008, 23 IN 2009, 34 IN 2010, 35 IN 2011, 18 IN 2012, 12 IN 2013, 1 IN 2014. NO
264 Cirsium scariosum var. loncholepis	La Graciosa thistle	Guadalupe	70 20170906 2014XXXX PVT	Enda	angered Th	reatened G5T1	S1	1B.1			RD, BETWEEN OSO FLACO LAKE AND THE SANTA MARIA RIVER.	DATA AND A 2017 PADRE AND ASSOCIATES MAP. 3.1 MI E OF THORNBERRY PL AT UNICAL RD. SITE NOW (2009)	HABITAT CONSISTS OF TWO FRESHWATER DUNE PONDS,	INVASIVES.	PLANTS IN 2015, 2016, OR 2017.
												APPEARS TO BE PART OF THE GUADALUPE-NIPOMO DUNES PRESERVE (TNC). FELDIADI MAPPED TO THIS LOCATION BASED ON	DOMINATED BY SCIRPUS SP. BOTH PONDS WERE 35-45 CM	E DOCCIDI E TUDEAT EDOM DEMEDIAL	4 ADULTS AND APPROXIMATELY 21 JUVENILE FROGS OBSERVED ON 15 AUGUST 1995. 10 TADPOLES OBS AT 1 POND ON 16 JAN & 1
	California red-legged											, DESCRIPTION ""GUADALUPE DUNES"" & ""PONDS LOCATED ONLY	DEEP WITH A WATER TEMPERATURE OF ~15 C. THE SHORES OF BOTH PONDS WERE HEAVILY TRAMPLED BY CATTLE, AND THE	CLEAN-UP OF AREA AND TRAMPLING BY	TADPOLE OBS AT NEARBY POND ON 22 JAN 2000 DURING A
265 Rana draytonii	frog	Point Sal	10 20000122 20000122 PVT-UNOCA	AL Ihre	eatened No	ne G2G3	S S2S3		SSC	IUCN_VU	7 MILES SOUTH OF OCEANO. NORTHERN PARTS OF NIPOMO, ABOUT 0.2 MILE SOUTH OF LOS	400M FROM PACIFIC OCEA	AQUATIC VEGETATION WAS BROWSED. SCATTERED IN FRINGE OF COASTAL DUNE SCRUB AND COAST	CATTLE.	NOCTURNAL OVERWINTERING TADPOLE SURVEY.
266 Scrophularia atrata	black-flowered figwort	Oceano	300 20050718 20050718 PVT	Non	e No	ne G2?	S2?	1B.2		SB_RSABG		MAPPED IN THE NW 1/4 OF THE SW 1/4 OF SECTION 35 ACCORDING TO A 2005 KEIL MAP.	WOODED SLOPE. SANDY SOILS OF NIPOMO MESA.	SITE PROPOSED FOR LOT SPLIT; USE OF SITE BY RESIDENTS.	ABOUT 20 PLANTS OBSERVED IN 2005.
	Santa Margarita	Arroyo									NORTH OF GROVER CITY, WEST OF CANYON NO. 1. 1.0-1.3 MILES		W-FACING SLOPE 400-580 FT ELEVATION. COASTAL SCRUB AND COAST LIVE OAK COMMUNITIES; BRIONES-PISMO LOAMY		AT LEAST 100 PLANTS IN 1997. THIS OCCURRENCE WAS PREVIOUSLY
267 Arctostaphylos pilosula	manzanita	Grande NE	500 19970415 19970415 PVT	Non	e No	ne G2?	S2?	1B.2		BLM_S; SB_SBBG; USFS_S	5 NW OF JUNCTION CENTRAL BLVD AND NOYES ROAD.		SANDS. CLARKIA SPECIOSA IMMACULATA NEARBY. GRAZED ANNUAL GRASSLAND WITH SHALLOW TO MODERATE	PLANNED FOR DEVELOPMENT.	A. WELLSII OCCURRENCE #14.
												2006 DART COLLECTION FROM "COLD CANYON LANDFILL PROPERTY	SLOPE. ASSOCIATED WITH LUPINUS BICOLOR, MEDICAGO	EVIDENCE OF PERIODIC GRAZING, BUT	
268 Castilleja densiflora var. obispoensis	San Luis Obispo owl's- clover		200 20060613 20060613 PVT	Non	e No	ine GETT	S2	1B.2		BLM_S	EAST OF PISMO CREEK AND NORTH OF CANADA VERDE, ABOUT 1 MILE SOUTH OF EDNA.	CARPENTER CYN RD (HWY 227), SAN LUIS OBISPO, S OF THE COMM OF EDNA" IS ATTRIBUTED HERE.			F 1500 PLANTS OBSERVED IN 2005. A 2006 DART COLLECTION IS ATTRIBUTED HERE, OVER 1000 PLANTS SEEN IN 2006.
200 Castilleja densilituta vat. Obispuetisis	COVE	Grande NE	200 20000013 20000013 FVI	INOII	.c Nu	6312	. 32	10.2		36W_3	MILE SOSTITUTE EDITA.	O. ESTAT DATINGOTED HERE.	HABITAT CONSISTS OF TWO PONDS DOMINATED BY LOW		
	California										0.5 MILE NORTH OF SANTA MARIA RIVER AND 1.7 MILES EAST OF		HERBACEOUS SPECIES, INCLUDING SOME SALIX SP. IT APPEARS IN AERIAL IMAGES (1994, 2000, 2002-4, 2008) THAT SUITABLE	CLEAN-UP; IT IS UNKNOWN TO WHAT	=
269 Rana draytonii	California red-legged frog	Guadalupe	75 19950816 19950816 PVT-UNOCA	AL Thre	eatened No	ne G2G3	S2S3		SSC	IUCN_VU	THE MOUTH OF SANTA MARIA RIVER, IN THE GUADALUPE OIL FIELDS.	HISTORIC PONDS ON TOPO MAP AT SOUTH END OF OIL PIPELINE.	HABATAT MAY HAVE BEEN ELIMINATED DUE TO "SITE CLEAN- UP."	AFFECTED.	6 ADULTS OBSERVED ON 16 AUGUST 1995.
												MAPPED BY CNDDB AS 3 POLYGONS. TWO WESTERN POLYGONS BASED ON 2015-2019 DIGITAL DATA; EASTERN POLYGON BASED ON	COASTAL AND BACK DUNES WITH CARPOBROTUS X. CHILENSIS, MALACOTHRIX INCANA, AMBROSIA CHAMISSONIS, ATRIPLEX	THREATENED BY ORVS, EROSION,	SE POLYGON: 54 PLANTS IN 1990. TWO NW POLYGONS: 92 IN 1990, 2 INDIVIDUALS (12 RAMETS) IN 1998, 390 IN 2008, 244 IN 2013 (9
270 Dithyrea maritima	beach spectaclepod	Oceano	DPR-OCEAN 20 20190219 20190219 DUNES SVR		e Th	reatened G1	S1	1B.1		BLM_S		A 1990 BERG MAP. SITE IS IN AN AREA OF EXPERIMENTAL REVEGETATION.	LEUCOPHYLLA, LUPINUS CHAMISSONIS, AND HAPLOPAPPUS ERICOIDES.		DEAD), 53 IN 2014, 337 IN '16, 252 IN '17, 276 IN '18, 370 IN '19.). INCLUDES COLLECTIONS FROM OSO FLACO LAKE.

														ADEA DESIGNATED AS ODEN SDAGE	200 01 ANTE FOLINO AT FLETTINI COLONY IN 2003 DI ANTE
											1 MILE NE OF JUNTION OF HWY 101 AND N OAK PARK BLVD, AT				300 PLANTS FOUND AT EASTERN COLONY IN 2003. PLANTS Y RESEMBLING CHORIZANTHE RECTISPINA OBSERVED IN 2003 AT
271 Chorizanthe rectispina	straight-awned spineflower	Arroyo Grande NE	160 20030718 20030718 PVT	None	None	G2	S2 1	.B.3		BLM_S; USFS_S	THE JUNCTION OF JAMES WAY AND LA CANADA, NORTH OF HWY 101.	TRACT 1998. 2 COLONIES MAPPED, BOTH IN THE SW 1/4 OF SECTION 16.		EXOTIC SPECIES. FUTURE DEVELOPMENT.	WESTERN COLONY DURING SURVEY FOR CASTILLEJA DENSIFLORA SSP. OBISPOENSIS; NEEDS REVISIT TO CONFIRM IDENTIFICATION.
•	·										DUNES WEST OF SANTA MARIA VALLEY, ABOUT 0.9 MILE	MAPPED ABOUT 1.3 MILES NORTHEAST OF 'OSO FLACO' ELEVATION	GROWING IN BACKDUNE SCRUB ON SAND WITH HAPLOPAPPUS		FEWER THAN 50 PLANTS OBSERVED BETWEEN THIS OCCURRENCE
272 Erigeron blochmaniae	Blochman's leafy daisy	Oceano	80 19810404 19810404 USFWS?	None	None	G2	S2 1	B.2		BLM_S	SOUTHEAST OF OSO FLACO LAKE.	MARKER.		ILLEGAL ORV USE & HUNTING.	AND OCCURRENCE #14 IN 1981.
													COASTAL DUNE SCRUB HABITAT (REMNANT) & BASE NEXT TO ASPHALT PAD. HABITAT DOM. BY ERICAMERIA ERICOIDES,		
													LUPINUS CHAMISSONIS, AND BACCHARIS PILULARIS ON SANDY		2 INDIVIDUALS FOUND ON ASPHALT PAD AND RELOCATED TO
273 Phrynosoma blainvillii	coast horned lizard	Point Sal	46 20080415 20080415 PVT-CHEVRON	None	None	G3G4	S3S4		SSC	BLM_S; IUCN_LC	GUADALUPE/NIPOMO DUNE COMPLEX, 4 MILES WEST OF GUADALUPE.	BENCHMARK AND 1 MILE NNW OF THE SANTA MARIA 2 BENCHMARK.	SOILS. AG FIELDS TO THE E, PRESERVE TO THE N, SANTA MARIA RIVER TO THE S.	WORK VEHICLES AND CATTLE.""	NEARBY COASTAL DUNE SCRUB HABITAT. HISTORICALLY OPERATED AS AN OIL FIELD.
															10+ PLANTS IN 2 COLONIES OBSERVED IN 1984. A 1986 GRIFFITHS COLLECTION FROM "2 MI S OF SANTA MARIA RIVER, MUSSEL ROCK
												TWO COLONIES ALONG WEST SIDE OF SMALL VALLEY AT THE BASE OF			DUNES" & A 1994 HRUSA COLLECTION FROM "UPPER SLOPES OF
274 Monardella undulata ssp. crispa	crisp monardella	Point Sal	200 19941118 19941118 PVT	None	None	G3T2	S2 1	B.2		BLM_S	SANTA MARIA RIVER, SOUTHWEST OF GUADALUPE.	HIGH DUNES.	ERICAMERIA ERICOIDES. IN MARSHY AREA OF CANYON BOTTOM, ASSOCIATED WITH	ORVS PREVIOUSLY OVERRAN AREA.	DEVIL'S SLIDE IMMED N OF MUSSELL PT" ATTRIBUTED HERE.
													ELEOCHARIS ROSTELLATA, EPIPACTIS GIGANTEA, SPARGANIUM, SEDGES, RUBUS URSINUS, MYRICA CALIFORNICA, AND SALIX		FEWER THAN 10 PLANTS OBSERVED IN 1985, UNKNOWN NUMBER OF PLANTS 1988, NONE FOUND IN 1992, 10 STEMS IN 1993, 2
												ABOUT 0.25-0.5 MILE WEST OF END OF GUADALUPE ROAD. IN	LASIOLEPIS. ANOTHER RARE PLANT, RORIPPA GAMBELII, IS	BIOSTIMULATION IN WATERSHED.	PLANTS OBSERVED IN 1994, 1 PLANT IN 1996. NONE IN 1998 OR
275 Arenaria paludicola	marsh sandwort	Oceano	50 2005XXXX 199606XX PVT	Endanger	red Endange	red G1	S1 1	.B.1		SB_SBBG	SOUTHEAST OF ARROYO GRANDE.	CANYON BOTTOM BEHIND RESIDENCE AT 2138 CALLENDER ROAD. 2 POLYGONS MAPPED ACCORDING TO 2016 AND 2017 MAP	FOUND ABOUT 200 M DOWNSTREAM.	PRESUMED EXTIRPATED BY 2007.	2005. PRESUMED EXTIRPATED (ELVIN, 2007). SEEDS WERE COLLECTED FROM NATURAL POPULATIONS ON THE
			LAND									INFORMATION. AREA IS PROTECTED AND MANAGED BY THE LAND CONSERVANCY OF SAN LUIS OBISPO. THIS REINTRODUCED			NIPOMO MESA IN 2005. OUTPLANTING EXPERIMENTS FIRST TOOK PLACE IN 2014-2015, BUT WERE NOT VERY SUCCESSFUL. IN 2016,
			CONSERVANCY								BLACK LAKE ECOLOGICAL AREA, SOUTH SIDE OF BLACK LAKE,	OCCURRENCE IS WITHIN 1/4 MILE OF NATURAL HISTORIC	EHRHARTA CALYCINA AND CONICOSIA PUGIONIFORMIS OCCUR	WAS NOT USED WITHIN 50 FT OF THE	278 INDIVIDUALS GERMINATED WITH 24 SUCCESSFULLY
276 Lupinus nipomensis	Nipomo Mesa lupine	Oceano	80 20160517 20160517 OF SLO COUNT DPR-OCEANO	Y Endanger	red Endange	red G1	S1 1	.B.1		SB_SBBG	ALONG THE EDGE OF THE GUADALUPE-NIPOMO DUNES. DUNES WEST OF SANTA MARIA VALLEY, ABOUT 1.3 MILES	OCCURRENCE #3.	IN VICINITY, BUT WERE REMOVED FROM ALL PLOT AREAS.	PLOTS.	REPRODUCING.
277 Erigeron blochmaniae	Blochman's leafy daisy	Oceano	100 197908XX 197908XX DUNES SVRA	None	None	G2	S2 1	B.2		BLM_S	SOUTHEAST OF OSO FLACO LAKE.	MAPPED ABOUT 1.2 MILES ENE OF 'OSO FLACO' ELEVATION MARKER MAPPED AS 2 POLYGONS ACCORDING TO A MAP FROM A 1998		ILLEGAL ORV USE. RABBIT BROWSE IN 1990, AREA	100+ PLANTS OBSERVED IN 1979. SE POLYGON: UNKNOWN NUMBER OF PLANTS AT LETTUCE LAKE,
			DPR-OCEANO									CHESTNUT REPORT (NW POLYGON) AND A 1980 MCCOY REPORT	IN DUNE SWALE WITH SALIX LASIOLEPIS, RUBUS URSINUS,	ALTERED BY TREE DEBRIS & LACK OF	MENTIONED IN A 1980 MCCOY REPORT; NO PLANTS SEEN IN 1998
278 Cirsium scariosum var. loncholepis	La Graciosa thistle	Oceano	DUNES STATE 30 2017XXXX 19900808 VRA	Endanger	red Threaten	ed G5T1	S1 1	B.1			ABOUT 0.5 MILE WEST OF JACK LAKE AND AT LETTUCE LAKE, SOUTH OF OCEANO.	WHICH MENTIONS THIS PLANT OCCURRING AT LETTUCE LAKE (SE POLYGON).		WATER. DISTURBANCE BY ORVS, ESPECIALLY AT LETTUCE LAKE.	OR 2017. NW POLYGON: 12 PLANTS OBSERVED IN 1990, NO PLANTS SEEN IN 1998, 2015, OR 2017.
													STABILIZED COASTAL DUNE SYSTEM, GROWING WITH ERICAMERIA ERICOIDES, CARPOBROTUS SPP., AMMOPHILA		150 PLANTS OBSERVED IN 2012. A 1926 DUDLEY COLLECTION FROM
			DPR-PISMO SB								AROUND OCEANO LAGOON, WEST SIDE OF OCEANO COUNTY		ARENARIA, AND EHRHARTA CALYCINA. FOUND ON VARIOUS		""NEAR MOUTH OF ARROYO GRANDE CR"" IS ALSO ATTRIBUTED TO
279 Erigeron blochmaniae	Blochman's leafy daisy	Oceano	20 20120706 20120706 PVT	None	None	G2	S2 1	B.2		BLM_S	AIRPORT.	3 POLYGONS MAPPED ACCORDING TO A 2012 TERRA VERDE MAP.	ASPECTS IN SANDY SOILS.	PLANTS.	THIS SITE. MAIN SOURCE OF INFORMATION IS MAP DETAIL FROM 1990
280 Monardella undulata ssp. crispa	crisp monardella	Point Sal	400 1990XXXX 1990XXXX SBA COUNTY	None	None	G3T2	52 1	.B.2		BLM_S	ABOUT 0.6 MILE SSE OF MUSSEL POINT, BETWEEN POINT SAL AND SANTA MARIA RIVER, SOUTHWEST OF GUADALUPE.		DLINE SCRUB COMMUNITY		REPORT ON THE BOTANICAL RESOURCES OF POINT SAL. UNKNOWN NUMBER OF PLANTS SEEN IN 1990.
200 World della diludiata 33p. Crispa	crisp monardena	r one sai	400 1330AAAA 1330AAAA 3BA COONTT	None	None	0312	32 1	.0.2		DEW_5			ANNUAL GRASSLAND ON SANDY SOIL AT THE EDGE OF COAST		NOWBER OF FEARING SEEVING 1990.
281 Clarkia speciosa ssp. immaculata	Pismo clarkia	Arroyo Grande NE	180 20090609 20090609 PVT	Endanger	red Rare	G4T1	S1 1	B.1		SB_RSABG; SB_SBBG	EAST OF PISMO CREEK, ABOUT 1 AIR MILE SOUTH OF THE INTERSECTION OF PRICE CANYON ROAD AND HIGHWAY 227.	2 POLYGONS MAPPED IN THE SOUTH 1/2 OF THE NW 1/4 OF SECTION 32.		POTENTIAL RESIDENTIAL DEVELOPMENT.	100 PLANTS OBSERVED IN 2009.
	California red-legged		DPR-OCEANO								SW END OF LITTLE OSO FLACO LAKE. PISMO DUNES STATE		HABITAT CONSISTS OF DUNE SWALES, DOMINATED BY JUNCUS, TULES, AND POISON OAK, SUBSTRATE IS SAND ON A LOW		
282 Rana draytonii	frog	Oceano	20 19980530 19980530 DUNES SVRA	Threaten	ied None	G2G3	S2S3		SSC	IUCN_VU	VEHICULAR RECREATION AREA.		SLOPE. ADJACENT UPLANDS ARE COMPRISED OF DUNE SCRUB.		1 ADULT OBSERVED ON 30 MAY 1998.
283 Delphinium parryi ssp. blochmaniae	dune larkspur	Oceano	DPR-OCEANO 60 1998XXXX 1998XXXX DUNES SVRA	None	None	G4T2	S2 1	B.2		BLM_S	JUST SOUTHEAST OF JACK LAKE, WEST OF SANTA MARIA REFINERY, SOUTH OF OCEANO.	SINGLE COLONY MAPPED ABOUT 100 M SE OF JACK LAKE.		INVASION OF HABITAT BY EHRHARTA CALYCINA & AMMOPHILA ARENARIA.	MORE THAN 300 PLANTS OBSERVED IN 1998.
												MAPPED ACCORDING TO 2008 PARIKH COORDINATES. INCLUDES COLLECTIONS FROM "SANTA MARIA, BEACH AND SAND A FEW MILES	COASTAL DUNE SCRUB, SANDY SOIL. ASSOCIATED WITH		"UNCOMMON" IN 2008. INCLUDES COLLECTIONS FROM BLOCHMAN (DATE UNKNOWN, PRE-1907), 1962 COLLECTIONS BY CHANDLER
												INLAND," "EDGE OF SANTA MARIA RIVER WASH ~1 MI INLAND FROM	ERICAMERIA ERICOIDES, MONARDELLA CRISPA, ERYSIMUM		AND BREEDLOVE, AND AN ANONYMOUS 1985 COLLECTION FROM
284 Erigeron blochmaniae	Blochman's leafy daisy	Point Sal	111 20080715 20080715 SBA COUNTY	None	None	G2	S2 1	.B.2		BLM_S	SOUTH OF RANCHO GUADALUPE DUNES COUNTY PARK, 0.4 KM S OF SANTA MARIA RIVER, 1.7 KM E OF PACIFIC OCEAN.	MOUTH," "MOUTH OF SANTA MARIA RIVER 2 MI W OF GUADALUPE," ETC.	INSULARE SSP. SUFFRUTESCENS, ERIOGONUM PARVIFOLIUM, CROTON CALIFORNICUS, ETC.		"250 FT W OF COUNTY LINE AND 750 FT SE OF RD, SANTA MARIA RIVER."
												MAPPED ACCORDING TO A 1981 HOWALD MAP. 1998 CHESTNUT MAP SHOWS POPULATION ALL ALONG THE EAST EDGE OF MUD LAKE	IN FRESHWATER MARSH ON BORDER OF DUNE LAKE.	THREATENED BY SDRAVING FOR DOISON	FEWER THAN 10 PLANTS SEEN IN 1981, 100+ PLANTS IN 1983, NONE N IN 1986. POPULATIONS FLUCTUATE GREATLY FROM YEAR TO YEAR.
												BUT SOURCE OF THIS INFORMATION IS UNCLEAR SINCE CHESTNUT	GRANDIS, DISTICHLIS SPICATA, SCIRPUS CALIFORNICUS,	OAK, WATER PUMPING. VEG	OFTEN MISIDENTIFIED AS C. BREVISTYLUM. NO PLANTS OBSERVED
285 Cirsium scariosum var. loncholepis	La Graciosa thistle	Oceano	20 20170830 19830614 PVT	Endanger	red Threaten	ed G5T1	S1 1	.B.1			OCEANO.	DID NOT ACTUALLY OBSERVE THE PLANTS.	POLYGONUM, AND RIBES DIVARICATUM. PLANTS AT EDGE OF ROAD SHOULDER AND EDGE OF MIXED	ACCUMULATION, LACK OF WATER.	IN 2017 LIKELY DUE TO LACK OF WATER AND VEG ACCUMULATION.
													CHAPARRAL AND COAST LIVE OAK WOODLAND. VELDT GRASS	ROAD MAINTENANCE, VEGETATION	TYPE LOCALITY. FEWER THAN 50 PLANTS SEEN IN 1983, ABOUT 30
		Arroyo										MAPPED ACCORDING TO 2008 EDELL COORDINATES. PLANTS FOUND	ARCTOSTAPHYLOS SP. AND QUERCUS AGRIFOLIA. SLIGHT	MANAGEMENT, VEHICLE TRAFFIC WHEI	N PLANTS IN 1987, 16 PLANTS IN 2008. COLLECTIONS FROM 1946,
286 Clarkia speciosa ssp. immaculata	Pismo clarkia	Grande NE	600 20080521 20080521 CALTRANS, PV	I Endanger	red Rare	G4T1	S1 1	.B.1		SB_RSABG; SB_SBBG	OF CARPENTER CANYON, NORTH OF ARROYO GRANDE.	AT SIDE ROAD WITH METAL GATE ACCORDING TO 1983 REPORT.	NORTHERN EXPOSURE, BUT MOSTLY AT TOP OF RIDGE.	CARS LEAVE PAVEMENT.	1947, AND 1987 ARE ALSO ATTRIBUTED TO THIS SITE. PLANTS FOUND S OF HERE (EO 16) DURING BLACK LAKE CYN GOLF
															COURSE EXPANSION PROJECT. SOIL SCRAPED FROM THERE IN 1995(?). PLANTS PRESENT AT LEAST 2 YEARS AFTER TRANSPLANT.
		_										THIS INTRODUCED POPULATION IS WITHIN 1/4 MILE OF NATURAL			DATE SEEN, SITE, & POP INFO NEEDED. NO PLANTS OR HABITAT
287 Clarkia speciosa ssp. immaculata	Pismo clarkia	Oceano	380 200605XX 199XXXXX PVT?	Endanger	red Rare	G4T1	S1 1	.B.1		SB_RSABG; SB_SBBG	AND POMEROY ROADS.	CNDDB OCCURRENCE #16.		PLANTS FOUND DURING BLACK LAKE	SEEN IN 2006. DATE SEEN, POPULATION SIZE, AND ECOLOGICAL INFORMATION
											NIPOMO MESA: BLACK LAKE CANYON GOLF COURSE. 0.9 MI NW	THIS NATURAL POPULATION IS WITHIN 1/4 MILE OF INTRODUCED		CANYON GOLF COURSE EXPANSION PROJECT; SOIL SUPPORTING 1/2 THE	NEEDED. MAY BE MONITORED BY HOLLAND AND OYLER, BUT NO INFO RECEIVED FROM THEM AT CNDDB. NO PLANTS OR HABITAT
288 Clarkia speciosa ssp. immaculata	Pismo clarkia	Oceano	370 200605XX 199XXXXX PVT	Endanger	red Rare	G4T1	S1 1	B.1		SB_RSABG; SB_SBBG	OF JUNCTION OF WILLOW AND POMEROY ROADS.	CNDDB OCCURRENCE #17.		POP TRANSPLANTED N (EO 17).	OBSERVED IN 2006.
289 Anniella pulchra	northern California legless lizard	Oceano	90 20010514 20010514 UNKNOWN	None	None	G3	S3		SSC	USFS_S	VICINITY OF HWY 1 AT CALLENDER RD, SOUTH OF OCEANO.				ONE COLLECTED ON 14 MAY 2001 AND USED AS A GENETIC REFERENCE FOR NEWLY DESCRIBED SPECIES OF ANNIELLA.
													ON STEEP NW-FACING SLOPE AT EDGE OF COAST LIVE OAK		"OCCASIONAL" IN 2010. THIS IS A RESTORATION PLANTING HOWEVER, THERE IS ALSO AN HISTORIC 1936 LEE COLLECTION
290 Ceanothus impressus var. nipomens	Nipomo Mesa	Oceano	115 20100407 20100407 PVT	None	None	G3T2	S2 1	B 2			ALONG OLD BLACK LAKE CANYON ROAD, APPROXIMATELY 1.6 AIR MILES EAST OF CALLENDER.	CHOIN PROPERTY. MAPPED ACCORDING TO 2010 BANIAGA COORDINATES. IN THE NW 1/4 OF THE NE 1/4 OF SECTION 9.	WOODLAND STAND. ASSOCIATED WITH BACCHARIS PILULARIS, QUERCUS AGRIFOLIA, AND PHOLISTOMA AURITUM.		FROM "1.6 MI E BLACK LAKE, 100 FT" KNOWN FROM THIS AREA SO THERE MAY BE NATURAL POPULATIONS IN THE AREA AS WELL.
250 Ceanotinas impressas var. importiens	ceanounus	Sceano	113 20100407 20100407 FV1	NOTE	None	0312	JE 1				THE STOT OF CALLENDERS.	COOKS MATES, IN THE NW 1/4 OF THE NE 1/4 OF SECTION 9.	QUELICOS AGINI OLIA, AND I TIOLISTOWIA MORTTOWI.		~20 PLANTS REPORTED IN 2006. COMMENT ON SURVEY FORM SAYS
											NORTH SIDE OF LYN ROAD, BETWEEN STANTON ROAD AND	MAPPED IN THE SW 1/4 OF THE SE 1/4 OF SECTION 34 ACCORDING	IN OPEN GRASSLAND ON FRINGE OF OAK WOODLAND. FAIRLY		
291 Clarkia speciosa ssp. immaculata	Pismo clarkia	Oceano	350 20060517 20060517 PVT	Endanger	red Rare	G4T1	S1 1	B.1		SB_RSABG; SB_SBBG	CAMINO PERILLO, NIPOMO MESA.	TO A 2006 LANGE MAP.	FLAT TOPOGRAPHY. COAST LIVE OAK WOODLAND STAND FORMING ECOTONE WITH	MAINTENANCE ACTIVITIES.	EFFORT"; SPECIES LIKELY OCCURS IN OTHER NEARBY AREAS. PLANTS OBSERVED IN THIS AREA IN 1980. "OCCASIONAL" WITHIN A
												CHOIN PROPERTY MARRIES ASSOCIATES TO THE TOTAL OF THE TOT	WETLAND VEGETATION. A RESTORATION PLANTING, SOIL		RESTORATION PLANTING AT MAPPED SITE IN 2010. A 1929 STARK
292 Arctostaphylos rudis	sand mesa manzanita	Oceano	80 20100407 20100407 PVT	None	None	G2	S2 1	.B.2		BLM_S	BLACK LAKE CANYON, NIPOMO MESA.	CHOIN PROPERTY. MAPPED ACCORDING TO 2010 BANIAGA COORDINATES, IN THE NW 1/4 OF THE NE 1/4 OF SECTION 9.	SANDY. ASSOCIATED WITH BACCHARIS PILULARIS, QUERCUS AGRIFOLIA, AND FRANGULA CALIFORNICA.	AREA HEAVILY DEVELOPED IN 1987.	COLLECTION FROM "5 MILES S OF ARROYO GRANDE, 200 FT" IS ALSO ATTRIBUTED TO THIS SITE.
											ALONG THE SANTA MARIA RIVER AROLLT 2.2 AIR MILES WSW OF	MAPPED ACCORDING TO AN ELVIN MAP (MAP SUBMITTED IN 2017			FEWER THAN 10 PLANTS OBSERVED IN 2006. NO PLANTS OBSERVED IN 2018; AREA CHARACTERIZED BY TALL ANNUAL GRASSES AND
293 Cirsium scariosum var. loncholepis	La Graciosa thistle	Guadalupe	45 2018XXXX 20061109 UNKNOWN	Endanger	red Threaten	ed G5T1	S1 1	B.1			THE JUNCTION OF THORNBERRY RD AND CA-1.	BUT WAS BASED ON HIS 2006 OBSERVATION).	RIVER EDGE. STABILIZED DUNE SCRUB WITH EHRHARTA CALYCINA		OTHER INVASIVE SPECIES.
													DOMINANT. ASSOCIATED WITH CASTILLEJA EXSERTA, DUDLEYA		
											CALLENDER DUNES, ABOUT 0.6 MILE NORTH OF JACK LAKE,	SINGLE COLONY MAPPED ABOUT 800 M SSW OF BENCHMARK AT	LANCEOLATA, ERICAMERIA ERICOIDES, HORKELIA CUNEATA, LOTUS, ESCHSCHOLZIA, LINARIA, LESSINGIA, CARDIONEMA,	HABITAT DISPLACEMENT BY INVASIVE	OBSERVED HERE DURING 1998 SURVEY FOR LUPINUS NIPOMOENSIS. THE RARE PRUNUS FASCISULATA VAR. PUNCTATA
294 Horkelia cuneata var. sericea	Kellogg's horkelia	Oceano	80 19980520 19980520 UNKNOWN	None	None	G4T1?	S1? 1	B.1		USFS_S	SOUTH OF OCEANO.	CALLENDER.		EHRHARTIA CALYCINA.	OCCURS NEARBY.
295 Anniella pulchra	northern California legless lizard	Oceano	120 19950602 19950602 UNKNOWN	None	None	G3	S3		SSC	USFS_S	ALONG CALLE BENDITA (ROAD) ABOUT 0.25 MILES SOUTH OF HW 1, CALLENDER.	LOCATION STATED AS 786 CALLE BENDITA, NIPOMA MESA.			ONE FOUND AND COLLECTED ON 2 JUN 1995.
												MAPPED IN THE SW 1/4 OF THE SE 1/4 OF SECTION 11 ACCORDING TO 2009 LANGLE COORDINATES. INCLUDES A 2000 KEIL COLLECTION		FURTHER GRADING/DEVELOPMENT OF	20 PLANTS OBSERVED ON SITE DURING SITE VISIT FOR OTHER
306 Clarkia enosiera i la la	Diemo chadile	Arroyo	200 20000607 20000607 DVT	Endana	rod B	CAT1	C1 -	D 1		CD DCADG, CD CDDC		FROM "ARROYO GRANDE AREA, ~0.5 MILE OFF LOPEZ DRIVE ON	GRASSLAND AREA BETWEEN TWO UNPAVED ROADS,	THE SITE. AREA OVERRUN WITH VELDT	SURVEY WORK IN 2009; LARGER POPULATIONS EXISTED ON THIS
296 Clarkia speciosa ssp. immaculata	Pismo clarkia	Grande NE	290 20090607 20090607 PVT LAND	_	red Rare	G4T1	S1 1	B.1		SB_RSABG; SB_SBBG	ARROYO GRANDE.	HONDONADA ROAD." ALONG UNPAVED ROAD FROM INTERSECTION WITH THOUSAND	MOSAIC OF COASTAL LIVE OAK WOODLAND (ESPECIALLY ON	GRASS.	PROPERTY IN 2006 BUT WERE NOT VISITED IN 2009.
297 Chlorogalum pomeridianum var. mii	nus dwarf soaproot	Pismo Beach	CONSERVANCY 600 20150214 20150214 OF SLO COUNT		None	G5T3	S3 1	B.2		BLM_S; SB_SBBG; USFS :	PISMO PRESERVE; ABOUT 1.3 AIR MILES NNW OF THE INTERSECTION OF PRICE CANYON ROAD AND HIGHWAY 101.	HILLS ROAD WESTWARD TO SUMMIT. MAPPED ACCORDING TO 2015 KEIL COORDINATES.	LOWER SLOPES) AND COASTAL SCRUB (ON UPPER SLOPES). LOCALLY SCATTERED IN COASTAL SCRUB NEAR ROAD.		SITE IS BASED ON A 2015 KEIL COLLECTION; ""LOCALLY SCATTERED"" IN 2015.
	mesa horkelia	Arroyo	378 20100713 20100713 UNKNOWN	None	None	G4T1		B.1				/ MAPPED ACCORDING TO COORDINATES ON A 2010 KEIL COLLECTION			ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 2010 KEIL COLLECTION. ALL INDIVIDUALS DONE FLOWERING.
298 Horkelia cuneata var. puberula	mesa norkella	Grande NE	5/0 20100/13 20100/13 UNKNOWN	Notic	None	0411	31 I	.0.1		USFS_S	OF HIS JOINGHON WITH LOFEZ DRIVE, EAST OF ARROTO GRANDE.	LOULE.	BRUSH-COVERED SANDSTONE HILLS. SANDY SOIL.		SITE BASED ON A 1999 KEIL COLLECTION. VAGUE COLLECTIONS
	Nipomo Mesa											MAPPED BY CNDDB AROUND GIVEN ADDRESS, IN THE NW 1/4 OF	SANDY SOIL. DEGRADED COASTAL LIVE OAK WOODLAND WITH		FROM "ALONG SUMMIT STATION RD", "SEVERAL MILES NORTH OF NIPOMO", "3 MILES NW OF NIPOMO", AND "5 MILES SOUTH OF
299 Ceanothus impressus var. nipomens	is ceanothus	Oceano	415 19990513 19990513 PVT	None	None	G3T2	S2 1	B.2			220 SUMMIT STATION ROAD, NIPOMO MESA.	THE NE 1/4 OF SECTION 1.	VELDT GRASS UNDERSTORY.		ARROYO GRANDE" ALSO ATTRIBUTED TO THIS SITE.

	Nipomo Mesa	Arroyo									GODFREY PARCEL. MAPPED ACCORDING TO A 2009 LFR INC MAP. ON THE SECTION LINE BETWEEN THE SW 1/4 OF SECTION 5 AND THE NW			ONE PLANT OBSERVED. UNKNOWN WHEN OBSERVED; SURVEYS
300 Ceanothus impressus var. nipomens	s ceanothus	Grande NE	550 XXXXXXXX XXXXXXXX PVT	None	None	G3T2	S2	1B.2		BEACH.	1/4 OF SECTION 8. BLACK LAKE CANYON CALLENDER PROPERTY. MAPPED ACCORDING	NEAR ROADSIDE. COAST LIVE OAK WOODLAND.		PERFORMED IN THIS AREA IN 1996, 2003, 2007, AND 2008.
201 C	Nipomo Mesa	Oceano	90 20100331 20100331 PVT	None	None	G3T2	52	1B.2		150 METERS EAST OF HIGHWAY 1 INTERSECTING CALLENDER	TO 2010 BANIAGA COORDINATES, IN THE NW 1/4 OF THE NW 1/4 OF SECTION 8.	SOIL SANDY. AT EDGE OF BACCHARIS PILULARIS STAND GRADING INTO ANNUAL GRASSLAND.		OCCASIONAL"" IN 2010.
301 Ceanothus impressus var. nipomens	s ceanotius	Oceano		None	None	G312	32	16.2		ROAD, BLACK LAKE CANYON.	~80 M FROM SOUTH REFUGE BOUNDARY. MAPPED IN THE NE 1/4 OF			MAIN SOURCE FOR THIS SITE IS A 2013 ELVIN COLLECTION, PLANTS
			USFWS- GUADALUPE-							GUADALUPE-NIPOMO DUNES NWR, NORTH OF SANTA MARIA	THE NE 1/4 OF SECTION 31 ACCORDING TO 2013 ELVIN COORDINATES. INCLUDES COLLECTIONS FROM ""DUNES NW OF	COASTAL DUNE SWALE SCRUB, SAND AND PEAT SOILS. WITH		NOTED AS "OCCASIONAL" IN 2013. ALSO INCLUDES A 1933 PURER COLLECTION (INTERMEDIATE BTWN SSP. SERICEA AND CUNEATA
302 Horkelia cuneata var. sericea	Kellogg's horkelia	Guadalupe	55 20130809 20130809 NIPOMO DUN	ES None	None	G4T1?	S1?	1B.1	USFS_S	RIVER, COLORADO POND, NORTHWEST OF GUADALUPE.	GUADALUPE"" AND ""STREAM NEAR GUADALUPE SAND DUNES.""	SALIX LASIOLEPIS, BACCHARIS PILULARIS, AND JUNCUS.		ACCORDING TO ERTTER) AND 1938 DEMAREE COLLECTION.
		Arroyo										GRASSLAND WITH SCATTERED SHRUBS AND SANDY SOILS. THE SITE HAS BEEN USED AS PASTURE LAND THUS DISTURBANCE IS		
303 Clarkia speciosa ssp. immaculata	Pismo clarkia	Grande NE	400 20030605 20030605 PVT	Endanger	red Rare	G4T1	S1	1B.1	SB_RSABG; SB_SBBG	EAST SIDE OF CORBIT CANYON, HILLSIDE OPPOSITE DEER CANYON	I. MAPPED IN THE NE 1/4 OF THE NW 1/4 OF SECTION 11.	EVIDENT.	PASTURE LAND. ONE SHRUB MAY BE IMPACTED AND/OR	~500 INDIVIDUALS OBSERVED IN 2003.
											MAPPED ACCORDING TO 2011 TERRA VERDE ENVIRONMENTAL		REMOVED FOR DEVELOPMENT OF AN	
304 Arctostaphylos rudis	sand mesa manzanita	Arroyo Grande NE	400 20110606 20110606 PVT	None	None	G2	S2	1B.2	BLM_S	ALONG BEAR CANYON LANE, BETWEEN CORBIT CANYON AND CARPENTER CANYON, NE OF ARROYO GRANDE.	CONSULTING COORDINATES, IN THE NW 1/4 OF THE NE 1/4 OF SECTION 15.		ADDITION TO A SINGLE FAMILY RESIDENCE. FIRE.	3 SHRUBS (2 MATURE AND 1 IMMATURE) OBSERVED IN 2011.
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,									_			1958 AERIAL IMAGERY SHOWS THIS NEIGHBORHOOD NORTH		. , , , , , , , , , , , , , , , , , , ,
												OF FARROLL AVE AS DEVELOPED AS PRESENT DAY AERIALS; HOWEVER, SOUTH SIDE OF FARROLL AVE (NOW GAYNFAIR		ONE COLLECTED ON 30 APR 1960. LIKELY EXTIRPATED DUE TO
305 Anniella pulchra	northern California legless lizard	Oceano	94 19600530 19600530 PVT	None	None	G3	53	SS	USFS_S	NORTHEAST CORNER OF FARROLL AVE AND BEECH ST, ABOUT 0.9 MILES SOUTH OF HWY 101 AT HALCYON RD, ARROYO GRANDE.		TERRACE) WAS LESS DEVELOPED WITH AGRICULTURE FIELDS AND RUDERAL PARCELS.	DEVELOPMENT.	RESIDENTIAL DEVELOPMENT OCCURING SINCE THE TIME OF THIS COLLECTION.
303 Anniena paicina	legiess lizard	oceano	34 13000330 13000330 I VI	None	None	03	33	33	03/3_3			OPEN GRASSY FIELD ON PRIVATE PROPERTY. AREA IS MOWED	DEVELOT MENT.	COLLECTION.
306 Arctostaphylos rudis	sand mesa manzanita	Oceano	390 20080502 20080502 PVT	None	None	G2	S2	1B.2	BLM_S	JUST SOUTH OF THE JUNCTION OF WILLOW AND HETRICK ROADS ABOUT 2 AIR MILES NW OF NIPOMO.	, MAPPED ACCORDING TO 2008 LANGLE COORDINATES, IN THE NORTH 1/2 OF THE SE 1/4 OF SECTION 12.	(LIKELY FOR FIRE CONTROL). OAK WOODLAND AND NON- NATIVE ANNUAL GRASSLAND SURROUND PLANT.	POSSIBLE MOWING.	1 MATURE PLANT OBSERVED IN 2008.
											1986 SURVEY REPORTS PLANTS AS 100 YARDS SOUTH OF THE RIVER AND 0.375 MILE EAST OF BEACH, MAPPED ACCORDING TO 2013			20 PLANTS OBSERVED IN VICINITY IN 1986. 1 PLANT OBSERVED IN
										DUNES AT MOUTH OF SANTA MARIA RIVER, JUST SOUTH OF RIVE		ON BACK DUNES AWAY FROM SPRAY ZONE GROWING WITH	PLANT LOCATED WITHIN RESTRICTED	2013; PROJECT REMOVED REMNANT SECTION OF ASPHALT ON
307 Monardella undulata ssp. crispa	crisp monardella northern California	Point Sal	59 20131231 20131231 SBA COUNTY DPR-OCEANO	None	None	G3T2	S2	1B.2	BLM_S	AND ABOUT 0.3 MILE EAST OF BEACH, WEST OF GUADALUPE. 0.4 MILE NW OF JACK LAKE, OCEANO DUNES STATE VEHICULAR	RIVER.	MESEMBRYANTHEMUM.	USE AREA.	DUNES.
308 Anniella pulchra	legless lizard	Oceano	102 20180725 20180725 DUNES SVRA	None	None	G3	S3	SS	USFS_S	RECREATION AREA, WEST OF NIPOMO.		COASTAL SAND DUNE SCRUB.		1 FOUND AND PHOTOGRAPHED ON 25 JUL 2018.
											MAPPED ACCORDING TO 2008 PARIKH COORDINATES. INCLUDES COLLECTIONS FROM "S AND ADJACENT TO MAIN ST, 0.45 MI W OF			
											THE ENTRY STATION TO GUADALUPE DUNES BEACH PARK" & "SW			PLANTS NOTED AS COMMON IN 2008. A 1986 GRIFFITHS
309 Monardella undulata ssp. crispa	crisp monardella	Point Sal	111 20080715 20080715 SBA COUNTY	None	None	G3T2	S2	1B.2	BLM_S	GUADALUPE-NIPOMO DUNES PRESERVE, 0.4 KM SOUTH OF SANT MARIA RIVER, 1.7 KM EAST OF PACIFIC OCEAN.	A MARGIN OF GORDON SAND MINE, NE CORNER OF MUSSEL ROCK DUNES."	ON SAND DUNE WITH SPARSE COASTAL SAGE SCRUB VEGETATION.		COLLECTION AND A 1987 JOKERST COLLECTION ARE ALSO ATTRIBUTED TO THIS SITE.
									_			DEGRADED CHAMISE-BLACK SAGE CHAPARRAL COMMUNITY AT MARGIN OF COAST LIVE OAK WOODLAND. SIGNIFICANT		
												DISTURBANCE, INCLUDING INFESTATION OF VELDT GRASS,		
310 Anniella pulchra	northern California legless lizard	Oceano	378 20160523 20160523 PVT	None	None	G3	S3	SS	USFS_S	NORTHEAST CORNER OF ZENON WAY AT CHESAPEAKE PLACE, ARROYO GRANDE.	MAPPED TO PROVIDED COORDINATES. FORMERLY A. P. PULCHRA EO #101.	VEGETATION MOWING ALONG ROADSIDE, & DUMPING. IN RURAL RESIDENTIAL AREA.	DEVELOPMENT.	1 ADULT OBSERVED ON 23 MAY 2016.
310 Anniena paicina	iegiess lizard	Oceano	370 20100323 20100323 1 1 1	None	None	03	33	33	03/3_3	AMOTO GRANDE.	#101.	COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH		
										APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY	N.	PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES,	CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER	١,
		Arroyo								RD AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE	R MAPPED ACCORDING TO 2015 KEIL COORDINATES, IN THE NORTH	CEANOTHUS CUNEATUS VAR. FASCICULATUS). SANDY SOILS.	WEEDS. LANDOWNER HAS DONE MAJO	
311 Agrostis hooveri	Hoover's bent grass	Grande NE	540 20150619 20150619 PVT	None	None	G2	S2	1B.2	BLM_S; USFS_S	CYN.		GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) W/	UNAUTHORIZED GRADING.	ABOUT 20 PLANTS OBSERVED IN 2015.
												PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA,		
	Santa Margarita	Arroyo								APPROXIMATELY 0.8 AIR MILE NW OF THE JUNCTION OF CORBET CANYON RD WITH VERDE CANYON RD, NORTH OF ARROYO			CONTINUED CLEARING, CONSTRUCTION ACTIVITY, INVASION BY VELDT GRASS	FEWER THAN 200 PLANTS OBSERVED IN 2015. THE LANDOWNER
312 Arctostaphylos pilosula	manzanita	Grande NE	540 20150619 20150619 PVT	None	None	G2?	S2?	1B.2	BLM_S; SB_SBBG; USFS_	S GRANDE.			AND OTHER WEEDS.	HAS DONE MAJOR UNAUTHORIZED GRADING.
												COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA,	CONTINUED CLEARING, CONSTRUCTION	Ν,
		Arroyo								APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY		ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VAR. FASCICULATUS). SANDY SOILS.	INVASION BY VELDT GRASS & OTHER	n.
313 Horkelia cuneata var. puberula	mesa horkelia	Grande NE	540 20150619 20150619 PVT	None	None	G4T1	S1	1B.1	USFS_S	CYN.	ACCORDING TO 2015 KEIL COORDINATES.	GENTLE TO MODERATE SLOPES.	WEEDS. LANDOWNER HAS DONE MAJO UNAUTHORIZED GRADING.	FEWER THAN 100 PLANTS OBSERVED IN 2015.
313 Horkelia cuneata var. puberula	mesa horkelia		540 20150619 20150619 PVT	None	None	G4T1	S1	18.1	USFS_S		ACCORDING TO 2015 KEIL COORDINATES.	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH	UNAUTHORIZED GRADING.	FEWER THAN 100 PLANTS OBSERVED IN 2015.
313 Horkelia cuneata var. puberula	mesa horkelia	Grande NE	540 20150619 20150619 PVT	None	None	G4T1	S1	18.1	USFS_S	CYN. APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY	ACCORDING TO 2015 KEIL COORDINATES. N MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES,	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER	FEWER THAN 100 PLANTS OBSERVED IN 2015. I, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY
313 Horkelia cuneata var. puberula 314 Clarkia speciosa ssp. immaculata	mesa horkelia Pismo clarkia		540 20150619 20150619 PVT 540 20150619 1998XXXX PVT		None red Rare	G4T1 G4T1		1B.1 1B.1	USFS_S SB_RSABG; SB_SBBG	CYN.	ACCORDING TO 2015 KEIL COORDINATES. MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES,	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER	FEWER THAN 100 PLANTS OBSERVED IN 2015.
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Pismo clarkia	Grande NE Arroyo	540 20150619 1998XXXX PVT							CYN. APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY RD AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT	ACCORDING TO 2015 KEIL COORDINATES. MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VAR. FASCICULATUS). SANDY SOILS.	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO	FEWER THAN 100 PLANTS OBSERVED IN 2015. UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY R MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Grande NE Arroyo							SB_RSABG; SB_SBBG	CYN. APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY. RD AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN.	ACCORDING TO 2015 KEIL COORDINATES. N MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD OBSERVATION.	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VAR. FASCICULATUS). SANDY SOILS. GENTLE TO MODERATE SLOPES. COASTAL SAND DUNE SCRUB.	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO	FEWER THAN 100 PLANTS OBSERVED IN 2015. I, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY R MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION. 1 FOUND AND PHOTOGRAPHED ON 28 MAY 2018.
314 Clarkia speciosa ssp. immaculata	Pismo clarkia northern California	Grande NE Arroyo Grande NE	540 20150619 1998XXXX PVT DPR-OCEANO	Endanger	red Rare	G4T1	51	18.1	SB_RSABG; SB_SBBG	CYN. APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY RD AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT CALLENDER RD, OCEANO DUNES STATE VEHICULAR RECREATION	ACCORDING TO 2015 KEIL COORDINATES. MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD OBSERVATION.	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VAR, FASCICULATUS). SANDY SOILS. GENTLE TO MODERATE SLOPES.	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO	FEWER THAN 100 PLANTS OBSERVED IN 2015. I, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY IR MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION.
314 Clarkia speciosa ssp. immaculata	Pismo clarkia northern California legless lizard	Grande NE Arroyo Grande NE Oceano	540 20150619 1998XXXX PVT DPR-OCEANO	Endanger	red Rare	G4T1	51	18.1	SB_RSABG; SB_SBBG	CYN. APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY RD AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT CALLENDER RD, OCEANO DUNES STATE VEHICULAR RECREATION AREA.	ACCORDING TO 2015 KEIL COORDINATES. N MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD OBSERVATION.	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VAR. FASCICULATUS). SANDY SOILS. GENTLE TO MODERATE SLOPES. COASTAL SAND DUNE SCRUB. CHAPARRAL ON DEPAUPERATE SOIL, INTERSPERSED AMONG DEVELOPED AREAS INCLUDING PRIVATE HOMES AND SOME POSSIBLY COMMERCIAL PROPERTY. COULD ONLY SEE AREAS	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO UNAUTHORIZED GRADING.	FEWER THAN 100 PLANTS OBSERVED IN 2015. I, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY R MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION. 1 FOUND AND PHOTOGRAPHED ON 28 MAY 2018. TENS OF PLANTS SEEN IN 2012. "SATELLITE PHOTOS SUGGEST POPULATION COULD BE MUCH LARGER." 1988 KNIGHT COLLECTION FROM "ON ORMONDE RD OFF OF PRICE CYN RD FROM PISMO
314 Clarkia speciosa ssp. immaculata	Pismo clarkia northern California legless lizard Santa Margarita manzanita	Arroyo Grande NE Oceano Arroyo Grande NE	540 20150619 1998XXXX PVT DPR-OCEANO	Endanger	red Rare	G4T1	S1 S3	18.1	SB_RSABG; SB_SBBG USFS_S	CYN. APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY, RD AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT CALLENDER RD, OCEANO DUNES STATE VEHICULAR RECREATION AREA. ORMONDE ROAD 1.7 MILES FROM PRICE CANYON ROAD, ABOUT S MILES NE OF PISMO BEACH.	ACCORDING TO 2015 KEIL COORDINATES. N MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD OBSERVATION. 3 MAPPED ACCORDING TO 2012 KEELAN COORDINATES, IN THE SE 1/4	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VAR. FASCICULATUS). SANDY SOILS. GENTLE TO MODERATE SLOPES. COASTAL SAND DUNE SCRUB. CHAPARRAL ON DEPAUPERATE SOIL, INTERSPERSED AMONG DEVELOPED AREAS INCLUDING PRIVATE HOMES AND SOME POSSIBLY COMMERCIAL PROPERTY. COULD ONLY SEE AREAS	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO UNAUTHORIZED GRADING.	FEWER THAN 100 PLANTS OBSERVED IN 2015. I, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY IR MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION. 1 FOUND AND PHOTOGRAPHED ON 28 MAY 2018. TENS OF PLANTS SEEN IN 2012. "SATELLITE PHOTOS SUGGEST POPULATION COULD BE MUCH LARGER." 1988 KNIGHT COLLECTION FROM "ON ORMONDE RO OFF OF PRICE CYN RO FROM PISMO BEACH, 510 FT" ATTRIBUTED HERE; 1000S OF PLANTS UNDER HIGH
314 Clarkia speciosa ssp. immaculata 315 Anniella pulchra 316 Arctostaphylos pilosula	Pismo clarkia northern California legless lizard Santa Margarita	Arroyo Grande NE Oceano Arroyo Grande NE	540 20150619 1998XXXX PVT DPR-OCEANO 43 20180528 20180528 DUNES SVRA 540 20120408 20120408 PVT	Endanger None	red Rare None	G4T1 G3	S1 S3	1B.1 SS	SB_RSABG; SB_SBBG USFS_S BLM_S; SB_SBBG; USFS_	CYN. APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY RD AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT CALLENDER RD, OCEANO DUNES STATE VEHICULAR RECREATION AREA. ORMONDE ROAD 1.7 MILES FROM PRICE CANYON ROAD, ABOUT S MILES NE OF PISMO BEACH. BASE OF WEST SLOPE OF SMALL HILL IMMEDIATELY NORTH OF	ACCORDING TO 2015 KEIL COORDINATES. N MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD OBSERVATION. 3 MAPPED ACCORDING TO 2012 KEELAN COORDINATES, IN THE SE 1/4 OF THE NE 1/4 OF SECTION 5.	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VAR. FASCICULATUS). SANDY SOILS. GENTLE TO MODERATE SLOPES. COASTAL SAND DUNE SCRUB. CHAPARRAL ON DEPAUPERATE SOIL, INTERSPERSED AMONG DEVELOPED AREAS INCLUDING PRIVATE HOMES AND SOME POSSIBLY COMMERCIAL PROPERTY. COULD ONLY SEE AREAS IMMEDIATELY ADJACENT TO ROAD, AND DID NOT FOLLOW THE ROAD TO THE END OF THE OCCURRENCE.	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO UNAUTHORIZED GRADING.	FEWER THAN 100 PLANTS OBSERVED IN 2015. I, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY R MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION. 1 FOUND AND PHOTOGRAPHED ON 28 MAY 2018. TENS OF PLANTS SEEN IN 2012. "SATELLITE PHOTOS SUGGEST POPULATION COULD BE MUCH LARGER." 1988 KNIGHT COLLECTION FROM "ON ORMONDE RD OFF OF PRICE CYN RD FROM PISMO BEACH, 510 FT" ATTRIBUTED HERE; 1000S OF PLANTS UNDER HIGH VOLTAGE LINES.
314 Clarkia speciosa ssp. immaculata 315 Anniella pulchra	Pismo clarkia northern California legless lizard Santa Margarita manzanita	Arroyo Grande NE Oceano Arroyo Grande NE	540 20150619 1998XXXX PVT 43 20180528 20180528 DUNE5 SVRA 540 20120408 20120408 PVT 280 20070604 20070604 UNKNOWN USFWS-	Endanger None	red Rare None	G4T1 G3	S1 S3	1B.1 SS	SB_RSABG; SB_SBBG USFS_S	CYN. APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY RD AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT CALLENDER RD, OCEANO DUNES STATE VEHICULAR RECREATION AREA. ORMONDE ROAD 1.7 MILES FROM PRICE CANYON ROAD, ABOUT S MILES NE OF PISMO BEACH. BASE OF WEST SLOPE OF SMALL HILL IMMEDIATELY NORTH OF WEST FORK OF PISMO CREEK, WEST OF PRICE CANYON ROAD. NORTHERN GUADALUPE DUNES, ABOUT 2 MI SOUTH OF OSO	ACCORDING TO 2015 KEIL COORDINATES. N MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD OBSERVATION. 3 MAPPED ACCORDING TO 2012 KEELAN COORDINATES, IN THE SE 1/4 OF THE NE 1/4 OF SECTION 5. MAPPED ACCORDING TO 2007 BERNSTEIN COORDINATES.	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VAR, FASCICULATUS). SANDY SOILS. GENTLE TO MODERATE SLOPES. COASTAL SAND DUNE SCRUB. CHAPARRAL ON DEPAUPERATE SOIL, INTERSPERSED AMONG DEVELOPED AREAS INCLUDING PRIVATE HOMES AND SOME POSSIBLY COMMERCIAL PROPERTY. COULD ONLY SEE AREAS IMMEDIATELY ADJACENT TO RODA, AND DID NOT FOLLOW THE	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO UNAUTHORIZED GRADING.	FEWER THAN 100 PLANTS OBSERVED IN 2015. I, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY R MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION. 1 FOUND AND PHOTOGRAPHED ON 28 MAY 2018. TENS OF PLANTS SEEN IN 2012. "SATELLITE PHOTOS SUGGEST POPULATION COULD BE MUCH LARGER." 1988 KNIGHT COLLECTION FROM "ON ORMONDE RD OFF OF PRICE CYN RD FROM PISMO BEACH, 510 FT" ATTRIBUTED HERE; 1000S OF PLANTS UNDER HIGH VOLTAGE LINES. SITE IS BASED ON A 2007 BERNSTEIN & CARROLL COLLECTION.
314 Clarkia speciosa ssp. immaculata 315 Anniella pulchra 316 Arctostaphylos pilosula	Pismo clarkia northern California legless lizard Santa Margarita manzanita	Arroyo Grande NE Oceano Arroyo Grande NE	540 20150619 1998XXXX PVT DPR-OCEANO 43 20180528 20180528 DUNES SVRA 540 20120408 20120408 PVT 280 20070604 20070604 UNKNOWN	Endanger None None	red Rare None	G4T1 G3	51 53 52? 51	1B.1 SS	SB_RSABG; SB_SBBG USFS_S BLM_S; SB_SBBG; USFS_	CYN. APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY RD AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT CALLENDER RD, OCEANO DUNES STATE VEHICULAR RECREATION AREA. ORMONDE ROAD 1.7 MILES FROM PRICE CANYON ROAD, ABOUT S MILES NE OF PISMO BEACH. BASE OF WEST SLOPE OF SMALL HILL IMMEDIATELY NORTH OF WEST FORK OF PISMO CREEK, WEST OF PRICE CANYON ROAD. NORTHERN GUADALUPE DUNES, ABOUT 2 MI SOUTH OF OSO	ACCORDING TO 2015 KEIL COORDINATES. N MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD OBSERVATION. MAPPED ACCORDING TO 2012 KEELAN COORDINATES, IN THE SE 1/4 OF THE NE 1/4 OF SECTION 5. MAPPED ACCORDING TO 2007 BERNSTEIN COORDINATES. ABOUT 0.5 MILE SSW OF OSO FLACO BENCHMARK; SINGLE COLONY	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VAR. FASCICULATUS). SANDY SOILS. GENTLE TO MODERATE SLOPES. COASTAL SAND DUNE SCRUB. CHAPARRAL ON DEPAUPERATE SOIL, INTERSPERSED AMONG DEVELOPED AREAS INCLUDING PRIVATE HOMES AND SOME POSSIBLY COMMERCIAL PROPERTY. COULD ONLY SEE AREAS IMMEDIATELY ADJACENT TO ROAD, AND DID NOT FOLLOW THE ROAD TO THE END OF THE OCCURRENCE.	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO UNAUTHORIZED GRADING.	FEWER THAN 100 PLANTS OBSERVED IN 2015. I, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY R MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION. 1 FOUND AND PHOTOGRAPHED ON 28 MAY 2018. TENS OF PLANTS SEEN IN 2012. "SATELLITE PHOTOS SUGGEST POPULATION COULD BE MUCH LARGER." 1988 KNIGHT COLLECTION FROM "ON ORMONDE RD OFF OF PRICE CYN RD FROM PISMO BEACH, 510 FT" ATTRIBUTED HERE; 1000S OF PLANTS UNDER HIGH VOLTAGE LINES.
314 Clarkia speciosa ssp. immaculata 315 Anniella pulchra 316 Arctostaphylos pilosula 317 Lupinus Iudovicianus	Pismo clarkia northern California legless lizard Santa Margarita manzanita San Luis Obispo Count lupine crisp monardella	Arroyo Grande NE Oceano Arroyo Grande NE Y Pismo Beach	540 20150619 1998XXXX PVT DPR-OCEANO 43 20180528 20180528 DUNES SVRA 540 20120408 20120408 PVT 280 20070604 20070604 UNKNOWN USFWS-GUADALUPE-	Endanger None None	red Rare None None	G4T1 G3 G2? G1	51 53 52? 51	18.1 SS 18.2 18.2	SB_RSABG; SB_SBBG USFS_S BLM_S; SB_SBBG; USFS_ BLM_S; USFS_S	CYN. APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT CALLENDER RD, OCEANO DUNES STATE VEHICULAR RECREATION AREA. ORMONDE ROAD 1.7 MILES FROM PRICE CANYON ROAD, ABOUT 5 MILES NE OF PISMO BEACH. BASE OF WEST SLOPE OF SMALL HILL IMMEDIATELY NORTH OF WEST FORK OF PISMO CREEK, WEST OF PRICE CANYON ROAD. NORTHERN GUADALUPE DUNES, ABOUT 2 MI SOUTH OF OSO FLACO LAKE AND 3.5 MI WEST OF HIGHWAY 1, NORTHWEST OF GUADALUPE. GUADALUPE OIL FIELD, ABOUT 2.3 MILES NORTH OF SANTA	ACCORDING TO 2015 KEIL COORDINATES. N MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD OBSERVATION. 3 MAPPED ACCORDING TO 2012 KEELAN COORDINATES, IN THE SE 1/4 OF THE NE 1/4 OF SECTION 5. MAPPED ACCORDING TO 2007 BERNSTEIN COORDINATES. ABOUT 0.5 MILE SSW OF OSO FLACO BENCHMARK; SINGLE COLONY MAPPED AT THIS SITE.	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VARE, FASCICULATUS). SANDY SOILS. GENTLE TO MODERATE SLOPES. COASTAL SAND DUNE SCRUB. CHAPARRAL ON DEPAUPERATE SOIL, INTERSPERSED AMONG DEVELOPED AREAS INCLUDING PRIVATE HOMES AND SOME POSSIBLY COMMERCIAL PROPERTY. COULD ONLY SEE AREAS IMMEDIATELY ADJACENT TO RODAD, AND DID NOT FOLLOW THE ROAD TO THE END OF THE OCCURRENCE. SANDY SOIL. EDGE OF OAK WOODLAND.	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO UNAUTHORIZED GRADING.	FEWER THAN 100 PLANTS OBSERVED IN 2015. 4, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY R MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION. 1 FOUND AND PHOTOGRAPHED ON 28 MAY 2018. TENS OF PLANTS SEEN IN 2012. "SATELLITE PHOTOS SUGGEST POPULATION COULD BE MUCH LARGER." 1988 KNIGHT COLLECTION FROM "ON ORMONDE RD OFF OF PRICE CYN RD FROM PISMO BEACH, 510 FT" ATTRIBUTED HERE; 1000S OF PLANTS UNDER HIGH VOLTAGE LINES. SITE IS BASED ON A 2007 BERNSTEIN & CARROLL COLLECTION. UNKNOWN NUMBER OF PLANTS REPORTED BY VANDERWEIR IN 1981. UNKNOWN NUMBER OF PLANTS OBSERVED IN 1981. MAY BE THE
314 Clarkia speciosa ssp. immaculata 315 Anniella pulchra 316 Arctostaphylos pilosula 317 Lupinus Iudovicianus	Pismo clarkia northern California legless lizard Santa Margarita manzanita San Luis Obispo Count lupine	Arroyo Grande NE Oceano Arroyo Grande NE Y Pismo Beach	540 20150619 1998XXXX PVT DPR-OCEANO 43 20180528 20180528 DUNES SVRA 540 20120408 20120408 PVT 280 20070604 20070604 UNKNOWN USFWS-GUADALUPE-	Endanger None None	red Rare None None	G4T1 G3 G2? G1	\$1 \$3 \$2? \$1	18.1 SS 18.2 18.2	SB_RSABG; SB_SBBG USFS_S BLM_S; SB_SBBG; USFS_ BLM_S; USFS_S	CYN. APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY, RD AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT CALLENDER RD, OCEANO DUNES STATE VEHICULAR RECREATION AREA. ORMONDE ROAD 1.7 MILES FROM PRICE CANYON ROAD, ABOUT 5 MILES NE OF PISMO BEACH. BASE OF WEST SLOPE OF SMALL HILL IMMEDIATELY NORTH OF WEST FORK OF PISMO CREW, WEST OF PRICE CANYON ROAD, NORTHERN GUADALUPE DUNES, ABOUT 2 MI SOUTH OF OSO FLACO LAKE AND 3.5 MI WEST OF HIGHWAY 1, NORTHWEST OF GUADALUPE.	ACCORDING TO 2015 KEIL COORDINATES. N MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD OBSERVATION. MAPPED ACCORDING TO 2012 KEELAN COORDINATES, IN THE SE 1/4 OF THE NE 1/4 OF SECTION 5. MAPPED ACCORDING TO 2007 BERNSTEIN COORDINATES. ABOUT 0.5 MILE SSW OF OSO FLACO BENCHMARK; SINGLE COLONY MAPPED AT THIS SITE.	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VARE, FASCICULATUS). SANDY SOILS. GENTLE TO MODERATE SLOPES. COASTAL SAND DUNE SCRUB. CHAPARRAL ON DEPAUPERATE SOIL, INTERSPERSED AMONG DEVELOPED AREAS INCLUDING PRIVATE HOMES AND SOME POSSIBLY COMMERCIAL PROPERTY. COULD ONLY SEE AREAS IMMEDIATELY ADJACENT TO RODAD, AND DID NOT FOLLOW THE ROAD TO THE END OF THE OCCURRENCE. SANDY SOIL. EDGE OF OAK WOODLAND.	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO UNAUTHORIZED GRADING.	FEWER THAN 100 PLANTS OBSERVED IN 2015. 1, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY IR MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION. 1 FOUND AND PHOTOGRAPHED ON 28 MAY 2018. TENS OF PLANTS SEEN IN 2012. "SATTELLITE PHOTO'S SUGGEST POPULATION COULD BE MUCH LARGER." 1988 KNIGHT COLLECTION FROM "ON ORMONDE RO OFF OF PRICE CYN RD FROM PISMO BEACH, 510 FT" ATTRIBUTED HERE; 1000S OF PLANTS UNDER HIGH VOLTAGE LINES. SITE IS BASED ON A 2007 BERNSTEIN & CARROLL COLLECTION. UNKNOWN NUMBER OF PLANTS REPORTED BY VANDERWEIR IN 1981. UNKNOWN NUMBER OF PLANTS OBSERVED IN 1981. MAY BE THE SAME "GUADALUPE OIL FIELDS" SITE REPORTED BY A. HOWALD (1981).
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314 Clarkia speciosa ssp. immaculata 315 Anniella pulchra 316 Arctostaphylos pilosula 317 Lupinus ludovicianus 318 Monardella undulata ssp. crispa 319 Monardella undulata ssp. undulata 320 Monardella undulata ssp. undulata	Pismo clarkia northern California legless lizard Santa Margarita manzanita San Luis Obispo Count lupine crisp monardella San Luis Obispo monardella San Luis Obispo monardella	Arroyo Grande NE Oceano Arroyo Grande NE Y Pismo Beach Oceano Point Sal	540 20150619 1998XXXX PVT DPR-OCEANO 43 20180528 20180528 DUNES SVRA 540 20120408 20120408 PVT 280 20070604 20070604 UNKNOWN USFWS-GUADALUPE- 80 1981XXXX 1981XXXX NIPOMO DUN 100 1981XXXX 1981XXXX PVT	Endanger None None None None None	None None None None None	G4T1 G3 G2? G1 G3T2 G2 G2	51 53 52? 51 52 52	18.1 SS 18.2 18.2 18.2 18.2	SB_RSABG; SB_SBBG USFS_S BLM_S; SB_SBBG; USFS_ BLM_S, USFS_S BLM_S BLM_S BLM_S	CYN. APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY RD AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT CALLENDER RD, OCEANO DUNES STATE VEHICULAR RECREATION AREA. ORMONDE ROAD 1.7 MILES FROM PRICE CANYON ROAD, ABOUT S MILES NE OF PISMO BEACH. BASE OF WEST SLOPE OF SMALL HILL IMMEDIATELY NORTH OF WEST FORK OF PISMO CREEK, WEST OF PRICE CANYON ROAD. NORTHERN GUADALUPE DUNES, ABOUT 2 MI SOUTH OF OSO FLACO LAKE AND 3.5 MI WEST OF HIGHWAY 1, NORTHWEST OF GUADALUPE OIL FIELD, ABOUT 2.3 MILES NORTH OF SANTA MARIA RIVER AND 0.2 MILE ENE OF 'DEE' BENCHMARK, WEST OF GUADALUPE. GUADALUPE OIL FIELD, ABOUT 2 MILES NNE OF THE MOUTH OF THE SANTA MARIA RIVER, WEST OF GUADALUPE. QUIET OAKS DRIVE, 0.2 MILE SOUTH OF LOS BERROS ROAD AND IMMEDIATELY EAST OF POMEROY ROAD, LOS BERROS.	ACCORDING TO 2015 KEIL COORDINATES. N MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD OBSERVATION. 3 MAPPED ACCORDING TO 2012 KEELAN COORDINATES, IN THE SE 1/4 OF THE NE 1/4 OF SECTION 5. MAPPED ACCORDING TO 2007 BERNSTEIN COORDINATES. ABOUT 0.5 MILE SSW OF OSO FLACO BENCHMARK; SINGLE COLONY MAPPED AT THIS SITE. SINGLE COLONY MAPPED. SINGLE COLONY MAPPED ABOUT 0.4 MILE NNW OF THE 'DEE' BENCHMARK. NEAR WATER TANK SERVICING RESIDENCE. MAPPED ACCORDING TO 2005 KEIL COORDINATES, IN THE NW 1/4 OF THE SW 1/4 OF SECTION 35.	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VARA, FASCICULATUS). SANDY SOILS. GENTLE TO MODERATE SLOPES. COASTAL SAND DUNE SCRUB. CHAPARRAL ON DEPAUPERATE SOIL, INTERSPERSED AMONG DEVELOPED AREAS INCLUDING PRIVATE HOMES AND SOME POSSIBLY COMMERCIAL PROPERTY. COULD ONLY SEE AREAS IMMEDIATELY ADJACENT TO ROAD, AND DID NOT FOLLOW THE ROAD TO THE END OF THE OCCURRENCE. SANDY SOIL. EDGE OF OAK WOODLAND. CENTRAL COASTAL DUNE SCRUB. CENTRAL COASTAL DUNE SCRUB. NEAR FRINGE OF COASTAL DUNE SCRUB AND COAST LIVE OAK WOODLAND, ROODLE SANDY SOILS. PROPERTY IS A MOSSIC OF COAST LIVE OAK WOODLAND, RIPARRAL RESHWATER MARSH AREA, CHAPARRAL	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO UNAUTHORIZED GRADING. ENCROACHMENT, OFF-ROAD VEHICLES. SITE HAS BEEN CLEARED, DISKED, AND MOWED. SITE PROPOSED FOR LOT	FEWER THAN 100 PLANTS OBSERVED IN 2015. I, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY IR MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION. 1 FOUND AND PHOTOGRAPHED ON 28 MAY 2018. TENS OF PLANTS SEEN IN 2012. "SATELLITE PHOTOS SUGGEST POPULATION COULD BE MUCH LARGER." 1988 KNIGHT COLLECTION FROM "ON ORMONDE RO OFF OF PRICE CYN RD FROM PISMO BEACH, 510 FT* ATTRIBUTED HERE; 1000S OF PLANTS UNDER HIGH VOLTAGE LINES. SITE IS BASED ON A 2007 BERNSTEIN & CARROLL COLLECTION. UNKNOWN NUMBER OF PLANTS OBSERVED IN 1981. MAY BE THE SAME "GUADALUPE OIL FIELDS" SITE REPORTED BY A. HOWALD (1981). UNKNOWN NUMBER OF PLANTS OBSERVED IN 1981. MAY BE THE SAME "GUADALUPE OIL FIELDS" SITE REPORTED BY A. HOWALD (1981). 2 PLANTS OBSERVED IN 2005; PLANTS WERE FIRST YEAR RESPROUTS FROM SURVIVING BASE BURLS. A 1925 COOPER COLLECTION FROM "LOS BERROS"" AND A 1960 HOOVER
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314 Clarkia speciosa ssp. immaculata 315 Anniella pulchra 316 Arctostaphylos pilosula 317 Lupinus ludovicianus 318 Monardella undulata ssp. crispa 319 Monardella undulata ssp. undulata 320 Monardella undulata ssp. undulata	Pismo clarkia northern California legless lizard Santa Margarita manzanita San Luis Obispo Count lupine crisp monardella San Luis Obispo monardella San Luis Obispo monardella sand mesa manzanita	Arroyo Grande NE Oceano Arroyo Grande NE Y Pismo Beach Oceano Point Sal Point Sal Oceano Arroyo Grande NE	540 20150619 1998XXXX PVT DPR-OCEANO 43 20180528 20180528 DUNE5 SVRA 540 20120408 20120408 PVT 280 20070604 20070604 UNKNOWN USFWS- GUADALUPE- 80 1981XXXX 1981XXXX PVT 100 1981XXXX 1981XXXX PVT 280 20050718 20050718 PVT	Endanger None None None None None None None	red Rare None None None None None None	G4T1 G3 G2? G1 G3T2 G2 G2 G2	51 53 52? 51 52 52 52	18.1 18.2 18.2 18.2 18.2 18.2	SB_RSABG; SB_SBBG USFS_S BLM_S; SB_SBBG; USFS_ BLM_S; USFS_S BLM_S BLM_S BLM_S BLM_S	APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CYN RO AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT CALLENDER RD, OCEANO DUNES STATE VEHICULAR RECREATION AREA. ORMONDE ROAD 1.7 MILES FROM PRICE CANYON ROAD, ABOUT S MILES NE OF PISMO BEACH. BASE OF WEST SLOPE OF SMALL HILL IMMEDIATELY NORTH OF WEST FORK OF PISMO CREEK, WEST OF PRICE CANYON ROAD. NORTHERN GUADALUPE DUNES, ABOUT 2 MI SOUTH OF GOS FLACO LAKE AND 3.5 MI WEST OF HIGHWAY 1, NORTHWEST OF GUADALUPE. GUADALUPE OIL FIELD, ABOUT 2.3 MILES NORTH OF SANTA MARIA RIVER AND 0.2 MILE ENE OF 'DEE' BENCHMARK, WEST OF GUADALUPE. GUADALUPE OIL FIELD, ABOUT 2 MILES NNE OF THE MOUTH OF THE SANTA MARIA RIVER, WEST OF GUADALUPE. QUIET OAKS DRIVE, 0.2 MILE SOUTH OF LOS BERROS ROAD AND IMMEDIATELY EAST OF POMEROY ROAD, LOS BERROS. 615 ORMONDE RD, SOUTH OF INTERSECTION OF ORMONDE RD WITH PRICE CANYON RD, BETWEEN SAN LUIS OBISPO AND ARROYO GRANDE.	ACCORDING TO 2015 KEIL COORDINATES. N MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD OBSERVATION. 3 MAPPED ACCORDING TO 2012 KEELAN COORDINATES, IN THE SE 1/4 OF THE NE 1/4 OF SECTION 5. MAPPED ACCORDING TO 2007 BERNSTEIN COORDINATES. ABOUT 0.5 MILE SSW OF OSO FLACO BENCHMARK; SINGLE COLONY MAPPED AT THIS SITE. SINGLE COLONY MAPPED. SINGLE COLONY MAPPED ABOUT 0.4 MILE NNW OF THE 'DEE' BENCHMARK. NEAR WATER TANK SERVICING RESIDENCE. MAPPED ACCORDING TO 2005 KEIL COORDINATES, IN THE NW 1/4 OF THE SW 1/4 OF SECTION 35. MAPPED ACCORDING TO COORDINATES ON 2010 KEIL COLLECTION LABEL.	GENTLE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VARA, FASCICULATUS). SANDY SOILS. GENTLE TO MODERATE SLOPES. COASTAL SAND DUNE SCRUB. CHAPARRAL ON DEPAUPERATE SOIL, INTERSPERSED AMONG DEVELOPED AREAS INCLUDING PRIVATE HOMES AND SOME POSSIBLY COMMERCIAL PROPERTY. COULD ONLY SEE AREAS IMMEDIATELY ADJACENT TO RODAD, AND DID NOT FOLLOW THE ROAD TO THE END OF THE OCCURRENCE. SANDY SOIL. EDGE OF OAK WOODLAND. CENTRAL COASTAL DUNE SCRUB. CENTRAL COASTAL DUNE SCRUB. NEAR FRINGE OF COASTAL DUNE SCRUB AND COAST LIVE OAK WOODLAND ABOVE STEEP, NORTH-FACING WOODED SLOPE. SANDY SOILS. PROPERTY IS A MOSAIC OF COAST LIVE OAK WOODLAND, RIPARIAN FRESHWATER MARSH AREA, CHAPARRAL DOMINATED BY ARCTOSTAPHYLOS PILOSULA AND DISTURBED GROUND. PLAINTS FOUND IN UPLAND PORTION OF SITE AROUND FRINGE OF OAK WOODLAND AND CHAPARRAL.	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO UNAUTHORIZED GRADING. ENCROACHMENT, OFF-ROAD VEHICLES. SITE HAS BEEN CLEARED, DISKED, AND MOWED. SITE PROPOSED FOR LOT SPLIT. USE OF SITE BY RESIDENTS.	FEWER THAN 100 PLANTS OBSERVED IN 2015. I, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY IR MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION. 1 FOUND AND PHOTOGRAPHED ON 28 MAY 2018. TENS OF PLANTS SEEN IN 2012. "SATELLITE PHOTOS SUGGEST POPULATION COULD BE MUCH LARGER." 1988 KNIGHT COLLECTION FROM "ON ORMONDE RO OFF OF PRICE CYN RD FROM PISMO BEACH, 510 FT* ATTRIBUTED HERE; 1000S OF PLANTS UNDER HIGH VOLTAGE LINES. SITE IS BASED ON A 2007 BERNSTEIN & CARROLL COLLECTION. UNKNOWN NUMBER OF PLANTS OBSERVED IN 1981. MAY BE THE SAME "GUADALUPE" OIL FIELDS SITE REPORTED BY ANDERWEIR IN 1981. UNKNOWN NUMBER OF PLANTS OBSERVED IN 1981. MAY BE THE SAME "GUADALUPE" OIL FIELDS SITE REPORTED BY A. HOWALD (1981). 1 PLANTS OBSERVED IN 2005; PLANTS WERE FIRST YEAR RESPROUTS FROM SURVIVING BASAL BURLS. A 1925 COOPER COLLECTION FROM ""LOS BERROSO"" AND A 1960 HOOVER COLLECTION FROM ""JUST ABOVE LOS BERROS"" ARE ALSO ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 2010 KEIL COLLECTION; ""LOCALLY COMMON" "IN 2010. "LOCALLY DOMINANT" IN 2010. 1936 WEISLANDER COLLECTION FROM "1.5 MIS WOF ASPHALT MINE, T325 R135 SEC 5, 350 FT" AND
314 Clarkia speciosa ssp. immaculata 315 Anniella pulchra 316 Arctostaphylos pilosula 317 Lupinus ludovicianus 318 Monardella undulata ssp. crispa 319 Monardella undulata ssp. undulata 320 Monardella undulata ssp. undulata	Pismo clarkia northern California legless lizard Santa Margarita manzanita San Luis Obispo Count lupine crisp monardella San Luis Obispo monardella San Luis Obispo monardella sand mesa manzanita	Arroyo Grande NE Oceano Arroyo Grande NE Y Pismo Beach Oceano Point Sal Point Sal Oceano	540 20150619 1998XXXX PVT DPR-OCEANO 43 20180528 20180528 DUNE5 SVRA 540 20120408 20120408 PVT 280 20070604 20070604 UNKNOWN USFWS- GUADALUPE- 80 1981XXXX 1981XXXX PVT 100 1981XXXX 1981XXXX PVT 280 20050718 20050718 PVT	Endanger None None None None None None None	red Rare None None None None None None	G4T1 G3 G2? G1 G3T2 G2 G2 G2	51 53 52? 51 52 52 52 52	18.1 18.2 18.2 18.2 18.2 18.2	SB_RSABG; SB_SBBG USFS_S BLM_S; SB_SBBG; USFS_ BLM_S; USFS_S BLM_S BLM_S BLM_S BLM_S	APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CYN AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT CALLENDER RD, OCEANO DUNES STATE VEHICULAR RECREATION AREA. ORMONDE ROAD 1.7 MILES FROM PRICE CANYON ROAD, ABOUT S MILES NE OF PISMO BEACH. BASE OF WEST SLOPE OF SMALL HILL IMMEDIATELY NORTH OF WEST FORK OF PISMO CREEK, WEST OF PRICE CANYON ROAD. NORTHERN GUADALUPE DUNES, ABOUT 2 MISOUTH OF OSO FLACO LAKE AND 3.5 MI WEST OF HIGHWAY 1, NORTHWEST OF GUADALUPE. GUADALUPE OIL FIELD, ABOUT 2.3 MILES NORTH OF SANTA MARIA RIVER AND 0.2 MILE ENE OF DEET BENCHMARK, WEST OF GUADALUPE. GUADALUPE OIL FIELD, ABOUT 2 MILES NINE OF THE MOUTH OF THE SANTA MARIAR RIVER, WEST OF GUADALUPE. 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314 Clarkia speciosa ssp. immaculata 315 Anniella pulchra 316 Arctostaphylos pilosula 317 Lupinus ludovicianus 318 Monardella undulata ssp. crispa 319 Monardella undulata ssp. undulata 320 Monardella undulata ssp. undulata 321 Arctostaphylos rudis	Pismo clarkia northern California legless lizard Santa Margarita manzanita San Luis Obispo Count lupine crisp monardella San Luis Obispo monardella San Luis Obispo monardella sand mesa manzanita mesa horkelia Santa Margarita	Arroyo Grande NE Arroyo Grande NE Oceano Arroyo Grande NE Y Pismo Beach Oceano Point Sal Point Sal Oceano Arroyo Grande NE Arroyo Grande NE	540 20150619 1998XXXX PVT DPR-OCEANO 43 20180528 20180528 DUNES SVRA 540 20120408 20120408 PVT 280 20070604 20070604 UNKNOWN USFWS-GUADALUPE- 80 1981XXXX 1981XXXX NIPOMO DUN 100 1981XXXX 1981XXXX PVT 100 1981XXXX 1981XXXX PVT 280 20050718 20050718 PVT	Endanger None None None None None None None	red Rare None None None None None None	G4T1 G3 G2? G1 G3T2 G2 G2 G2 G4T1	51 53 52? 51 52 52 52 52	18.1 5S 18.2 18.2 18.2 18.2 18.2	SB_RSABG; SB_SBBG USFS_S BLM_S; SB_SBBG; USFS_ BLM_S BLM_S BLM_S BLM_S USFS_S	APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CYN AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT CALLENDER RD, OCEANO DUNES STATE VEHICULAR RECREATION AREA. ORMONDE ROAD 1.7 MILES FROM PRICE CANYON ROAD, ABOUT S MILES NE OF PISMO BEACH. BASE OF WEST SLOPE OF SMALL HILL IMMEDIATELY NORTH OF WEST FORK OF PISMO CREEK, WEST OF PRICE CANYON ROAD. NORTHERN GUADALUPE DUNES, ABOUT 2 MISOUTH OF OSO FLACO LAKE AND 3.5 MI WEST OF HIGHWAY 1, NORTHWEST OF GUADALUPE. GUADALUPE OIL FIELD, ABOUT 2.3 MILES NORTH OF SANTA MARIA RIVER AND 0.2 MILE ENE OF DEET BENCHMARK, WEST OF GUADALUPE. GUADALUPE OIL FIELD, ABOUT 2 MILES NINE OF THE MOUTH OF THE SANTA MARIAR RIVER, WEST OF GUADALUPE. 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MOSAIC COAST LIVE OAK WOODLAND, RIPARIANA FRESHWATER MARSH AREA, CHAPARRAL MOSAIC CONSTS OF TWO AGRICULTURAL IMPOUNDMENTS	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO UNAUTHORIZED GRADING. ENCROACHMENT, OFF-ROAD VEHICLES. SITE HAS BEEN CLEARED, DISKED, AND MOWED. SITE PROPOSED FOR LOT SPLIT. USE OF SITE BY RESIDENTS.	FEWER THAN 100 PLANTS OBSERVED IN 2015. I, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY IR MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION. 1 FOUND AND PHOTOGRAPHED ON 28 MAY 2018. TENS OF PLANTS SEEN IN 2012. "SATELLITE PHOTOS SUGGEST POPULATION COULD BE MUCH LARGER." 1988 KNIGHT COLLECTION FROM "ON ORMONDE RD OFF OF PRICE CYN RD FROM PISMO BEACH, 510 FT" ATTRIBUTED HERE; 1000S OF PLANTS UNDER HIGH VOLTAGE LINES. SITE IS BASED ON A 2007 BERNSTEIN & CARROLL COLLECTION. UNKNOWN NUMBER OF PLANTS REPORTED BY VANDERWEIR IN 1981. 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COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VARA, FASCICULATUS). SANDY SOILS. GENTLE TO MODERATE SLOPES. COASTAL SAND DUNE SCRUB. CHAPARRAL ON DEPAUPERATE SOIL, INTERSPERSED AMONG DEVELOPED AREAS INCLUDING PRIVATE HOMES AND SOME POSSIBLY COMMERCIAL PROPERTY. COULD ONLY SEE AREAS IMMEDIATELY ADJACENT TO ROAD, AND DID NOT FOLLOW THE ROAD TO THE END OF THE OCCURRENCE. SANDY SOIL. EDGE OF OAK WOODLAND. CENTRAL COASTAL DUNE SCRUB. CENTRAL COASTAL DUNE SCRUB. NEAR FRINGE OF COASTAL DUNE SCRUB AND COAST LIVE OAK WOODLAND ABOVE STEEP, NORTH-FACING WOODLEND, RIPARIAN FRESHWATER MARSH AREA, CHAPARRAL DOMINATER BY ARCTOSTAPHYLOS PILOSULA AND DISTURBED GROUND. PLANTS FOUND IN UPLAND PORTION OF SITE AROUND FRINGE OF OAK WOODLAND AND CHAPARRAL. MOSAIC COAST LIVE OAK WOODLAND, RIPARIAN FRESHWATER MARSH AREA, CHAPARRAL. 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THREATENED BY REGULAR DRAINING FOR FARMING ACTIVITIES. THREATENED BY A CHANGE IN	FEWER THAN 100 PLANTS OBSERVED IN 2015. I, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY IR MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION. 1 FOUND AND PHOTOGRAPHED ON 28 MAY 2018. TENS OF PLANTS SEEN IN 2012. "SATELLITE PHOTOS SUGGEST POPULATION COULD BE MUCH LARGER." 1988 KNIGHT COLLECTION FROM "ON ORMONDE RD OFF OF PRICE CYN RD FROM PISMO BEACH, 510 FT' ATTRIBUTED HERE; 1000S OF PLANTS UNDER HIGH VOLTAGE LINES. SITE IS BASED ON A 2007 BERNSTEIN & CARROLL COLLECTION. UNKNOWN NUMBER OF PLANTS REPORTED BY VANDERWEIR IN 1981. UNKNOWN NUMBER OF PLANTS OBSERVED IN 1981. MAY BE THE SAME "GUADALUPE OIL FIELDS" SITE REPORTED BY A. HOWALD (1981). UNKNOWN NUMBER OF PLANTS OBSERVED IN 1981. MAY BE THE SAME "GUADALUPE OIL FIELDS" SITE REPORTED BY A. HOWALD (1981). 2 PLANTS OBSERVED IN 2005; PLANTS WERE FIRST YEAR RESPROUTS FROM SURVIVING BASAL BURLS. A 1925 COOPER COLLECTION FROM ""LOS BERROS" AND A 1960 HOOVER COLLECTION FROM ""LOS BERROS" AND A 1960 HOOVER COLLECTION; ""LOCALLY COMMON"" IN 2010. "LOCALLY DOMINANT" IN 2010. 1936 WEISLANDER COLLECTION FROM "15 MIS WOF A SPHALT MINE, T325 SLIZS SCO, 530 FT" AND 1993 KEELEY COLLECTIONS FROM "ORMONDERD, 1KM S OF PRICE CYN RD" ATTRIBUTED HERE. SITE WAS PREVIOUSLY A. WELLSII OCC 6 JUVENILE FROGS OBSERVED ON 12 JULY 1995.
314 Clarkia speciosa ssp. immaculata 315 Anniella pulchra 316 Arctostaphylos pilosula 317 Lupinus ludovicianus 318 Monardella undulata ssp. crispa 319 Monardella undulata ssp. undulata 320 Monardella undulata ssp. undulata 321 Arctostaphylos rudis 322 Horkelia cuneata var. puberula 323 Arctostaphylos pilosula	Pismo clarkia northern California legless lizard Sant Lais Colispo Count lupine crisp monardella San Luis Obispo monardella San Luis Obispo monardella sand mesa manzanita mesa horkelia Santa Margarita manzanita California red-legged frog	Arroyo Grande NE Oceano Arroyo Grande NE Y Pismo Beach Oceano Point Sal Point Sal Oceano Arroyo Grande NE Arroyo Grande NE Arroyo Grande NE Arroyo Grande NE	540 20150619 1998XXXX PVT DPR-OCEANO 43 20180528 20180528 DUNES SYRA 540 20120408 20120408 PVT 280 20070604 20070604 UNKNOWN USFWS-GUADALUPE- 80 1981XXXX 1981XXXX PVT 100 1981XXXX 1981XXXX PVT 100 1981XXXX 20050718 PVT 280 20050718 20050718 PVT 330 20100615 20100615 PVT 200 19950712 19950712 UNKNOWN	Endanger None None None None None None None Threatene	red Rare None None None None None None None None	G4T1 G3 G2? G1 G3T2 G2 G2 G2 G2 G4T1 G2?	51 53 52? 51 52 52 52 52 51 52?	18.1 18.2 18.2 18.2 18.2 18.2 18.2 18.2	SB_RSABG; SB_SBBG USFS_S BLM_S; SB_SBBG; USFS_ BLM_S BLM_S BLM_S BLM_S BLM_S BLM_S IUSFS_S BLM_S	CYN. APPROXIMATELY 0.8 AIR MILE NW OF JUNCTION OF CORBETT CY RD AND VERDE CYN RD, BETWEEN CORBETT CYN AND CARPENTE CYN. 1 MILE N OF OSO FLACO LAKE, 1.7 MILES WSW OF HIGHWAY 1 AT CALLENDER RD, OCEANO DUNES STATE VEHICULAR RECREATION AREA. ORMONDE ROAD 1.7 MILES FROM PRICE CANYON ROAD, ABOUT S MILES NE OF PISMO BEACH. BASE OF WEST SLOPE OF SMALL HILL IMMEDIATELY NORTH OF WEST FORK OF PISMO CREEK, WEST OF PRICE CANYON ROAD. NORTHERN GUADALUPE DUNES, ABOUT 2 MI SOUTH OF OSO FLACO LAKE AND 3.5 MI WEST OF HIGHWAY 1, NORTHWEST OF GUADALUPE. GUADALUPE OIL FIELD, ABOUT 2.3 MILES NORTH OF SANTA MARIA RIVER AND 0.2 MILE ENE OF 'DEE' BENCHMARK, WEST OF GUADALUPE. GUADALUPE OIL FIELD, ABOUT 2 MILES NNE OF THE MOUTH OF THE SANTA MARIA RIVER, WEST OF GUADALUPE. 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QUIET OAKS DRIVE, 0.2 MILE SOUTH OF LOS BERROS ROAD AND IMMEDIATELY EAST OF POMEROY ROAD, LOS BERROS. 615 ORMONDE RD, SOUTH OF INTERSECTION OF ORMONDE RD WITH PRICE CANYON RD, BETWEEN SAN LUIS OBISPO AND ARROYO GRANDE. 615 ORMONDE RD, SOUTH OF INTERSECTION OF ORMONDE RD WITH PRICE CANYON RD, BETWEEN SAN LUIS OBISPO AND ARROYO GRANDE. JUST WEST OF THE INTERSECTION OF HUASNA ROAD AND BRANCH MILL ROAD, ARROYO GRANDE. JACK LAKE, OCEANO DUNES STATE VEHICULAR RECREATION ARE, S. 4.5 MILES SOUTH OF OCEANO.	ACCORDING TO 2015 KEIL COORDINATES. N MAPPED ACCORDING TO 2015 KEIL COORDINATES, PRESUMABLY R BASED ON SITE DESCRIPTION OR MAP FROM 1998 MCLEOD OBSERVATION. 3 MAPPED ACCORDING TO 2012 KEELAN COORDINATES, IN THE SE 1/4 OF THE NE 1/4 OF SECTION S. MAPPED ACCORDING TO 2007 BERNSTEIN COORDINATES. ABOUT 0.5 MILE SSW OF OSO FLACO BENCHMARK; SINGLE COLONY MAPPED AT THIS SITE. SINGLE COLONY MAPPED. SINGLE COLONY MAPPED ABOUT 0.4 MILE NNW OF THE 'DEE' BENCHMARK. NEAR WATER TANK SERVICING RESIDENCE. MAPPED ACCORDING TO 2005 KEIL COORDINATES, IN THE NW 1/4 OF THE SW 1/4 OF SECTION 35. MAPPED ACCORDING TO COORDINATES ON 2010 KEIL COLLECTION LABEL. MAPPED ACCORDING TO 2010 KEIL COORDINATES, IN THE NW 1/4 OF THE NW 1/4 OF SECTION S.	GENTILE TO MODERATE SLOPES. COASTAL LIVE OAK WOODLAND (QUERCUS AGRIFOLIA) WITH PATCHES OF CHAPARRAL (ARCTOSTAPHYLOS PILOSULA, ADENOSTOMA FASCICULATUM, CERCOCARPUS BETULOIDES, CEANOTHUS CUNEATUS VARA, FASCICULATUS). SANDY SOILS. GENTLE TO MODERATE SLOPES. COASTAL SAND DUNE SCRUB. CHAPARRAL ON DEPAUPERATE SOIL, INTERSPERSED AMONG DEVELOPED AREAS INCLUDING PRIVATE HOMES AND SOME POSSIBLY COMMERCIAL PROPERTY. COULD ONLY SEE AREAS IMMEDIATELY ADJACENT TO ROAD, AND DID NOT FOLLOW THE ROAD TO THE END OF THE OCCURRENCE. SANDY SOIL. EDGE OF OAK WOODLAND. CENTRAL COASTAL DUNE SCRUB. CENTRAL COASTAL DUNE SCRUB. CENTRAL COASTAL DUNE SCRUB. NEAR FRINGE OF COASTAL DUNE SCRUB AND COAST LIVE OAK WOODLAND, RIPARIAN FRESHWATER MARSH AREA, CHAPARRAL DOMINATED BY ARCTOSTAPHYLOS PILOSULA AND DISTURBED GROUND. PLANTS FOUND IN UPLAND PORTION OF SITE AROUND FRINGE OF OAK WOODLAND AND CHAPARRAL. MOSAIC COAST LIVE OAK WOODLAND, RIPARIAN FRESHWATER MARSH AREA, CHAPARRAL. MOSAIC COAST LIVE OAK WOODLAND, RIPARIAN-FRESHWATER MARSH AREA, CHAPARRAL DISTURBED GROUND. HABITAT CONSISTS OF TWO AGRICULTURAL IMPOUNDMENTS (APPROX 4 FEET DEEP), WHICH ARE SPARSELY VEGETATED; SURROUNDED BY AGRICULTURAL FIELDS AND GRAZED GRASSLAND. HABITAT CONSISTS OF A FRESHWATER LAKE/POND SURROUNDED BY AGRICULTURAL FIELDS AND GRAZED GRASSLAND. HABITAT CONSISTS OF A FRESHWATER LAKE/POND SURROUNDED BY DUNES TO THE NORTH AND WEST, A CONOCO-PHILLIPS OIL REFINERY TO THE EAST, AND AGRICULTURAL HELDS TO THE SOUTH. ARROYO WILLOW	UNAUTHORIZED GRADING. CONTINUED CLEARING, CONSTRUCTION INVASION BY VELDT GRASS & OTHER WEEDS. LANDOWNER HAS DONE MAJO UNAUTHORIZED GRADING. SITE HAS BEEN CLEARED, DISKED, AND MOWED. SITE PROPOSED FOR LOT SPLIT. USE OF SITE BY RESIDENTS. THREATENED BY REGULAR DRAINING FOR FARMING ACTIVITIES. THREATENED BY A CHANGE IN VEHICULAR ACCESS, ALLOWING ORV	FEWER THAN 100 PLANTS OBSERVED IN 2015. I, UNKNOWN NUMBER OF PLANTS FOUND ON SITE IN 1998 BY IR MCLEOD. NO PLANTS FOUND BY KEIL IN 2015, PRESUMABLY DUE TO HABITAT DESTRUCTION. 1 FOUND AND PHOTOGRAPHED ON 28 MAY 2018. TENS OF PLANTS SEEN IN 2012. "SATELLITE PHOTOS SUGGEST POPULATION COULD BE MUCH LARGER." 1988 KNIGHT COLLECTION FROM "ON ORMONDE RD OFF OF PRICE CYN RD FROM PISMO BEACH, 510 FT" ATTRIBUTED HERE; 1000S OF PLANTS UNDER HIGH VOLTAGE LINES. SITE IS BASED ON A 2007 BERNSTEIN & CARROLL COLLECTION. UNKNOWN NUMBER OF PLANTS REPORTED BY VANDERWEIR IN 1981. UNKNOWN NUMBER OF PLANTS OBSERVED IN 1981. MAY BE THE SAME "GUADALUPE" OIL FIELDS" SITE REPORTED BY A. HOWALD (1981). UNKNOWN NUMBER OF PLANTS OBSERVED IN 1981. MAY BE THE SAME "GUADALUPE OIL FIELDS" SITE REPORTED BY A. HOWALD (1981). 2 PLANTS OBSERVED IN 2005; PLANTS WERE FIRST YEAR RESPROUTS FROM SURVIVING BASAL BURLS. A 1925 COOPER COLLECTION FROM ""LOS BERROS"" AND A 1960 HOOVER COLLECTION FROM ""JUST ABOVE LOS BERROS"" ARE ALSO ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 2010 KEIL COLLECTION; ""LOCALLY COMMON"" IN 2010. "LOCALLY DOMINANT" IN 2010. 1936 WEISLANDER COLLECTION FROM "1.5 MIS WOY A SPHALT MINE, T325 R132 SEC S, 350 FT" AND 1993 KEELEY COLLECTIONS FROM "ORMONDE RO, IKM S OF PRICE CYN RO" ATTRIBUTED HERE. SITE WAS PREVIOUSLY A. WELLSII OCC 6 JUVENILE FROGS OBSERVED ON 12 JULY 1995.

		California red-legged										ARROYO GRANDE CREEK, JUST EAST OF THE JUNCTION OF				2 JUVENILES OBSERVED ON 11 SEPT 2009. THE CREEK WAS MOSTLY DRY, AGAIN, THIS YEAR. THE FLOW DID NOT COME UP LATER IN THE SUMMER AS IT USUALLY DOES. ANNUAL ZONE 1/1A ARROYO
327 Rana dray	ytonii	frog California red-legged	Oceano Arroyo	50 20090911 2009091	11 SLO COUNTY	Threatened	None	G2G3	S2S3	SSC	IUCN_VU	CIENAGA ST & S. HALCYON RD, OCEANO. CORBIT CANYON CREEK (AKA TALLY HO CREEK), AT THE JUNCTION	I ABOUT 3 FOOT DEEP POOL UNDER HIGHWAY 227 BRIDGE, 40 FEET	SURROUNDING AREA IS FARMLAND AND RESIDENTIAL. HABITAT CONSISTS OF A FRESHWATER MARSH, DOMINATED BY	DAMS. THREATENED BY THE PRESENCE OF NON Y NATIVE PREDATORS (CATS, SUNFISH)	GRANDE CREEK WILLOW CLEARING PROJECT.
328 Rana dray	ytonii	frog	Grande NE	140 20001020 2000102	20 UNKNOWN	Threatened	None	G2G3	S2S3	SSC	IUCN_VU	OF CORBIT CANYON AND POORMAN CANYON, ARROYO GRANDE. JUST NORTH OF LETTUCE LAKE, VICINITY OF OCEANO DUNES	EAST OF TALLY HO ROAD. THE SITE IS EAST OF THE OCEANO DUNES SVRA, WEST OF THE	SEDGES; MANY ESCAPED ORNAMENTALS PRESENT.	AND POOR WATER QUALITY. SITE IS BEING CONSIDERED FOR CONSTRUCTION OF A VEHICLE ACCESS	1 INDIVIDUAL OBSERVED ON 20 OCT 2000.
329 Anniella p	pulchra	northern California legless lizard	Oceano	50 20060607 2006060	DPR-OCEANO 07 DUNES SVRA	None	None	G3	S3	SSC	USFS_S	STATE VEHICULAR RECREATION AREA, 4.5 MILES SOUTH OF OCEANO.	THE STEED FAIL OF THE OLCAND DONES YAVE, WEST OF THE CONOCO PHILLIPS OIL REFINERY, AND NORTH OF AGRICULTURAL FIELDS. FORMERLY A. P. PULCHRA EO #48.	DUNE SCRUB. HABITAT CONSISTS OF AN AGRICULTURAL POND, WITH ONE SMALL PATCH OF CATTAILS ON THE NORTH SIDE OF THE POND,	ALTERNATIVE TO THE OCEANO DUNES SVRA. THREATS INCLUDE PROXIMITY TO	2 INDIVIDUALS FOUND IN A WOODRAT NEST AND 1 FOUND BURROWING UNDER ERICAMERIA ERICOIDES ON 7 JUN 2006.
330 Rana dray	ytonii	California red-legged frog	Santa Maria	195 20000208 2000020	08 PVT	Threatened	None	G2G3	S2S3	SSC	IUCN_VU	WEST SIDE OF BLOSSER ROAD, 0.3 MILE NORTH OF DONOVAN ROAD, NW EDGE OF SANTA MARIA. DUNES N OF SANTA MARIA RIVER AND E OF GUADALUPE OIL FIELDS, ABOUT 2.5 MI NW OF JCT OF HWY 1 AND HWY 166 AT	MARRIED ARQUIT O AMUE MORTU OF ACCESS ROAD INTO THE DUBLISHES	SURROUNDED BY AGRICULTURAL FIELDS AND HIGH-DENSITY RESIDENTIAL DEVELOPMENT.		3 ADULTS HEARD MAKING BREEDING CALLS ON 8 FEB 2000.
331 Monardel	lla undulata ssp. crispa	crisp monardella	Guadalupe	120 1977XXXX 1977XXXX	UNKNOWN USFWS-	None	None	G3T2	S2 1B.2		BLM_S	GUADALUPE.	MAPPED ABOUT 0.2 MILE NORTH OF ACCESS ROAD INTO THE DUNES AND 1.8 MILES WEST OF HIGHWAY 1.	THROUGHOUT OPEN SAND.		ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1981 MAP BY HOWALD.
332 Monardel	lla undulata ssp. crispa	crisp monardella	Guadalupe	80 1986XXXX 1986XXXX	GUADALUPE- NIPOMO DUNES	None	None	G3T2	S2 1B.2		BLM_S	DUNES NORTH OF SANTA MARIA RIVER AND EAST OF GUADALUPE OIL FIELD, ALONG PIPELINE ABOUT 3.5 MILES NW OF GUADALUPE DUNES OF THE GUADALUPE OIL FIELD, ABOUT 0.6 MILE EAST OF		IN PARTIALLY STABILIZED DUNES.		FEWER THAN 10 PLANTS OBSERVED IN 1986. UNKNOWN NUMBER OF PLANTS REPORTED BY VANDERWEIR IN
333 Monardel	lla undulata ssp. crispa	crisp monardella	Point Sal	80 1981XXXX 1981XXXX	UNKNOWN	None	None	G3T2	S2 1B.2		BLM_S	MOUTH OF SANTA MARIA RIVER, WEST OF GUADALUPE.	COLONY MAPPED AT THIS SITE.	CENTRAL COASTAL DUNE SCRUB. STREAM AREA IN BLACK LAKE CANYON WITH ARENARIA	PROPOSED LOWERING OF WATER TABLE	1981. E
334 Nasturtiur	m gambelii	Gambel's water cress	Oceano	60 20050829 1993060	06 PVT	Endangered	Threatened	l G1	S1 1B.1		SB_RSABG; SB_SBBG	BLACK LAKE CANYON, BETWEEN SHERIDAN RD AND END OF CALLENDER RD, ENE OF CALLENDER.	BEHIND HOUSE AT 1266 CALLENDER RD. APPROXIMATELY 150 YARD'S UPSTREAM FROM PIPELINE CROSSING, BLACK LAKE CANYON HAS BEEN DESIGNATED AS A SENSITIVE RESOURCE AREA.	I PALUDICOLA ABOUT 100 YDS UPSTREAM (ALSO RARE). ALSO WITH SCIRPUS AMERICANUS, SPARGANIUM EURYCARPUM, TYPHA LATIFOLIA, AND SALIX LASIOLEPIS. AGRICULTURAL EDGE (LETTUCE AND CAULIFLOWER) WITH RUDERAL SPECIES BETWEEN THE HWY & THE FLOOD CONTROL.	BY DRILLING NEW WATER WELLS, ENCROACHING DEVELOPMENT, & EUCALYPTUS TREES THREATEN.	ABOUT 100 PLANTS SEEN IN 1988, APPROX 1000 IN 1992, 50 FLOWERING PLANTS IN 1993. NOT SEEN BY ELVIN IN 2005. NEARBY EUCALYPTUS TREES MAY BE ALTERING WATER REGIME.
335 Rana dray	ytonii	California red-legged frog	Santa Maria	175 20000613 2000061	13 PVT	Threatened	None	G2G3	S2S3	SSC	IUCN_VU	DRAINAGE CANAL JUST SOUTH OF WEST MAIN STREET (HWY 166) 0.45 MI EAST OF BLACK RD, WEST OF SANTA MARIA.	,	DITCH. ALTHOUGH THE DITCH HOLDS ADEQUATE AMOUNTS OF WATER, THERE IS LITTLE COVER.	F THREATENED BY PERIODIC	3 ADULTS WERE OBSERVED IN A FLOOD CONTROL DITCH THAT RUNS PARALLEL TO THE SOUTH SIDE OF HWY 166 ON 13 JUN 2000.
336 Rana dray	ytonii	California red-legged frog	Guadalupe	130 20030727 2003072	27 SBA COUNTY	Threatened	None	G2G3	S2S3	SSC	IUCN_VU	EAST SIDE OF BONITA SCHOOL ROAD, 0.6 MILE SOUTH OF THE SLO/SBA COUNTY LINE, 3.5 MILES EAST OF GUADALUPE.		CONVEY IRRIGATION RUNOFF (TAILWATER) TO THE SANTA MARIA RIVER, SURROUNDED BY CULTIVATED AGRICULTURE. HABITAT IS A WETLAND & EXCAVATION SITE DOMINATED BY	MAINTENANCE OF THE AGRICULTURAL DITCH (VEGETATION REMOVAL / SUPPRESSION).	14 ADULTS OBSERVED ON 27 JUL 2003.
337 Thamnopl	his hammondii	two-striped gartersnak	ke Point Sal	35 20080317 2008031	PVT-CHEVRON, 17 TNC	None	None	G4	\$3\$4	SSC	BLM_S; IUCN_LC; USFS_!		NEAR THE JUNCTION OF 2 UNNAMED DIRT ROADS, WETLAND AND Y EXCAVATION SITE (GUADALUPE RESTORATION PROJECT). MAPPED TO PROVIDED COORDINATES.	SCIRPUS CALIFORNICUS, JUNCUS LESUEURII & POTENTILLA ANSERINA. ASSOCIATES INCLUDE PLANTAGO SP. & DISTICILIS SPICATA. SANDY SOIL. TOGOGRAPHY IS DUNE FACE WITH LEVEI SURFACES NEAR WETLANDS. ASPHALT ROAD AND COASTAL DUNE SCRUB HABITAT. DUNE SCRUB HABITAT DOMINATED BY ERICAMERIA ERICOIDES,		ONE ADULT OBSERVED ON 9 NOV 2007 ANOTHER OBSERVED ON 17 MAR 2008. ONE JUVENILE WAS ALSO SPOTTED SAME VICINITY 10 OCT 2007. 1 ADULT OBSERVED ON 31 MARCH 2008. TWO HATCHLINGS OBSEVERED IN RED-CLAY SOIL NEXT TO ASPHALT ROAD IN 2007.
338 Phrynosor	ma blainvillii	coast horned lizard	Point Sal	35 20080331 2008033	31 PVT-CHEVRON	None	None	G3G4	S3S4	SSC	BLM_S; IUCN_LC	GUADALUPE/NIPOMO DUNES COMPLEX, SOUTHERN END OF GUADALUPE OIL FIELDS, 4 MILES WEST OF GUADALUPE.	NEAR THE JUNCTION OF 2 UNNAMED ROADS, APPROX. 0.4 MILE EAST FROM THE MOUTH OF THE SANTA MARIA RIVER AND 0.2 MILE NORTH OF THE SLO/SANTA BARBARA CO. LINES.	LUPINUS CHAMISSONIS AND BACCHARIS PILULARIS ON SANDY	WORK VEHICLES AND CATTLE.""	HISTORICALLY OPERATED AS AN OIL FIELD. AG FIELDS TO THE EAST, USFWS REFUGE TO THE NORTH, AND SANTA MARIA RIVER TO THE SOUTH. SITE IS BASED ON 2011 CHESTER PHOTOS IN CALPHOTOS, PLANT
339 Castilleja	densiflora var. obispoensis	San Luis Obispo owl's- clover	Arroyo Grande NE	200 20110514 2011051	14 PVT	None	None	G5T2	S2 1B.2		BLM_S		MAPPED IN THE NE 1/4 OF THE SW 1/4 OF PROJECTED SECTION 31 ACCORDING TO 2011 CHESNUT COORDINATES.	IN WHITE SAND MOVED FROM A DISTURBED OIL PAD AS PART OF A PISMO CLARKIA MITIGATION PROJECT.		TALLER AND LESS BRANCHED THAN FORMS GROWING ON THE SEA TERRACES OF NORTHERN SAN LUIS OBISPO COUNTY.
340 Chenopod	dium littoreum	coastal goosefoot	Oceano	100 20110708 2011070	08 UNKNOWN	None	None	G1	S1 1B.2			JUST WEST OF HIGHWAY 1, SOUTH OF CALLENDER ROAD, NIPOMO MESA.	D NORTH OF REFINERY TURN. MAPPED BASED ON COORDINATES PROVIDED BY CHESNUT. SITE IS NEAR BLACK LAKE DUNE PRESERVE.	OPEN SAND IN DUNE SCRUB. COAST LIVE OAK WOODLAND ON STEEP, ROCKY/SANDY SOIL		UNKNOWN NUMBER OF PLANTS SEEN.
341 Arctostapi	ohylos pilosula	Santa Margarita manzanita	Arroyo Grande NE	230 20090609 2009060	09 PVT	None	None	G2?	S2? 1B.2		BLM_S; SB_SBBG; USFS_	ABOUT 3/4 MILE EAST OF THE JUNCTION OF PRICE CANYON WITH S CANADA VERDE, NNE OF PISMO BEACH.	MAPPED IN THE SE 1/4 OF THE NW 1/4 OF SECTION 32. MAPPED BY CNDDB ACCORDING TO LAT/LONG COORDINATES PROVIDED WITH A 2003 GREENHOUSE OBSERVATION. ASSUMPTION	SLOPE. THE RARE CLARKIA SPECIOSA SSP. IMMACULATA, SCROPHULARIA ATRATA, AND DELPHINIUM PARRYI SSP. BLOCHMANIAE WERE ALSO OBSERVED AT THIS SITE.		1 PLANT OBSERVED IN 2009.
342 Dithyrea r	maritima	beach spectaclepod	Point Sal	40 20030505 2003050	05 UNKNOWN	None	Threatened	l G1	S1 1B.1		BLM_S	RANCHO GUADALUPE DUNES, APPROXIMATELY 1.2 AIR MILES NNE OF MUSSEL POINT.	MADE AT CNDDB THAT COORDINATES CAME FROM A GPS UNIT BUT ACCURACY OF COORDINATES IS UNCLEAR; MAPPED TO ENCOMPASS NAD27 & NAD83 POINTS.	HABITAT CONSISTS OF A HIGHLY-DISTURBED TRAPEZOIDAL		ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2003 OBSERVATION BY GREENHOUSE IN CALFLORA.
		California and larged			SBA COUNTY							WEST CIDE AND NEAD THE NODTH END OF NODTH DUOSSED DOAD), THE CHANNEL BOTTOM IS ABOUT 7 FEET WIDE AND THE AVERAGE	STORM WATER CHANNEL; SURROUNDED BY RUDERAL AND AGRICULTURAL AREAS TO THE WEST AND RESIDENTIAL		
343 Rana dray	ytonii	California red-legged frog	Santa Maria	193 20070206 2007020	FLOOD CONTROL 06 DIST	Threatened	None	G2G3	S2S3	SSC	IUCN_VU	JUST SOUTH OF THE SANTA MARIA RIVER, SANTA MARIA.	DEPTH IS ABOUT 1.5 FEET.	IS ~5% WITH 95% OPEN WATER. IN ANNUAL GRASSLAND OUTCROP ON RIDGETOP, IN OPENING	_	1 ADULT OBSERVED ON 6 FEB 2007.
344 Castilleja (densiflora var. obispoensis	San Luis Obispo owl's- clover	Pismo Beach	195 20030403 2003040	03 PVT	None	None	G5T2	S2 1B.2		BLM_S	EAST OF PISMO CREEK, NEAR EASTERN BOUNDARY OF CITY OF PISMO BEACH.		BETWEEN SCRUB HABITAT. ASSOCIATED WITH ANNUAL GRASSES AND FORBS, SITE WEEDY. HABITAT CONSISTS OF AN AGRICULTURAL POND (~40' DIAMETER) DOMINATED BY BULRUSH SURROUNDING THE	POTENTIAL DEVELOPMENT.	50-75 PLANTS OBSERVED IN 2003. A 1926 MUNZ COLLECTION FROM ""0.5 MI E OF PISMO BEACH"" IS ATTRIBUTED TO THIS SITE.
345 Rana dray	ytonii	California red-legged frog	Santa Maria	286 20060727 2006072	27 UNKNOWN	Threatened	None	G2G3	S2S3	SSC	IUCN_VU	0.6 MILE SW OF THE INTERSECTION OF HUTTON ROAD AND MOSS LANE, ON NIPOMO MESA JUST NORTH OF THE SANTA MARIA RIVER.	;	POND; OTHER EMERGENT VEGETATION INCLUDES STINGING NETTLE, CURLY DOCK, BRISTLY OX-TONGUE, WATERCRESS, BROADLEAF CATTAIL, POISON OAK & SWEET FENNEL.	THREATENED BY LOSS OF ADJACENT	5 ADULTS AND 3 JUVENILES OBSERVED ON 27 JUL 2006.
346 Emys mar	rmorata	western pond turtle	Oceano	127 20070402 2007040	CITY OF ARROYO		None	G3G4	53	SSC	DIM SHIPM VIII HEES	ARROYO GRANDE CREEK, AT THE MYRTLE STREET GAUGING 5. STATION, ARROYO GRANDE.		HABITAT CONSISTS OF A PERENNIAL STREAM.	UPLAND HABITAT (NECESSARY FOR BREEDING) DUE TO RESIDENTIAL DEVELOPMENT.	1 ADULT OBSERVED BASKING ABOVE THE PLUNGE POOL LINE AT THE GAUGING STATION ON 2 APR 2007.
3.0 2,3				127 20070402 2007040	or divinibr	None	None	0304	33	330	525,104.1_10,051.5_			LARGEST POPULATION FOUND BENEATH A CROP OF COMMERCIAL RYE. THE OTHER POPULATIONS FOUND IN A DISTURBED OPEN AREA WITH QUERCUS AGRIFOLIA AND	DEVELO: MENT:	IN 2003, THREE POPULATIONS WERE MAPPED TOTALING MORE
347 Chorizantl	the rectispina	straight-awned spineflower	Arroyo Grande NE	365 20030616 2003061	16 PVT	None	None	G2	S2 1B.3		BLM_S; USFS_S	BADGER CANYON LANE, OFF CORBETT CANYON ROAD, JUST SOUTH OF BEE CANYON, ARROYO GRANDE.	IN DISTURBED OPEN AREA.	ARCTOSTAPHYLOS WELLSI IN VICINITY. WEEDY GRASSES, CHORIZANTHE STATICOIDES, C. DIFFUSA ALSO HERE. HABITAT SURROUNDING THE STREAM CONSISTS OF COAST LIVE OAK WOODLAND, DOMINATED BY QUERCUS AGRIFOLIA, WITH		THAN 2000 PLANTS. ARCTOSTAPHYLOS WELLSII ALSO OCCURS AT THIS SITE.
348 Rana dray	ytonii	California red-legged frog	Pismo Beach	80 20050613 2005061	13 PVT	Threatened	None	G2G3	S2S3	SSC	IUCN_VU	UNNAMED TRIBUTARY TO PISMO CREEK, Q.2 MILE UPSTREAM FROM THE PISMO CREEK CONFLUENCE, 1.5 MILES NORTH OF PISMO BEACH.		ASSOCIATES THAT INCLUDE RHAMNUS CROCEA, HETEROMELES ARBUTIFOLIA, TOXICODENDRON DIVERSILOBUM, AND BROMUS DIANDRUS. ELONGATE LAGOON BEHIND BEACH, 1-6' DEEP, EXTENT VARIES DEPENDING ON TIDES & HIGH WATER EVENTS. SEASONAL	GRAZING, AND ADJACENT VEHICULAR TRAFFIC.	1 ADULT OBSERVED ON 13 JUN 2005. MAR 05: 15T RECOLONIZATION OBS. MOUTH OPEN 6 JUN 06, 1 AD;
349 Eucyclogo	obius newberryi	tidewater goby	Oceano	10 20080916 2008091	DPR-OCEANO 16 DUNES SVRA	Endangered	None	G3	S3	SSC	AFS_EN; IUCN_VU	ARROYO GRANDE CREEK LAGOON, ADJACENT TO OCEANO DUNES STATE VEHICULAR RECREATION AREA, OCEANO.	THE MOUTH OF THIS LAGOON CHANGES FROM YEAR TO YEAR. 2007 WAS FIRST YEAR OF ABUNDANT PROTECTION.		AGRICULTURAL GROUNDWATER WITHDRAWAL; AGRICULTURAL, URBAN RUNOFF.	ADULTS. COMMON, OBS FEB, MAR, JUN 08. 0 OBS 16 SEP 08. 500+ OBSERVED, OCT 1990. 0 OBS IN LATE VISIT, 1992-93. 0 OBS IN
350 Danaus pl	lexippus pop. 1	monarch - California overwintering population	Oceano	60 201311XX 199010XX	PVT-HALCYON	None	None	G4T2T3	S2S3		USFS_S	AND TEMPLE STREET, HALCYON, SOUTH OF ARROYO GRANDE.	"LA DUE" SITE, ALSO KNOWN AS HIAWATHA SITE. XERCES SITE #3066 MAPPED TO PROVIDED SHAPEFILE (2014).	GROVE IN AN EMPTY LOT.	POSSIBLE THREAT OF DEVELOPMENT. THREATENED BY DEVELOPMENT;	SINGLE VISIT, 1993-94. 0 OBS, DEC 1994. 1 OBS 3 JAN 1996. 0 OBS 7 JAN 1998. 0 IN 2001, 03, 04, 05, 06, 07, 08, & 10. 3 IN 2011. 0 IN 2013.
351 Accipiters	striatus	sharp-shinned hawk	Oceano	200 20030724 2003072	24 UNKNOWN	None	None	G5	S4	WL	IUCN_LC	NIPOMO MESA, 1.6 MILES NNE OF THE INTERSECTION OF HIGHWAY 1 AND OSO FLACO LAKE ROAD, 5.5 MILES SE OF OCEANO.		MODERATELY-DENSE EUCALYPTUS WOODLAND; LOW WILDLIFE DIVERSITY DUE TO THE DOMINATION BY EXOTICS. FLAT OPEN FIELD DOMINATED BY NON-NATIVE GRASS. LIMITEE BUSH LUPINE PRESENT. SURROUNDED BY COMMERCIAL AND		2 ADULTS OBSERVED NESTING ON 24 JUL 2003.
352 Athene cu	unicularia	burrowing owl	Santa Maria	180 20091105 2009110	05 PVT	None	None	G4	S3	SSC	BLM_S; IUCN_LC; USFWS_BCC	E SIDE OF BLACK RD, 0.4 MI S OF W STOWELL RD, PACER, W SIDE OF SANTA MARIA.	MAPPED TO PROVIDED COORDINATES.	AGRICULTURAL DEVELOPMENT. VISIBLE DISTURBANCES INCLUDE LARGE SEDIMENT BASIN BEING CONSTRUCTED ON SITE. HABITAT CONSISTS OF A TRAPEZOIDAL, UNLINED CHANNEL;		E 1 ADULT OCCUPYING A CALIFORNIA GROUND SQUIRREL BURROW OBSERVED ON 5 NOV 2009.
353 Rana dray	ytonii	California red-legged frog	Santa Maria	170 20030930 2003093	SBA COUNTY FLOOD CONTROL 30 DIST	L Threatened	None	G2G3	S2S3	SSC	IUCN_VU	2 MILES NW OF THE INTERSECTION OF BLOSSER ROAD AND DONOVAN ROAD, NW OF SANTA MARIA.		BANKS ARE VEGETATED BY RUDERAL PLANT SPECIES (MUSTARD, RADISH, AND ANNUAL AND PERENNIAL GRASSES, AND SOME EMERGENT VEGATATION, INCLUDING RORIPPA.		4 ADULTS OBSERVED ON 26, 29, AND 30 SEP 2003.

													PERENNIAL DRAINAGE WITH STEEPLY INCISED BANKS & SCOUP		
												THE ADMINIDANCE OF SAME ACCUMANDIATION OF SAME OTHER	POOLS WITH SOME ARROYO WILLOWS, THE SOUTHERN OF 3		
	California red-legged											E CNDDB RECORDS IN THE VICINITY INDICATES A HEALTHY BREEDING			
354 Rana draytonii	frog	Oceano	220 20020612 20020612 PVT	Threa	tened None	G2G3	S2S3		SSC	IUCN_VU	OF HIGHWAY 101, 0.7 MILE WSW OF PICACHO HILL.	POPULATION.	INTERMITTENTLY COVERED W/ COAST LIVE OAK CANOPY. HABITAT CONSISTS OF A SMALL POOL AT THE BASE OF AN		15+ ADULT FROGS OBSERVED ON 12 JUN 2002.
	California and Investigation										ANDRUG TRURVITARY TO LOS REPROS SPECIA ON THE WEST SIDE O	THE ABUNDANCE OF SAME-AGE SUBADULT CRLF'S AND OTHER	ARTESIAN WELL, WITHIN THE MIDDLE OF 3 DRAINAGES THAT		
355 Rana draytonii	California red-legged frog	Oceano	200 20020612 20020612 PVT	Threa	tened None	G2G3	S2S3		SSC	IUCN_VU	HIGHWAY 101, 0.8 MILE WEST OF PICACHO HILL.	F CNDDB RECORDS IN THE VICINITY INDICATES A HEALTHY BREEDING POPULATION.	NON-NATIVE GRASSLAND.		1 SUBADULT FROG OBSERVED ON 12 JUN 2002.
		Arrovo									0.9 MILE ESE OF ARROYO GRANDE CK (FILTRATION PLANT, 2.2 MI SW OF THE LOPEZ LAKE DAM & APPROX 4.8 MI NE OF ARROYO		LIVE OAK, ANNUAL GRASSLAND SAVANNAH. SURROUNDING AREAS SUPPORT CATTLE RANCHING, AGRICULTURE, AND	ROAD AND HOME CONSTRUCTION IN	2 ADULTS AND 1 JUVENILE WERE DISCOVERED BY CONSTRUCTION PERSONNEL AND REPORTED TO ON-SITE BIOLOGICAL MONITOR.
356 Phrynosoma blainvillii	coast horned lizard	Grande NE	591 20070423 20070423 PVT	None	None	G3G4	\$3\$4		SSC	BLM_S; IUCN_LC	GRANDE.		RESIDENTIAL AREAS.	IMMEDIATE AREA.	AREA IS IN THE LAS VENTANAS HOUSING DEVELOPMENT.
											ALONG THE SANTA MARIA RIVER, ABOUT 0.7 MILE W OF HWY 10:	1	SANDY SOILS WITH COYOTE BRUSH, WILLOW, AND MULEFAT. AERIAL IMAGERY FROM 2008 SHOWS LOCATION SURROUNDED)	
257 Ph		6	400 20004043 20004043 UNIVALOUAL			6364	5354		555	BLAK C. HIGH. LC	BRIDGE OVER RIVER, 3 MI N OF SANTA MARIA & S OF NIPOMO		BY AGRICULTURE TO THE NORTH, WEST, AND SOUTHWEST		4 ADULTS SEEN AT THIS SITE. LOGGERHEAD SHRIKE ALSO SEEN IN
357 Phrynosoma blainvillii	coast horned lizard	Santa Maria	199 20081013 20081013 UNKNOWN	None	None	G3G4	S3S4		SSC	BLM_S; IUCN_LC	MESA.	SOUTH SIDE OF RIVER.	AND RESIDENTIAL AREA TO THE SOUTH. AGRICULTURAL EDGE (LETTUCE AND CAULIFLOWER) WITH		AREA.
	California red-legged										DRAINAGE CANAL JUST SOUTH OF WEST MAIN STREET, 0.26 MI		RUDERAL SPECIES BETWEEN THE HWY & THE FLOOD CONTROL DITCH. ALTHOUGH THE DITCH HOLDS ADEQUATE AMOUNTS O		1 ADULT WAS OBSERVED IN A FLOOD CONTROL DITCH THAT RUNS
358 Rana draytonii	frog	Santa Maria	175 20000613 20000613 PVT	Threa	tened None	G2G3	S2S3		SSC	IUCN_VU	WEST OF HANSON WAY, WEST OF SANTA MARIA.		WATER, THERE IS LITTLE COVER.	•	PARALLEL TO THE SOUTH SIDE OF HWY 166 ON 13 JUN 2000.
													OPEN SANDY AREAS IN COASTAL SCRUB DOMINATED BY MIMULUS AURANTIACUS AND ARTEMISIA CALIFORNICA AT THI	<u> </u>	
250 Charleaghla anathrainn	straight-awned	Arroyo	325 20030718 20030718 PVT	None	None	G2	S2	18.3		BLM_S; USFS_S	SOUTH SLOPE OF CANYON NO. 2, ABOUT 0.3 MILE WEST OF OLD OAK PARK BLVD AT NOYES ROAD, EAST OF ARROYO GRANDE.	MAPPED IN THE NW1/4 OF THE SW1/4 OF SECTION 16.	EDGES OF A QUERCUS AGRIFOLIA WOODLAND WITH COASTAL		FOLDIANTS ORESDUED IN 2002
359 Chorizanthe rectispina	spineflower	Grande NE	323 20030/18 20030/18 FV1	None	None	G2	32	10.5		BLW_3, U3F3_3	OCEANO DUNES STATE VEHICULAR RECREATION AREA. ALONG	MAFFED IN THE NWI/4 OF THE SWI/4 OF SECTION 10.	SCRUB UNDERSTORY. ASPECT NW.	FUTURE DEVELOPMENT.	50+ PLANTS OBESRVED IN 2003.
360 Taxidea taxus	American badger	Oceano	DPR-OCEANO 81 20060501 20060501 DUNES SVRA		None	G5	53		SSC	IUCN_LC	TOSCO GATE RD, JUST E OF JACK LAKE, W OF CONOCO PHILLIPS REFINERY.	LOCATION IS IN OPEN, UNDEVELOPED LAND, LEASED TO STATE PARKS.	DUNE LUPINE-GOLDEN BUSH SERIES.	POTENTIAL NEW ACCESS ROAD.	LIVE ANIMAL OBSERVED, POSSIBLY AT NATAL DEN. OTHER MULTIPLE OBSERVATIONS OF BURROWS NEAR ROAD.
															200 PLANTS SEEN IN 2001. 150 SEEN IN 2003; 50-70 PLANTS
		Arroyo									NORTHWEST CORNER OF THE INTERSECTION OF JAMES WAY AND	SOME PLANTS ADJACENT TO WETLAND AREAS, HOWEVER MOST PLANTS WERE FOUND ON THE DRIER SOUTH-FACING SLOPES WITH	RIPARIAN SCRUB WITH BACCHARIS PILULARIS. CALCAREOUS	COMMERCIAL AND RESIDENTIAL	TRANSPLANTED TO A PERMANENT SETBACK AREA FOR PRESERVATION ON EAST SIDE OF DRAINAGE. UNKNOWN NUMBER
361 Scrophularia atrata	black-flowered figwor		100 20120619 20120619 PVT	None	None	G2?	S2?	1B.2		SB_RSABG	VENTANA DRIVE, NORTH OF HIGHWAY 101, PISMO BEACH.	COYOTE BUSH OVERSTORY.	SHALEY SUBSOIL WITH A VERY FRIABLE SANDY SURFACE SOIL.		OF PLANTS OBSERVED IN 2012.
															ROUGHLY 50-200 SHRUBS SCATTERED ACROSS ~19 ACRES IN 2003. SITE NEEDS REVISIT IN ORDER TO FULLY MAP EXTENT OF
	Conto Massocito	A									CORBETT (CORBIT?) CANYON, JUST SOUTH OF BEE CANYON,	MARRIED ACCORDING TO COORDINATES BROWINED BY ALTHOUSE	DICTURDED CITE COMPOSED OF EDACMENTED COAST LIVE OA	A LUCTORICAL CRAVEL MINUNG	POPULATION. THE RARE CHORIZANTHE RECTISPINA ALSO OCCURS
362 Arctostaphylos pilosula	Santa Margarita manzanita	Arroyo Grande NE	416 20030509 20030509 PVT	None	None	G2?	S2?	1B.2		BLM_S; SB_SBBG; USFS_S		MAPPED ACCORDING TO COORDINATES PROVIDED BY ALTHOUSE AND DART: WGS84 N35 9' 21. 7"" / W120 33' 48.9"".	DISTURBED SITE COMPOSED OF FRAGMENTED COAST LIVE OAI WOODLAND, CHAPARRAL, AND GRASSLAND COMMUNITIES.		AT THIS SITE. THIS OCCURRENCE WAS PREVIOUSLY A. WELLSII OCCURRENCE #15.
													COASTAL DUNE SCRUB HABITAT DOMINATED BY ERICAMERIA EROCOIDES, LUPINUS CHAMISSONIS AND BACCHARIS PILULARI	5	TWO HATCHLINGS FOUND IN RED CLAY SOIL NEXT TO ASPHALT
													ON SANDY SOILS. ASSOCIATES INCLUDE SENECIO		ROAD. BOTH IN EXCELLENT CONDITION. HISTORICALLY OPERATED
363 Phrynosoma blainvillii	coast horned lizard	Guadalupe	108 20070831 20070831 PVT-CHEVRO	ON None	None	G3G4	S3S4		SSC	BLM_S; IUCN_LC	GUADALUPE/NIPOMO DUNES COMPLEX, SOUTHERN END OF GUADALUPE OIL FIELDS, 3 MILES WEST OF GUADALUPE.	1.4 MILES EAST FROM MOUTH OF SANTA MARIA RIVER, 0.65 MILE NORTH OF SLO/SANTA BARBARA CO. LINE.	BLOCHMANIAE, ERIOGONUM PARVIFOLIUM AND CONIUM MACULATUM.	WORK VEHICLES AND CATTLE.""	AS AN OIL FIELD. USFWS REFUGE TO THE NORTH, SANTA MARIA RIVER TO THE SOUTH, AND AG FIELDS TO THE EAST.
,										,,,			HABITAT CONSISTS OF AN UNLINED, OPEN AGRICULTURAL		
													DITCH; AND A 3' DEEP PLUNGE POOL CREATED BELOW CULVERT ON THE WEST SIDE OF HIGHWAY 1. LIMITED, BUT	THREATENED BY ROUTINE VEGETATION REMOVAL/HERBICIDE TREATMENT,	N
	California red-legged											HIGHLY VARIABLE WATER TABLE AND VARIABLE FLOW RATES EXIST	DENSE, MATS OF CRABGRASS ARE FOUND ALONG THE POOL'S	POTENTIAL DEVELOPMENT & VARIABLE	
364 Rana draytonii	frog Santa Margarita	Guadalupe Arroyo	80 20050512 20050512 PVT	Threa	tened None	G2G3	S2S3		SSC	IUCN_VU	WEST SIDE OF HIGHWAY 1, 0.6 MILE SOUTH OF GUADALUPE. BETWEEN ARROYO GRANDE CREEK AND CANYON DE LOS ALISOS,	DUE TO IRRIGATION OF SURROUNDING AGRICULTURAL FIELDS. ON TALLEY FARMS PROPERTY. IN THE SE 1/4 OF THE SW 1/4 OF	NORTH BANK & OVER THE WATER'S SURFACE.	WATER TABLE / FLOW RATES. DEVELOPMENT (ROAD AND HOME	2 ADULTS OBSERVED ON 12 MAY 2005. 1 PLANT OBSERVED IN 2007 (ABOUT 7-10 FEET TALL AND ABOUT 10
365 Arctostaphylos pilosula	manzanita	Grande NE	610 20070328 20070328 PVT	None	None	G2?	S2?	1B.2		BLM_S; SB_SBBG; USFS_S	S SW OF LOPEZ LAKE.	SECTION 6.	COAST LIVE OAK WOODLAND.	CONSTRUCTION IN IMMEDIATE AREA).	FEET IN DIAMETER). ON 21 MAY 2003, 1 ADULT WAS FOUND IN THE EMERGENT
													HABITAT CONSISTS OF EMERGENT WETLAND VEGETATION		WETLAND VEGETATION AND A LARGE CARAPCE (8" LONG X 4.5"
366 Emys marmorata	western pond turtle	Arroyo Grande NE	212 20030521 20030521 PVT	None	None	G3G4	S3		SSC	BLM S: IUCN VU: USFS	ABOUT 1 MILE NORTH OF HIGHWAY 101, IN AN UNNAMED S TRIBUTARY, NORTH OF ARROYO GRANDE.		ABOVE THE CREEK DRAINAGE; TYPHA LATIFOLIA AND SCIRPUS CALIFORNICA DOMINATE THE WETLAND.	THREATENED BY FUTURE DEVELOPMENT.	WIDE X 3.5" TALL) WAS FOUND ~50 YARDS EAST (SUBMITTED TO SBNHM).
,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,									_,	,		HABITAT CONSISTS OF AN AGRICULTURAL / STORM WATER		,
													DRAINAGE, SURROUNDED BY AGRICULTURAL FIELDS AND PARALLELED BY WEST MAIN STREET; VEGETATED BY NON-	POSSIBLY THREATENED BY FERTILIZER / PESTICIDE RUN-OFF, TRASH DUMPING,	
267 Parada tari	California red-legged	6	400 20020505 20020505 504 501 117			6262	6262		***		DRAINAGE CANAL JUST SOUTH OF WEST MAIN STREET, JUST WES	т	NATIVES, INCLUDING SMARTWEED, WATERCRESS, AND	AND CANAL MAINTENANCE ACTIVITIES	
367 Rana draytonii	frog	Santa Maria	180 20030605 20030605 SBA COUNTY	y inrea	tened None	G2G3	S2S3		SSC	IUCN_VU	OF SANTA MARIA.		FIREWEED, ON THE RIGHT BANK. HABITAT CONSISTS OF AN AGRICULTURAL POND CONTAINING	(WEED CONTROL). THREATENED BY INTENSIVE	3 ADULTS AND 3 JUVENILES OBSERVED ON 5 JUN 2003.
368 Rana draytonii	California red-legged	Guadalupe	150 20040915 20040915 PVT	Thron	tened None	G2G3	S2S3		SSC	IUCN_VU	NORTH SIDE OF HIGHWAY 166, JUST EAST OF BONITA SCHOOL, ABOUT 4 MILES WEST OF SANTA MARIA.		A SMALL PATCH OF CATTAILS; SURROUNDED BY INTENSIVE ROW CROPS.	AGRICULTURE AND POSSIBLE DRAINING OF AGRICULTURAL POND.	2 ADULTS OBSERVED ON 15 SEP 2004.
300 Kalla uraytolili	ilog	Guadalupe	130 20040913 20040913 FV1	iiiea	itelieu Nolle	0203	3233		330	IOCIN_VO	ABOUT 4 MILES WEST OF SANTA MANIA.		DUNE SCRUB IN POOR CONDITION ON STABILIZED DUNE,	OF AGRICULTURAL POND.	2 PLANTS SEEN IN 1999. 1980 GRIFFITHS COLLECTION FROM
													ALONG TOP OF DUNE. SANDY SOIL. DOMINANTED BY CARPOBROTUS EDULIS. ASSOCIATES INCLUDE CROTON		""MARGIN OF ENTRANCE SW CORNER OF PISMO BEACH ST PARK ENTRANCE"" AND A 1988 KELLY COLLECTION FROM ""PISMO
											PISMO BEACH, SOUTH OF NORTH BEACH CAMPGROUND AND		CALIFORNICUS, LUPINUS CHAMISSONIS, LESSINGIA		MARSH BETWEEN PISMO SB CAMPGROUND AND GRAND AVE
369 Erigeron blochmaniae	Blochman's leafy dais	y Pismo Beach	0 19991221 19991221 DPR-PISMO S	SB None	None	G2	S2	1B.2		BLM_S	NORTH OF GOLF COURSE, PISMO BEACH STATE PARK.	ON EITHER SIDE OF ""TRAIL"" THROUGH FOREDUNES.	FILAGINIFOLIA, AND ERICAMERIA ERICOIDES. DUNE SCRUB HABITAT. THIS SITE IS BEING CONSIDERED FOR	TRAIL, COULD BE TRAMPLED.	AREA"" ATTRIBUTED TO THIS SITE.
			222 005444								HIGH CAST OF LETTINGS LAWS AND NO OF LITTIE OCO SLAGO LAWS	COUNTY OF TORCO CATE DOAD, ALONG A DRODOGED VEHICLE ACCESS	CONSTRUCTION OF A VEHICLE ALTERNATIVE TO THE OCEANO		
370 Phrynosoma blainvillii	coast horned lizard	Oceano	DPR-OCEAN(60 20060607 20060607 DUNES SVRA		None	G3G4	S3S4		SSC	BLM_S; IUCN_LC	4.6 MILES SOUTH OF OCEANO.	SOUTH OF TOSCO GATE ROAD, ALONG A PROPOSED VEHICLE ACCESS CORRIDOR KNOWN AS LITTLE OSO FLACO LAKE ALTERNATIVE.	SOUTH OF THIS SITE.		ONE ADULT OBSERVED AT THIS SITE.
													FRESHWATER MARSH ASSOCIATED WITH RUBUS URSINUS, MYRICA CALIFORNICA, SALIX LASIOLEPIS, CAREX SP., AND	COMPETITION FROM OTHER PLANTS.	ONLY 1 PLANT IN 1992. REPEATED SURVEYS SINCE THEN, NO PLANTS SEEN, PRESUMED EXTIRPATED (ELVIN, 2007). HABITAT
											BLACK LAKE CANYON, ABOUT 0.8 MILE EAST OF HIGHWAY 1,	BETWEEN SHERIDAN ROAD AND END OF CALLENDER ROAD; BEHIND	CALAMAGROSTIS NUTKAENSIS. UPSTREAM FROM RORIPPA	APPARENT EUTROPHICATION AND	CONVERSION DUE TO HIGH NUTRIENT LOAD, OTHER RIPARIAN
371 Arenaria paludicola	marsh sandwort	Oceano	60 19920529 19920529 PVT	Endan	ngered Endang	gered G1	S1	1B.1		SB_SBBG	SOUTHEAST OF ARROYO GRANDE.	HOUSE AT 1266 CALLENDER RD.	GAMBELLII. HABITAT CONSISTS OF DENSE WILLOW RIPARIAN, DOMINATED	BIOSTIMULATION IN WATERSHED.	VEGETATION DOMINATES AREA.
272 Dane de 1	California red-legged		100 20040422 20045	-			ca		555	HICH 1"	BLACK LAKE CANYON CREEK, AT THE ZENON WAY CROSSING, 1.75		BY WILLOW, BLACKBERRY, AND CYPERUS SP; SURROUNDED BY	THREATENED BY ENCROACHING	4 CLIDADILLEC ODCEDICED CV 22 A22 2224
372 Rana draytonii	frog	Oceano	100 20040422 20040422 UNKNOWN	Threa	tened None	G2G3	S2S3		SSC	IUCN_VU	MILES EAST OF HIGHWAY 1, NORTH OF NIPOMO MESA.		OAK WOODLAND ON THE UPLAND SLOPES. HABITAT CONSISTS OF A FRESHWATER LAKE/POND	DEVELOPMENT FROM NIPOMO MESA.	4 SUBADULTS OBSERVED ON 22 APR 2004.
	California red-legged		DPR-OCEAN(n							JACK LAKE, OCEANO DUNES STATE VEHICULAR RECREATION AREA		SURROUNDED BY DUNES TO THE NORTH AND WEST, A CONOCO-PHILLIPS OIL REFINERY TO THE EAST, AND	THREATENED BY A CHANGE IN VEHICULAR ACCESS, ALLOWING ORV	
373 Rana draytonii	frog	Oceano	38 20060323 20060323 DUNES SVRA		tened None	G2G3	S2S3		SSC	IUCN_VU	4.5 MILES SOUTH OF OCEANO.	,	AGRICULTURAL FIELDS TO THE SOUTH.	ACCESS.	1 ADULT OBSERVED ON 23 MAR 2006.
												TWO POPULATIONS IDENTIFIED ON DISTURBED GROUND NEAR A	CHAPARRAL, COAST LIVE OAK WOODLAND, AND ANNUAL GRASSLANDS ARE DOMINANT HABITATS ON THIS PARCEL.		
												DIRT ACCESS ROAD. ONLY ONE SET OF COORDINATES PROVIDED BY	WEEDY GRASSES, INCLUDING EHRHARTA CALYCINA ARE		4000 PLANTS SEEN IN 2003. THE RARE ARCTOSTAPHYLOS WELLSII
374 Chorizanthe rectispina	straight-awned spineflower	Arroyo Grande NE	300 20030508 20030508 PVT	None	None	G2	52	1B.3		BLM_S; USFS_S	(HWY 227) ABOUT 0.5 MILE NORTH OF PRINTZ ROAD, ARROYO GRANDE.	ALTHOUSE AND DART. MAPPED IN SE1/4 OF THE NW1/4 OF SECTION 15.	DOMINANT. COAST LIVE OAK AND BLUE GUM EUCALYPTUS WOODLANDS ARE ADJACENT.	FUTURE DEVELOPMENT. NON-NATIVES	AND CASTILLEJA DENSIFLORA SSP. OBISPOENSIS ALSO OCCUR ON ? SITE.
													PLANTS LOCATED IN ANNUAL GRASSLAND AT THE TOE OF		
											CARPENTER CANYON, APPROXIMATELY 0.5 AIR MILE NORTH OF		SLOPE IN SANDY SOILS. CHAPARRAL, COAST LIVE OAK WOODLAND AND ANNUAL GRASSLANDS ARE THE DOMINANT		150-200 INDIVIDUALS OBSERVED IN 2003. MENTIONED AS AN
375 Castilleja densiflora var. obispoens	San Luis Obispo owl's is clover	 Arroyo Grande NE 	250 2005XXXX 2005XXXX PVT	None	None	G5T2	S2	1B.2		BLM_S	CONFLUENCE WITH POORMAN CANYON, NORTH OF ARROYO GRANDE.	ONE COLONY MAPPED FROM COORDINATES PROVIDED IN THE SE 1/- OF THE NW 1/4 OF SECTION 15.	4 HABITATS ON A 27 ACRE PARCEL ON CARPENTER CANYON ROAD (HWY 227) IN ARROYO GRANDE.	FUTURE DEVELOPMENT, COMPETITION FROM EHRHARTA CALYCINA.	ASSOCIATED SPECIES DURING A 2005 ARCTOSTAPHYLOS WELLSII SURVEY.
575 Castilleja delisillora var. obispoetis		Granac NE		NONE	None	3312	J2	20.2		52.11_5			MIXTURE OF RIPARIAN AND DUNE SCRUB SPECIES. ASSOCIATED		A NUMBER"" OF PLANTS OBSERVED DURING 1990 SURVEYS. A 1986
376 Scrophularia atrata	black-flowered figwo	rt Point Sal	150 1990XXXX 1990XXXX UNKNOWN	None	None	G2?	52?	1B.2		SB_RSABG	JUST EAST OF MUSSEL POINT.	MOUTH OF THE NORTH FORK OF HAPPY CANYON CREEK.	WITH BLOCHMAN'S GROUNDSEL AND POLYSTICHUM MUNITUM.		EGGER PHOTO FROM ""NEAR MUSSEL ROCK"" IS ALSO ATTRIBUTED TO THIS SITE.
	and the real rights		155 155 155 155 155 155 155 155 155 155	··one	.40116	GE:	J.:						MAJOR OVERWINTERING SITE IN WINDROW OF EUCALYPTUS,		
	monarch - California										NORTH BEACH CAMPGROUND, PISMO STATE BEACH; W SIDE OF	GROVE LOCATED ALONG MEADOW CREEK, ADJACENT TO THE HIGHWAY, NEAR THE RANGER STATION. XERCES SITE #3060.	MONTEREY PINE, CYPRESS, & OAKS (42.6% EUC & 57.4% NATIVE CONIFER). 1990-91 AGGREGATION WAS REPORTEDLY	THREATENED BY GRADUAL LOSS OF	40-50/1986, 100/88, 200/90-91, 30/92-93, 17/94, 12/95, 150/96, 120/97, 115.1/98, 60/99, 26.1/2000, 33/01, 18-30.16/02, 38-47/03,
277 0	overwintering	B1 = 1	20 204444)***							uere e	HWY 1 ABOUT 0.1 MI W OF OCEAN VIEW AVE AT FRONT ST IN	REFERENCES GO BACK TO 1942 OF "SPECTACULAR MASSING" AT	THE LARGEST IN CA. SEE "GENERAL" COMMENTS BELOW FOR	ROOST TREES, WITHOUT REPLACEMENT	T 25.575/04, 24.84/05, 22/06, 16.9/07, 23/08, 17.2/09, 21.286/10,
377 Danaus plexippus pop. 1	population	Pismo Beach	20 201411XX 201411XX DPR-PISMO	SB None	None	G4T2T3	5253			USFS_S	GROVER BEACH.	PISMO BEACH (EXACT LOCATION UNKNOWN).	MAXIMUM COUNT (IN 1000S)/YEAR.	(1996).	18/11, 28/12, 30.293/13, 29.804/14. ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL
270 Erinares blaskers ***	Plachmank Inf. 11	y Boint Cal	10 10011399 10011399 110015	M · ·	A7	63	63	10.2		DIAM C	DUNES NEAR SANTA MARIA RIVER, ABOUT 0.5 MILE NORTH OF	SITE MAPPED 0.7 MILE NORTHWEST OF 'SANTA MARIA 2' ELEVATION			PROVIDED BY VANDERWIER; DATA IS FROM "TNC STUDY 12/81,"
378 Erigeron blochmaniae	Blochman's leafy dais	y Point Sal	10 198112XX 198112XX UNKNOWN	None	None	G2	S2	1B.2		BLM_S	MOUTH OF RIVER.	MARKER.	CONSISTENT, SMALL PERMANENT SITE, USED IN SPITE OF PAST		UNKNOWN IF THIS REPRESENTS SURVEY DATE OR REPORT DATE.
	monarch - California											SITE IS LOCATED IN THE SLACK OF THE DUNES, BEHIND	POOR YEARS. ROOST TREES IN SMALL GROVE OF MONTEREY AND OTHER PINES LOCATED BEHIND THE DUNES. 2013:		COUNT/YEAR: 1000S/1991, 1K+/92, 2000/93, 700/94,10K/95, 300/97, 9850/98, 8K/99, 7500/2000, 4400/01, 10811/02, 7406-
	overwintering		DPR-OCEANO								OCEANO CAMPGROUND, PISMO DUNES STATE VEHICULAR	CAMPGROUND SITES #65 AND 68, JUST NORTH OF THE	AVAILABLE CANOPY WAS 15.3% EUCALYPTUS & 84.7% NATIVE		14865/03, 2725/04, 700/05, 2600/06, 1500/07, 2470/08, 1420/09,
379 Danaus plexippus pop. 1	population	Oceano	20 201411XX 201411XX DUNES SVRA	A None	None	G4T2T3	S2S3			USFS_S	RECREATION AREA.	AMPHITHEATER. XERCES SITE #3082.	CONIFER.		2656/10, 4708/11, 3198/12, 6366/13, 5612/14.

380 Cirsium scariosum var. loncholepis	La Graciosa thistle	Guadalupe	CITY OF 53 20170829 19910710 GUADALI	PE Endan	ngered Thre	atened G5T1	51	18.1			IMMEDIATELY NORTH OF THE SANTA MARIA RIVER, ABOUT 1 MIL WEST OF THE CITY OF GUADALUPE.	E	SILYBUM MARIANUM, AND ANNUAL GRASSES. IN MARSHY CANYON BOTTOM IN SATURATED WET BOGGY	AGRICULTURE AND INVASIVE SPECIES. INVASIVE BULL THISTLE WAS ABUNDANT IN 2017. PROPOSED LOWERING OF WATER TABI	INGAMELLS, 1991, WITH SUBSEQUENT INCREASE IN CIRSIUM. NO PLANTS OBSERVED IN 2017.
381 Nasturtium gambelii	Gambel's water cress	Oceano	50 20050829 19940806 PVT	Endan	igered Thre	atened G1	S1	1B.1		SB_RSABG; SB_SBBG	BLACK LAKE CANYON, 0.8 MI NW OF JUNCTION OF HWY 1 AND WILLOW ROAD.	BEHIND RESIDENCE AT 2188 CALLENDER ROAD. BLACK LAKE CANYON	RUBUS URSINUS, TYPHA LATIFOLIA, & SCIRPUS AMERICANUS. ARENARIA PALUDICOLA (ALSO RARE) FOUND ~200 M UPSTREAM.	BY DRILLING NEW WATER WELLS, ENCROACHING DEVELOPMENT, & EUCALYPTUS TREES THREATEN.	500 PLANTS ESTIMATED IN 1994. NO PLANTS FOUND IN 1998, 1999, OR 2005. NEARBY EUCALYPTUS TREES MAY BE ALTERING WATER REGIME.
382 Agrostis hooveri	Hoover's bent grass	Oceano	300 19920514 19920514 PVT	None	None	e G2	S2	1B.2		BLM_S; USFS_S	ABOVE BRANCH MILL ROAD, SOUTH OF NEWSOM CANYON, ARROYO GRANDE VALLEY.	MILL ROAD, 0.7 MILE NE OF HWY 101, AND 0.7 MILE SW OF NEWSOM SPRINGS. SPANS FAR NW 1/4 SEC 26 AND FAR SW1/4 ADJACENT SEC 23.	MORE OPEN AREAS BETWEEN TREES. WITH MIMULUS AURANTIACUS AND LOTUS SCOPARIUS. GROWING ON STEEP NW-FACING SLOPE IN THE SHADE OF A	GRAZED BY CATTLE. ON COASTAL AQUEDUCT ROUTE.	OVER 100 PLANTS SEEN IN 1992. ONLY 1 PLANT OBSERVED IN 1992. SHRUB IS UNLIKELY TO REPRODUCE UNDER CURRENT CONDITION OF SHADING
383 Arctostaphylos pilosula	Santa Margarita manzanita	Oceano	300 19920514 19920514 PVT	None	None	e G2?	S2?	1B.2		BLM_S; SB_SBBG; USFS_	ARROYO GRANDE, ON NW-FACING SLOPE ABOVE BRANCH MILL S ROAD JUST SOUTH OF THE MOUTH OF NEWSOME CANYON.		DENSE OAK FOREST. ASSOCIATED WITH ARCTOSTAPHYLOS GLAUCA PUBERULA, PTERIDIUM AQUILINUM, MIMULUS AURANTIACUS, AND QUERCUS AGRIFOLIA. HABITAT CONSISTS OF AN OLD GRAVEL PIT (3-1/2 FEET DEEP),	THIS SITE IS ALONG THE COASTAL AQUEDUCT ROUTE.	REPRODUCE ONDER CORRENT CONDITION OF SHADING (HENDRICKSON 1992). THIS OCCURRENCE WAS PREVIOUSLY A. WELLSII OCCURRENCE #2.
384 Rana draytonii	California red-legged frog	Oceano	350 19950328 19950328 UNKNOW	N Threa	tened None	e G2G3	S2S3		SSC	IUCN_VU	OLD GRAVEL PIT, JUST EAST OF HWY 101 AND WEST OF PICACHO, 2 MILES SE OF ARROYO GRANDE.		WITH LITTLE AQUATIC VEGETATION; SURROUNDED BY OPEN, NON-NATIVE GRASSLAND. CREEK IS SURROUNDED BY OAK WOODLAND & WILLOW RIPARIAN; WILLOW RIPARIAN IS BORDERED BY GRAZED, NON-	POSSIBLE THREAT FROM GRAZING.	1 ADULT OBSERVED ON 28 MARCH 1995.
385 Rana draytonii	California red-legged frog	Oceano	325 19950227 19950227 UNKNOW	N Threa	tened None	e G2G3	S2S3		SSC	IUCN_VU	UNNAMED DRAINAGE, 0.5 MILE EAST OF HWY 101, 2 MILES SE OF ARROYO GRANDE.		NATIVE GRASSLAND. CREEK STILL HAD FLOWING WATER THROUGH THE END OF JULY. CHANNEL IS 3 FT WIDE & ~10-20 INCHES DEEP. HABITAT CONSISTS OF FAST-MOVING WATER WITH LARGE	POSSIBLE THREAT FROM GRAZING.	3 JUVENILE FROGS OBSERVED ON 27 FEBRUARY 1995.
386 Emys marmorata	western pond turtle	Arroyo Grande NE	150 19950330 19950330 UNKNOW	N None	None	e G3G4	S3		SSC	BLM_S; IUCN_VU; USFS_	TAR SPRING CREEK, ON THE DOWNSTREAM SIDE OF BRANCH MIL. S ROAD BRIDGE, ARROYO GRANDE.		BOULDERS & FALLEN-TREE TRUNKS, WHICH CREATE NUMEROUS POOLS; SURROUNDED BY WILLOW RIPARIAN VEGETATION, WITH A HEAVY UNDERSTORY. HABITAT CONSISTS OF A FARM POND WITH ABUNDANT VEGETATION (TYPHA SP AND JUNCUS SP). OAK WOODLAND	POSSIBLY THREATENED BY DUMPING FROM BRANCH MILL ROAD.	1 ADULT OBSERVED ON 30 MARCH 1995.
387 Rana draytonii	California red-legged frog	Oceano	350 19950727 19950727 UNKNOW	N Threa	tened None	e G2G3	S2S3		SSC	IUCN_VU	UNNAMED DRAINAGE JUST SOUTH OF PICACHO, 0.6 MILE EAST O HWY 101, SE OF ARROYO GRANDE.	F POOL IS APPROXIMATELY 100 FEET X 200 FEET.	AND WILLOW RIPARIAN ARE FOUND UPSTREAM AND DOWNSTREAM OF POOL. HABITAT CONSISTS OF A DRAINAGE WITH SPARSE WILLOW	THREATENED BY GRAZING; COWS WER OBSERVED STANDING IN THE POOL.	EE 6 ADULTS AND 4 JUVENILES WERE OBSERVED ON 27 JULY 1995.
388 Rana draytonii	California red-legged frog	Oceano	250 19950227 19950227 UNKNOW	N Threa	tened None	e G2G3	\$2\$3		SSC	IUCN_VU	JUST EAST OF HWY 101, 1 MILE NW OF THE INTERSECTION OF HWY 101 AND LOS BERROS CANYON, SE OF ARROYO GRANDE.		RIPARIAN, AND DENSER WILLOWS UPSTREAM; OPEN, NON- NATIVE GRASSLAND WITH ROCK OUTCROPPINGS ADJACENT. HABITAT CONSISTS OF A DENSE RIPARIAN CORRIDOR OF SYCAMORES, WILLOWS, AND OAKS, WITH A STEADY WATER		1 JUVENILE OBSERVED ON 27 FEBRUARY 1995.
389 Rana draytonii	California red-legged frog	Oceano	250 19950712 19950712 UNKNOW	N Threa	tened None	e G2G3	\$2\$3		SSC	IUCN_VU	LOS BERROS CANYON CREEK, 0.3 MILE NE OF HWY 101, 4 MILES SI OF ARROYO GRANDE. 1.25 MILES EAST OF THE INTERSECTION OF RIVERSIDE DRIVE AND			THREATENED BY AGRICULTURAL RUN- OFF.	1 JUVENILE OBSERVED ON 12 JULY 1995.
390 Spea hammondii	western spadefoot	Nipomo	160 19950526 19950526 UNKNOW	N None	None	e G3	S3		SSC	BLM_S; IUCN_NT	NIPOMO OSO FLACO ROAD, NORTH EDGE OF SANTA MARIA VALLEY.		AGRICULTURAL FIELDS. POOL CONTAINS TYPHA SP AND SCIRPUS SP; BANKS VEGETATED BY NON-NATIVE GRASSES. HABITAT CONSISTS OF A FARM POND SURROUNDED BY	POSSIBLY THREATENED BY REMOVAL C AQUATIC VEGETATION. POSSIBLE THREATS INCLUDE POOL DRAINING, PRESENCE OF EXOTIC KOI	IF 1 ADULT AND SEVERAL HUNDRED TADPOLES OBSERVED ON 26 MAY 1995.
391 Rana draytonii	California red-legged frog	Santa Maria	160 19950727 19950727 UNKNOW	N Threa	tened None	e G2G3	S2S3		SSC	IUCN_VU	0.5 MILE NORTH OF THE SANTA MARIA RIVER CHANNEL AND 2.7 MILES WEST OF HWY 101, NW OF SANTA MARIA.	AND NIPOMO OSO FLACO ROAD INTERSECTION.	AGRICULTURAL FIELDS; POOL CONTAINS MINIMAL AQUATIC VEGETATION (MOSS AND REEDS). IN DUNE SAND NEAR WATER. GROWING WITH RUBUS	FISH, AND REMOVAL OF SPARSE VEGETATION.	1 ADULT OBSERVED ON 27 JULY 1995. NW-MOST POLY: 48 PLANTS (ONLY 1 FLOWERING) IN 1990, 2
392 Cirsium scariosum var. loncholepis	La Graciosa thistle	Oceano	DPR-OCE DUNES S 75 20170321 19980519 VRA	ATE	ngered Thre	atened G5T1	S1	1B.1			JACK LAKE AND 0.25 AND 0.4 AIR MILE NNW OF JACK LAKE, SOUTI OF OCEANO.	H CNDDB AS 4 POLYGONS ACCORDING TO MAPS IN A 1998 CHESTER	CLAYTONIA PERFOLIATA, JUNCUS LESUEURII, AND CAREX PANSA. ADJACENT WILLOW THICKET IS EXPANDING. THE RARE MONARDELLA CRISPA GROWING NEARBY. GROWING IN OPENING IN MARITIME CHAPARRAL/OAK	REFINERY OPERATIONS, INUNDATION E SHIFTING SANDS, RABBIT DAMAGE, LACK OF WATER.	BY DROUGHT). NE-MOST POLY: 1 FLOWERING PLANT IN 1990. JACKS LAKE POP: "30 IN 1979, 63+ (23 FLOWERING) IN 1990, NONE IN 1998, 2015, 2017. 615 PLANTS IN 1992. MITIGATION FOR PROPOSED BASIN INCLUDES
393 Clarkia speciosa ssp. immaculata	Pismo clarkia	Oceano	345 200605XX 19920617 PVT	Endan	ngered Rare	G4T1	S1	1B.1		SB_RSABG; SB_SBBG	NIPOMO MESA, SOUTH OF BLACK LAKE CANYON AND WEST OF POMEROY ROAD, BOTH SIDES OF WILLOW ROAD.	2 POLYGONS MAPPED BY CNDDB.	BROMUS DIANDRUS. HAPLOPAPPUS ERICOIDES IS DOMINANT SHRUB; SITE IS	ELIMINATE ~200 INDIVIDUALS.	LL EENCING, ON SITE PROPAGATION, & 10 YEARS OF MONITORING; PROJECT ON HOLD (1996) DUE TO FINANCIAL PROBLEMS. NO HABITAT OR PLANTS OBSERVED IN 2006. INCLUDES FORMER EO #15.
394 Delphinium parryi ssp. blochmaniae	dune larkspur	Oceano	140 19880401 19880401 PVT	None	None	e G4T2	S2	1B.2		BLM_S		NORTH SIDE OF EAST-WEST SECTION OF HIGHWAY, ABOUT 0.4 MILE WEST OF WHERE HIGHWAY MAKES SHARP TURN TO THE SOUTH.	CLARKIA, AMSINCKIA, AND ORTHOCARPUS. N-FACING SLOPE ALONG MARGIN OF COAST LIVE OAK AND	RANCHETTES EXPANDING INTO THIS AREA; SITE WILL LIKELY BE DEVELOPED	56 PLANTS OBSERVED IN 1988. INCLUDES AN UNDATED MEHLQUIST COLLECTION FROM "5.5 MI N OF GUADALUPE ON ROAD TO ARROYO GRANDE" AND A 1956 TWISSELMANN COLLECTION FROM "NIPOMO . MESA, 1.5 MILES EAST OF THE UNION OIL REFINERY."
395 Clarkia speciosa ssp. immaculata	Pismo clarkia	Arroyo Grande NE	350 19970415 19970415 PVT	Endan	igered Rare	G4T1	S1	1B.1		SB_RSABG; SB_SBBG	NORTH OF GROVER BEACH, ABOUT 1.3 AIR MILES NORTHEAST OF THE INTERSECTION OF PRICE CANYON ROAD AND HIGHWAY 101.		•	PLANNED FOR DEVELOPMENT. GRAZIN ALSO OCCURS.	IG 20 PLANTS ESTIMATED IN 1997. POTENTIAL FOR ADDITIONAL POPULATIONS ON PROPERTY.
396 Monardella undulata ssp. crispa	crisp monardella	Oceano	DPR-OCE 28 1998XXXX 1998XXXX DUNES S		None	e G3T2	S2	1B.2		BLM_S	NORTHERN GUADALUPE DUNES, ABOUT 0.7 MILE SOUTHWEST OF OSO FLACO LAKE, NORTHWEST OF GUADALUPE.	2 POLYGONS MAPPED ACCORDING TO A 1998 CHESNUT MAP.	CENTRAL COASTAL DUNE SCRUB. ON ROADSIDE IN GRASSLAND / OAK WOODLAND INTERFACE.		ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY CHESNUT (1998).
397 Clarkia speciosa ssp. immaculata	Pismo clarkia	Oceano	335 20050527 20050527 PVT	Endan	ngered Rare	G4T1	S1	1B.1		SB_RSABG; SB_SBBG	ALONG VIEJO ROAD, BETWEEN STANTON ROAD AND CAMINO PERILLO, ABOUT 0.15 MI WEST OF CAMINO PERRO, NIPOMO MESA.	MOSTLY ON SOUTH SIDE OF VIEIO ROAD.	EHRHARTA CALYCINA. NATIVES INCLUDE SISYRINCHIUM BELLUM AND CASTILLEJA EXSERTA. IN EAST-WEST FOREDUNES ALONG NW AND SW SIDES OF	ROADWAY IMPROVEMENT, GRADING AND VEGETATION CLEARING FOR FIRE PREVENTION.	250-500 PLANTS OBSERVED IN 2005.
398 Cirsium rhothophilum	surf thistle	Point Sal	200 198606XX 198606XX PVT	None	Thre	atened G1	S1	1B.2		BLM_S; SB_SBBG	SAND DUNES ABOUT 0.75 MI NNE OF MUSSEL ROCK, BETWEEN POINT SAL AND THE SANTA MARIA RIVER.	MAPPED ABOUT 0.6 MILE DUE WEST OF ""SANDO"" BENCHMARK.		HAS EVIDENCE OF ORV DAMAGE.	100+ PLANTS SEEN IN 1984, FEWER THAN 50 SEEN IN 1985. OBSERVED IN 1986; "RE-ESTABLISHED IN THIS AREA AND INCREASING IN NUMBERS." "MARY SMALL PLANTS" AND "A FEW MATURE PLANTS" OBSERVED
399 Cirsium rhothophilum	surf thistle	Oceano	DPR-OCE 20 1998XXXX 19900408 DUNES S		Thre	atened G1	S1	1B.2		BLM_S; SB_SBBG	ABOUT 0.5 MILE NORTHWEST OF OSO FLACO LAKE, SOUTH OF OCEANO.	IN DUNES JUST IN FROM COAST, ABOUT 0.25 MILE NORTH OF	ON DUNE SCRUB ASSOCIATED WITH AMBROSIA CHAMISSONIS, MALACOTHRIX INCANA, ERIOGONUM PARVIFOLIUM, DITHYREA MARITIMA, AND CARPOBROTUS EDULIS.	TO PROTECT. REVEGETATION	D BETWEEN 1977 & 1980. 9 PLANTS IN 1986, 4 IN 1990. NONE FOUND IN 1995, 1998. MOST OF POPULATION BELIEVED WIPED OUT BY 'STATE VEHICULAR REC AREA (SVRA) EXPERIMENTAL REVEGETATION PROJEC FEWER THAN 10 PLANTS OBSERVED IN 1984-1986. TWO 1941
400 Monardella undulata ssp. crispa	crisp monardella	Oceano	100 1986XXXX 1986XXXX PVT	None	None	e G3T2	S2	1B.2		BLM_S	ABOUT 1.1 MILES SW OF HIGHWAY 1 AT JUNCTION WITH WILLOW ROAD, EAST SIDE OF REFINERY, BETWEEN OCEANO AND GUADALUPE.	MAPPED ACCORDING TO A 1986 BOWLAND MAP.	NIPOMENSIS ARE ALSO PRESENT. IN AN OPEN AREA IN SANDY SOIL. OTHER PLANTS IN	EVIDENT ON THE MONARDELLA BUT TRAMPLING COULD OCCUR. IN 2007, NUMEROUS PLANTS HAVE	COLLECTIONS BY WOLF FROM ""APPROX 2.5 AIR MILES EAST OF OSO FLACD LAKE OR BETWEEN CA HWY 1 AND SPRR" MAR ALSO ATTRIBUTED TO THIS SITE. POSSIBLE HYBRIDS WITH M. U. SSP. UNDULATA. 87 PLANTS IN 1997, 50 IN 2007, SEEN IN 2008, 300 IN 2010, 172 IN
401 Cirsium scariosum var. loncholepis	La Graciosa thistle	Guadalupe	USFWS- GUADALI 100 20170906 20170906 NIPOMO		ngered Thre	atened G5T1	S1	1B.1			GUADALUPE DUNES; NE OF GUADALUPE OIL FIELD, BETWEEN OSC FLACO LAKE AND THE SANTA MARIA RIVER.	D LOCATED 0.64 AIR MI SW OF GUADALUPE 2 BENCHMARK.		CATTLE; FERAL PIGS INVADING DUNES.	Y 2013. 10 PLANTS (ALL JUVENILES) IN 2014 (SURVEY WAS AFTER PROLONGED DROUGHT). AT LEAST 5 PLANTS (WITH SEED HEADS) IN 2017; FENCED AREA NO LONGER CONTAINED PLANTS.
402 Cirsium scariosum var. loncholepis	La Graciosa thistle	Oceano	DPR-OCE 50 2018XXXX 20170516 DUNES S		ngered Thre	atened G5T1	S1	1B.1			SURPRISE LAKE, NORTH SIDE OF GUADALUPE DUNES ABOUT 0.5 MILE SOUTH OF OSO FLACO LAKE ROAD, SOUTH OF OCEANO.	AT THE EAST END AND NORTHWEST EDGE OF DUNE SWALE LAKE. MAPPED AS 2 POLYGONS ACCORDING TO 2008 ELVIN COORDINATES AND 2017 CARMONA COORDINATES. IN THE NE 1/4 OF THE SW 1/4	BACCHARIS, CASTILLEJA EXSERTA, LESSINGIA FILAGINIFOLIA, RUBUS URSINUS, URTICA DIOICA, CAREX PANSA, AND JUNCUS	HUNTERS, RABBIT BROWSING,	<50 PLANTS IN 1981, 50 IN 1987, 25 IN 1988, 29 IN 1990, 54 IN 1997, 7 ON N-SIDE IN 1998 (NONE ON EAST SIDE). 10 PLANTS IN 2008. 1 AL PLANT FOUND ON IN WEND OF MARSH IN 2011. 37 PLANTS IN 2013, 1 IN 2015, 37 IN 2016, 65 IN 2017, 0 IN 2018. IN 2004, 700 PLANTS OBSERVED BETWEEN THIS OCCURRENCE AND
403 Scrophularia atrata	black-flowered figwort	Pismo Beach	160 20040324 20040324 CALTRAN	5 None	None	e G2?	\$2?	18.2		SB_RSABG	HIGHWAY 101, JUST NORTH OF PISMO BEACH, ABOUT 0.10 TO 0.25 MILE NORTH OF WHERE HIGHWAY 1 SPLITS OFF FROM 101.	WAY.	CENTRAL COAST SCRUB WITH BACCHARIS PILULARIS, ARTEMISIA CALIFORNICA, MIMULUS AURANTIACUS, ERIOPHYLLUM CONFERTIFLORIM, MIRABILIS SPP. SOILS ARE DERIVED FROM SHALE (PROBABLY DIATOMACEOUS). LOCALLY ABUNDANT IN STABILIZED COASTAL DUNE SCRUB HABITAT. GROWING WITH SENECIO BLOCHMANIAE,	PLANTS MAY BE DISTURBED BY ROAD MAINTENANCE.	OCCURRENCE #34. POPULATIONS ARE PROBABLY MUCH MORE EXTENSIVE THAN MAPPED; ONLY ABOUT 25% OF SUITABLE
404 Erigeron blochmaniae	Blochman's leafy daisy	Oceano	24 20120706 20120706 SLO COU	ITY None	None	e G2	S2	1B.2		BLM_S	BETWEEN AIR PARK DRIVE AND THE OCEANO AIRPORT, OCEANO.		ERICAMERIA ERICOIDES, LUPINUS CHAMISSONIS, AND BACCHARIS PILULARIS. SITE IS RELATIVELY FLAT WITH SANDY SOILS.		IT 50 PLANTS OBSERVED IN 2012. A 1910 CONDIT COLLECTION FROM OCEANO IS ALSO ATTRIBUTED TO THIS SITE.

												PEAT MARSH WITH SPARGANIUM EURYCARPUM, TYPHA	30% REDUCTION OF HABITAT NOTED	PLANTS COLLECTED AT THIS SITE IN 1949. AREA SEARCHED IN 1987
												LATIFOLIA, CAREX CUSICKII, BERULA ERECTA, EPILOBIUM	FROM 2005-06 CAUSED BY PLANT	BUT NO PLANTS SEEN BY MCLEOD. 85 PLANTS OBSERVED IN 1998.
										NORTHEASTERN EDGE OF OSO FLACO LAKE, NIPOMO DUNES,	TWO ADJACENT COLONIES, MAPPED NEAR END OF THE NORTHEAST	CILIATUM, AND MIMULUS GUTTATUS. THE RARE RORIPPA	OVERGROWTH. BIOSTIMULATION AND	ABOUT 25 CLUMPS OBSERVED IN 2005, UNKNOWN NUMBER
405 Arenaria paludicola	marsh sandwort	Oceano	50 2006XXXX 2006XXXX DPR-PISMO SB	Endangere	d Endanger	ed G1	S1	1B.1	SB_SBBG	SOUTH OF ARROYO GRANDE.	ARM OF OSO FLACO LAKE.	GAMBELII ALSO OCCURS HERE.	EUTROPHICATION IN WATERSHED.	OBSERVED IN 2001 AND 2006.
												OPEN, SANDY AREAS IN COASTAL SCRUB DOMINATED BY		
												MIMULUS AURANTIACUS AND ARTEMISIA CALIFORNICA AT THE		
	straight-awned	Arroyo								JUST NORTH OF WATER TANK WEST OF NOYES ROAD AND SOUTH		EDGES OF A QUERCUS AGRIFOLIA WOODLAND WITH COASTAL		
406 Chorizanthe rectispina	spineflower	Grande NE	300 20030718 20030718 PVT	None	None	G2	S2	1B.3	BLM_S; USFS_S	OF PRINTZ ROAD, EAST OF ARROYO GRANDE.		SCRUB. ASPECT NW.	FUTURE DEVELOPMENT.	550+ PLANTS OBSERVED IN THREE PATCHES IN 2003.
												SANDY RUDERAL AREA ALONG THE SIDE OF THE ROAD,		
												GROWING WITH AND HYBRIDIZING WITH ABOUT 75 OF THE		
											MAPPED ALONG ROAD ON THE BORDER BETWEEN THE NW 1/4 OF	COMMON CASTILLEJA DENSIFLORA SSP. DENSIFLORA.		
	San Luis Obispo owl's-									HALCYON ROAD, JUST WEST OF ZENON WAY, NIPOMO MESA,	THE NW 1/4 OF SECTION 3 AND THE NE 1/4 OF THE NE 1/4 OF	APPARENT HYBRIDS PRESENT HAVE LIGHT PINK BRACTS.		9 PLANTS OBSERVED IN 2005. PRESUMABLY A LARGER POPULATION
407 Castilleja densiflora var. obispoensis	clover	Oceano	368 20050413 20050413 UNKNOWN	None	None	G5T2	S2	1B.2	BLM_S	ARROYO GRANDE, SAN LUIS OBISPO.	SECTION 4.	ASSOCIATES INCLUDE VULPIA MYUROS, ETC.		MAY BE PRESENT ON PRIVATE PROPERTY TO THE WEST.
		Arroyo									2 POLYGONS MAPPED IN THE SOUTH 1/2 OF THE NW 1/4 OF SECTION	ON ROCK OUTCROP ON SANDY SOIL AT THE EDGE OF COAST	POTENTIAL RESIDENTIAL	
408 Scrophularia atrata	black-flowered figwort	Grande NE	190 20090609 20090609 PVT	None	None	G2?	52?	1B.2	SB_RSABG	SOUTH OF CANADA VERDE, ABOUT 1.3 AIR MILES SSE OF EDNA.	32.	LIVE OAK WOODLAND AND ANNUAL GRASSLAND.	DEVELOPMENT.	3 PLANTS OBSERVED IN 2009.
	-								_			ANNUAL GRASSLAND ON SANDY SOIL AT THE EDGE OF COAST		
		Arroyo								EAST OF PISMO CREEK, ABOUT 1 AIR MILE SOUTH OF THE		LIVE OAK WOODLAND. DOMINANTS INCLUDE AVENA BARBATA,	POTENTIAL RESIDENTIAL	
409 Delphinium parryi ssp. blochmaniae	dune larkspur	Grande NE	190 20090609 20090609 PVT	None	None	G4T2	S2	1B.2	BLM_S	INTERSECTION OF PRICE CANYON ROAD AND HIGHWAY 227.	MAPPED IN THE SW 1/4 OF THE NW 1/4 OF SECTION 32.	HORDEUM SPP., ERODIUM SPP., AND BORMUS SPP.	DEVELOPMENT.	5 PLANTS OBSERVED IN 2009.
												SANDY SOIL BENEATH THE OUTER CANOPY EDGE OF A COAST		
												LIVE OAK TREE (QUERCUS AGRIFOLIA). HABITAT IS A MOSAIC OF		
												CENTRAL MARITIME CHAPARRAL AND COAST LIVE OAK		2 PLANTS OBSERVED IN 2006. ADDITIONAL GOOD HABITAT IS
											MAPPED ACCORDING TO A 2006 DART MAP, IN THE NW 1/4 OF THE	WOODLAND. ASSOCIATED WITH MEDITERRANEAN ANNUAL		PRESENT ON THE ESCARPMENT EAST AND WEST OF THE SUBJECT
410 Agrostis hooveri	Hoover's bent grass	Oceano	450 20060612 20060612 PVT	None	None	G2	S2	1B.2	BLM_S; USFS_S	BETWEEN LOS BERROS ROAD AND DALE AVENUE, NIPOMO MESA.	SE 1/4 OF SECTION 35.	GRASSES, EHRHARTA CALYCINA, ETC.	VEGETATION MAINTENANCE.	PROPERTY.
												BETWEEN THE POND'S UPPER BANKS AND A THICKET OF		
												MORELLA CALIFORNICA AND SALIX LASIOLEPIS. INDIVIDUALS	HERBIVORY- ALL THREE PLANTS HAD	
			USFWS-									ARE IN A DENSE, LOW-LYING LAYER OF CAREX PRAEGRACILIS	EVIDENCE OF HERBIVORY (LIKELY	SEEDS COLLECTED FROM ""3 POND WEST"" (CNDDB OCCURRENCE
			GUADALUPE-							JUST WEST OF MYRTLE POND, SOUTH OF OSO FLACO LAKE,	POND CREATED IN 2012. MAPPED ACCORDING TO 2019 RODDICK	AND JUNCUS PATENS. SOIL IS SANDY BUT HIGH IN ORGANIC	RABBITS). CIRSIUM VULGARE LOCATED	#31) AND DISPERSED AT MYRTLE POND IN 2014. 3 PLANTS FOUND
411 Cirsium scariosum var. loncholepis	La Graciosa thistle	Oceano	30 20190517 20190517 NIPOMO DUNE	S Endangere	d Threaten	ed G5T1	S1	1B.1		GUADALUPE-NIPOMO DUNES NATIONAL WILDLIFE REFUGE.	COORDINATES.	MATTER.	WITHIN POND FENCE.	IN 2019.



Additional Site Assessment Results and Conceptual Closure Plan - Northern Inactive Waste Site Phillips 66 Santa Maria Refinery

July 25, 2019

Prepared for:

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Additional Site Assessment Results and Conceptual Closure Plan Northern Inactive Waste Site

Phillips 66 Santa Maria Refinery 2555 Willow Road, Arroyo Grande, California 93420

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Executive Summary

Stantec has prepared this report summarizing the results of additional site assessment activities and to provide a Conceptual Closure Plan (CCP) for the site known as the Northern Inactive Waste Site (NIWS) located at the Phillips 66 Santa Maria Refinery (SMR) in Arroyo Grande, California. The purpose of the assessment was to further define the extent of petroleum hydrocarbons and asbestos containing materials (ACM) impacts to soil and evaluate for the presence of shallow groundwater.

The SMR was owned and operated by Unocal from 1955 to 1997. According to Unocal personnel, a NIWS was constructed and used from approximately 1955 to 1974. The former NIWS is located in a topographic low spot between two sand dunes near the entrance of the facility. Although records of NIWS operations are not available, the NIWS was reported to potentially contain refinery trash and nonhazardous debris, slop oil emulsion, API separator sludge, ACM, and domestic waste from local residents.

To evaluate the nature and extent of the waste, Environmental Solutions Inc. (ESI) advanced six exploratory trenches within the footprint of the NIWS in November 1990. Waste encountered was classified into three general categories including oily soil containing solid waste and debris, thick heavy tar-like hydrocarbons, and soil containing fibrous material assumed to represent ACM. Although the depth of the fill appeared to range from approximately 3 to 7.5 feet below ground surface (bgs), oily soil encountered in one trench extended to at least 15 feet bgs (maximum depth explored).

In 2016, Stantec reviewed historical aerial photographs to aid in evaluation of general land use in the investigation area. Aerial photographs were available in 1937 and 1957, and in approximately three to eleven-year increments from 1957 until present. Following review of the historical photographs, Stantec concluded that the NIWS may have extended further east than estimated in the previous ESI investigations.

Between September 20 and 29, 2017, 34 hand-auger borings were advanced at locations intended to further define the characteristics and extent of impacted soil. Soil samples from the hand auger borings were generally collected at 1, 3, 5, and 8-foot depth intervals. Between October 2 and 5, 2017, 17 of the hand-auger borings were advanced to greater depths using track-mounted dual tube, direct-push equipment. The borings were completed to depths ranging between 15 and 25 feet bgs.

Fine to medium-grained, poorly graded, loose dune sands comprise the predominant native soil lithology from the ground surface to the total depth explored during the investigation (up to 25 feet bgs). The presence of disposal material in several of the borings was indicated by tarry petroleum hydrocarbons, sulfur cake, metal debris, wood debris and fibrous materials. Groundwater was not encountered during assessment activities.

The assessment confirmed the contaminants of potential concern (COPC) as petroleum hydrocarbons (primarily total petroleum hydrocarbons in the oil range [TPHo]) and ACM (amosite and chrysotile). Other compounds that appear to be associated with the occurrence of TPHo included polynuclear



aromatic hydrocarbons (PAH), dioxins, and furans. The COPC were encountered at depths ranging from near surface soils to approximately 10 feet bgs. The lateral and vertical extent of TPHo and associated compounds have been adequately defined. However, ACM at concentrations of less than 1% were detected in samples from borings located within a majority of the NIWS area. Accordingly, further delineation of ACM is recommended.

Stantec performed air sampling in conjunction with the hand auger and drilling activities to quantify the concentration of airborne fibers at the perimeter of the work area. The analytical results of the air samples collected were below both the State of California Division of Occupational Safety and Health (DOSH) Permissible Exposure Limits (PELs) and the Environmental Protection Agency (EPA) indoor clearance levels.

For the purposes of this CCP, three remedial alternatives were considered to obtain closure for the former NIWS including no further action, soil containment/capping in place, and soil excavation/off-site disposal. Based on evaluation of these alternatives, Stantec recommends excavation of impacted soils as the preferred remedial action. Prior to excavation, a data gap assessment is proposed to further define the lateral and vertical extent of ACM identified from the 2017 soil assessment. This will be accomplished using a track-mounted direct-push rig to advance approximately 15 borings.

Remedial action objectives for this CCP were developed based on exposure pathways, cleanup goals, and regulatory requirements. Receptors such as workers and residents could be exposed to COPC via direct contact and inhalation of fugitive dust emissions. The proposed cleanup goals are based on the Tier I Environmental Screening Levels (ESLs) for TPHo and the other associated compounds described above (e.g. PAH, dioxins, and furans), and no detectable concentrations of ACM.

Soil remedial excavation will extend to depths ranging from approximately 3 to 10 feet bgs to meet the proposed soil cleanup goals. The areal extent of soil with COPC concentrations exceeding the soil cleanup goals is approximately 0.80 acres. As such, the total in-place volume of affected soil to be excavated, including both TPHo and ACM, is estimated to be 13,000 cubic yards (cy). Waste transport and disposal options for excavated impacted soil will be evaluated during the project permitting and planning phases. Waste management options may include transportation by rail and/or truck and disposal at either an in-state or out-of-state facility.

During the removal activities, confirmation soil sampling will be conducted by Stantec to document the final extent of the excavation. Discrete soil samples will be collected from the bottom and sidewalls of the excavation in accordance with the project sampling and analysis plan. Depending on final excavation conditions and/or Grading Permit requirements, backfilling of some of the areas may be necessary. The surface of all areas will be graded to match the design final grade. Habitat restoration will be addressed in a separate Habitat Restoration Plan. A comprehensive source area excavation completion report will be generated by Stantec following site remediation activities.



1.0 INTRODUCTION

Stantec Consulting Services, Inc. (Stantec), on behalf of Phillips 66 Company (Phillips 66), has prepared this report summarizing the results of further site assessment activities and to provide a Conceptual Closure Plan (CCP) associated with the site known as the Northern Inactive Waste Site (NIWS) located at the Phillips 66 Santa Maria Refinery (SMR) in Arroyo Grande, California (Figures 1 and 2). The purpose of the assessment was to further define the extent of petroleum hydrocarbons and asbestos containing materials (ACM) impacts to soil. The CCP recommends excavation of impacted soil to designated cleanup goals as the preferred remedial action at the site.

Stantec submitted a report entitled "Site Information Review and Workplan for Former Northern Landfill" to the San Luis Obispo Environmental Health Services (SLOEHS) – dated August 19, 2016 (Stantec, 2016). The report included a review of previous environmental reports pertaining to the NIWS including a preliminary site assessment report and CCP prepared by Environmental Solutions Inc (ESI). The report also included a review of historical aerial photography. Based on the results of the site information review, a workplan for additional site assessment was developed and included in the report. The SLOEHS conditionally approved the workplan in a meeting on August 24, 2016 and documented in email correspondence dated September 1, 2016. SLOEHS subsequently opted to relinquish lead environmental regulatory agency status for the project in email correspondence dated September 12, 2016. The project is not currently under lead agency oversight.

1.1 PURPOSE AND WORK SCOPE

The purpose of the assessment was to further define the extent of petroleum hydrocarbons and ACM impacts to soil and evaluate the presence of shallow groundwater.

The assessment activities were performed by Stantec from September 18 through October 2, 2017. The generalized scope of work for assessment activities included the following tasks:

- Prepared a site-specific Health and Safety Plan (HASP).
- Assessed underground utility locations with assistance of Underground Service Alert (USA) and a
 private utility locating service.
- Conducted a Project Team kick-off and daily safety meetings.
- Conducted a biological survey for potential presence of Nipomo lupine.
- Advanced 34 hand-auger borings.
- Advanced 17 of the hand-auger borings to greater depths using dual tube direct-push technology.
- Daily air monitoring for asbestos fibers during drilling activities.
- Collected and analyzed selected soil samples.
- Prepared this assessment report and CCP.



2.0 BACKGROUND

2.1 SITE LOCATION AND DESCRIPTION

The SMR was built on the Nipomo Mesa in 1955 and is located at 2555 Willow Road, Arroyo Grande, California (Figure 1). The SMR is linked by a 200-mile pipeline to the San Francisco Refinery in Rodeo, California. The SMR receives crude oil from various sources located in Central California. The output of the refinery includes two semi-refined products, gas oil and pressure distillate, which are sent by pipeline to the San Francisco Refinery for upgrading into finished petroleum products.

The SMR was owned and operated by Unocal from 1955 to 1997. According to Unocal personnel, the NIWS was formed and used from approximately 1955 to 1974 in the location shown on Figure 1. The NIWS was located in a topographic low spot between sand dunes near the entrance of the facility. Although records of NIWS operations are not available, the NIWS was reported to potentially contain refinery trash and nonhazardous debris, slop oil emulsion, API separator sludge, ACM, and domestic waste from local residents (ESI, 1991).

2.2 GEOLOGIC SETTING

2.2.1 Regional Geologic Setting

SMR is located on the Nipomo Mesa within the Southern Coast Ranges Geomorphic Province of California. The Southern Coast Ranges are characterized by northwest to southeast trending mountain ranges and valleys, which are separated by faults (Norris & Webb, 1990). The Nipomo Mesa triangular lobe is an elevated feature consisting of ancient sand dunes that are vegetated primarily with chaparral, oak trees, and eucalyptus trees. The Nipomo Mesa is more than four miles wide and extends inland more than 12 miles to east of Highway 101.

The dune sands directly underlying the project site consist of fine to coarse-grained, well rounded, massive sand with some silt and clay. The sands are largely composed of quartz and are loosely to slightly compacted. The older dune sands are anchored by vegetation and have a well-developed soil mantle. The older dunes have a maximum thickness of approximately 300 feet near the southern edge of Nipomo Mesa (DWR, 2002). Lithologic logs from monitoring wells and production wells at the refinery confirm sand with minor thin clay lenses extending to 100 feet or more.

The dune sand deposits are underlain by the Pliocene-Pleistocene Paso Robles Formation which is the major water producing formation in the vicinity of the project site. Typical thickness of the formation in the vicinity of the project site is between 500 and 600 feet. The formation is described as typically consisting of unconsolidated to poorly consolidated to sometimes cemented beds or lenses of coarse to fine-grained gravel and clay, sand and clay, shale gravel, silt, clay, silty clay, and sandy clay, with some lenses of gravel and sand (DWR, 2002).



2.2.2 Northern Inactive Waste Site Topography

The NIWS is situated in an area of naturally occurring sand dune formations, vegetated by native and non-native plant species. The lowest point of the investigation area lies at an elevation of approximately 112 feet above mean sea level (msl). Except for an area to the southwest, dune formations completely surround the investigation area. Relatively taller dune formations bound the investigation area directly to the north, south, and west rising approximately 15 feet above the lowest point of the investigation area. A shorter dune formation, gradually rising approximately 5 feet, occurs to the east of the investigation area. An access road to the NIWS area is located to the west and lies in the channel of the northern and southern sand dunes.

2.3 HYDROGEOLOGY

2.3.1 Surface Water

Due to the localized dune topography and sand lithology, stormwater at the investigation area is contained within the SMR property. The nearest surface water bodies in the vicinity of the project site includes Oso Flaco Creek located approximately 0.6 miles to the southwest. Little Oso Flaco Lake and Oso Flaco Lake are located approximately 1.2 and 1.7 miles west of the project site, respectively. Two lakes (Jack Lake and Lettuce Lake located approximately one-mile northwest) that are depicted on the USGS topographic map (Oceano quadrangle), are shown to be intermittent (USGS, 2013).

2.3.2 Hydrogeology and Groundwater

The Phillips 66 SMR is located within the Santa Maria Groundwater Basin (SMGB). Most of the SMGB is within the Santa Maria River Watershed, which extends eastward into the coastal range region and covers more than 453,000 acres. The basin is bound on the north by the San Luis and Santa Lucia Ranges, on the east by the San Rafael Mountains, on the south by the Solomon Hills and the Casmalia Hills, and on the west by the Pacific Ocean. The Santa Maria Valley is drained by the Sisquoc, Cuyama and Santa Maria Rivers, and Orcutt Creek. Annual precipitation ranges from 13 to 17 inches with an average annual precipitation of 15 inches per year (Marine Research Specialists, 2011).

The aquifer system in the basin consists of unconsolidated Plio-Pleistocene alluvial deposits including gravel, sand, silt, and clay that range in thickness from 200 to nearly 3,000 feet. The underlying consolidated rocks typically yield relatively insignificant quantities of water of poor quality in the local wells. Franciscan and Knoxville Formation of Jurassic and Cretaceous age basement complex unconformably underlie the Tertiary and Quaternary deposits. The unconsolidated alluvial deposits in the SMGB comprising the aquifer system include the Careaga Sand, the Paso Robles Formation, the Orcutt Formation, the Quarternary Alluvium, river channel deposits, sediments, terrace deposits, and wind-blown dune sands at or near the surface (DWR, 2002).

Two groundwater zones exist beneath the site. The first groundwater zone exists in unconfined conditions at elevations ranging from approximately 40 to 50 feet mean sea level (msl). This groundwater occurs within an approximately 100-foot thick zone of stationary dune sands. The dune sands are underlain by the approximately 1,000-foot thick Paso Robles Formation which is the second groundwater zone and is



the major water producing formation in the site's vicinity. Six water producing zones exist within the Paso Robles formation ranging in depth from 250 to 800 feet below ground surface (bgs). These water producing zones are composed of sand and gravel layers separated by fine sand, silt, and clay layers. The Paso Robles Formation is underlain by the Pismo Formation sandstones, which marks the base of "fresh" water bearing unconsolidated sediments in the site area (Groundwater Technology, 1992).

Groundwater quality varies significantly across the basin. Total Dissolved Solids (TDS) in the groundwater generally increases from east to west. In the vicinity of the Santa Maria Valley, the basin is classified as vulnerable to nitrate contamination, and in places concentrations of nitrate have increased from less than 30 mg/l in the 1950s to more than 100 mg/l in the 1990s. The Careaga Sand, the basal member of the system of alluvial sand, is generally considered to have poor water quality. In general, high TDS, sulfate, or chloride content impairs groundwater in some parts of the basin (DWR, 2002, Marine Research Specialists, 2011).

Groundwater monitoring has been conducted site wide at SMR in compliance with Permits and Orders issued by the Regional Water Quality Control Board - Central Coast Region (RWQCB) on a quarterly, and later, semi-annual basis since 1991. The depths to groundwater measurements obtained in September 2017 indicate a westward groundwater flow direction at an average gradient of 0.004 ft/ft and an average flow velocity of 0.18 feet per day. The groundwater flow direction and average gradient have remained consistent since groundwater monitoring commenced at the refinery in 1994. Based on the most recent groundwater measurements, the groundwater elevation at the NIWS is anticipated to be approximately 30 to 40 feet above msl and the depth to groundwater at the lower ground elevation of the NIWS area is anticipated to be approximately 60 to 70 feet bgs.

2.4 PREVIOUS INVESTIGATIONS

In April 1991, ESI prepared a Preliminary Site Assessment report for four features at the refinery, including the former NIWS (ESI, 1991). The report was submitted to the RWQCB in June 1991 and to the San Luis Obispo County Environmental Health Services (SLOEHS) in September 1991. According to the report, Unocal operated the NIWS from approximately 1955 to 1974. Although records of NIWS operations are not available, the NIWS was reported to potentially contain refinery trash and nonhazardous debris, slop oil emulsion, API separator sludge, ACM, and domestic waste from local residents. ESI estimated that the NIWS encompassed approximately 50,000 square feet (1.1 acres) and noted oily and darkened surface soil in the NIWS during a 1990 site visit.

To evaluate the nature and extent of the waste, ESI advanced six exploratory trenches within the footprint of the NIWS in November 1990. Waste encountered was classified into three general categories including oily soil containing solid waste and debris, thick heavy tar-like hydrocarbons, and soil containing fibrous material thought to represent ACM. Although the depth of the fill appeared to range from approximately 3 to 7.5 feet bgs, oily soil encountered in one trench (LF-5) extended to at least 15 feet bgs (maximum depth explored).

Representative soil samples collected during the assessment were analyzed for total petroleum hydrocarbons (TPH), volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), regulated metals, and pH. A sample of the suspected ACM was confirmed to contain 20% amosite



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asbestos. Concentrations of TPH up to 61,000 milligrams per kilogram (mg/kg) were reported in the soil samples. Oily soil extending to 15 feet bgs in trench LF-5 was found to contain TPH at a concentration of 6,000 mg/kg. Metals were reported at concentrations below California hazardous waste threshold values. Non-detect to low concentrations of VOC and SVOC were reported in the soil, with one exception. A soil sample from 2.5 feet bgs in trench LF-3 contained several carcinogenic polynuclear aromatic hydrocarbons (PAH) including benz(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, and dibenzo(a, h)anthracene at concentrations exceeding RWQCB Environmental Screening Levels (ESL) for direct contact by commercial/industrial workers.

Based on the assessment findings, ESI estimated the volume of the fill material at 10,000 to 15,000 cubic yards, not including the TPH impacted soil beneath the fill material. The assumed presence of friable ACM in the NIWS was cited as a concern for potential future remediation activities.

In 2016, Stantec reviewed historical aerial photographs to aid in evaluation of general land use of the investigation area. Aerial photographs were available in 1937 and 1957, and approximately three to eleven-year increments from 1957 until present. Following review of the historical photographs, Stantec concluded that the NIWS may have extended further east than estimated in previous investigations and additional field investigation was needed to further characterize the perimeter.



3.0 SITE ASSESSMENT METHODS

3.1 SITE HEALTH AND SAFETY

Stantec prepared and implemented a HASP in accordance with project requirements. The HASP complied with the OSHA Standard 29 CFR 1926/1910. All site employees that could potentially be exposed to remediation related hazardous substances, health, or safety hazards have completed HAZWOPER training as required by 29CFR 1910.120 and 29CFR1926.65. Asbestos workers and supervisors complied with California Asbestos Regulations and OSHA Asbestos regulations in 29 CFR1926.1101. In addition, all applicable medical monitoring and industrial hygiene sampling requirements defined in the above standards, including asbestos abatement work, were followed.

All field work activities were conducted in accordance with the "Safework Execution Plan for Soil and Groundwater Assessment" (SEP) prepared by Stantec in August 2017. The SEP included a "Technical Work Plan for Asbestos Management and Compliance" prepared by Entact, LLC, a California state certified asbestos contractor.

3.2 UTILITY LOCATING

Underground Service Alert (USA) was contacted a minimum of 48 hours prior to drilling to arrange for underground utility locating. In addition, Stantec utilized a private utility locator to further evaluate buried piping and other potential subsurface obstructions near the planned borings. Prior to drilling, the uppermost 8 feet of each boring were cleared using hand auger equipment.

3.3 BIOLOGICAL SURVEY

The NIWS is located in the vicinity of known habitat for the federally-listed endangered vegetative species Nipomo lupine (Lupinus nipomensis). A data review of recent and historical field surveys was conducted by a Stantec biologist prior to assessment activities to determine the need for any modifications to assessment activities.

The data review comprised reviewing data collected by the Land Conservancy of San Luis Obispo County, which has conducted annual biological surveys for Nipomo lupine at SMR since 2004. The results of the data review showed that no Nipomo lupines have been identified within or immediately adjacent to the approximate NIWS boundaries since the surveys began in 2004 (Land Conservancy, 2017). According to the results of the Spring 2017 survey, the nearest individual plants identified were located approximately 500 feet to the north, south, and east of the approximate NIWS boundaries. Based on the data review, no modifications to assessment activities were necessary based on the presence of Nipomo lupine.



3.4 SOIL BORINGS AND SOIL SAMPLING

3.4.1 Hand Auger Borings

Between September 20 and 29, 2017, 34 hand-auger borings identified as HA-21 through HA-31, HA-32(1), HA-32(3), HA-32(a), HA-32(b), HA-33 through HA-37, HA-37(a), and HA-38 through HA-49 were advanced at the locations shown on Figure 2. The boring locations were selected based on the historical data review to provide lateral coverage of the approximate NIWS area. Additional locations were selected as step-outs when obstructions were encountered. The borings were completed to a minimum depth of eight feet bgs for utility clearance using a three-inch diameter auger. Obstructions were encountered in borings HA-32(1), HA-32(3), 32(a), and HA-37 which were completed to depths of 1, 5, 3 and 9 feet bgs. respectively. Soil samples were generally collected at 1, 3, 5, and 8-foot intervals and were placed in precleaned laboratory-supplied sample jars and prepared for laboratory analysis. A portion of the sample from each depth interval was field screened for potential volatile organic vapors using a photo-ionization detector (PID). All soil borings were backfilled with hydrated bentonite chips. All boring locations were surveyed by Stantec for horizontal coordinates using a GPS unit capable of sub-meter accuracy. Soil encountered during drilling was logged in accordance with the United Soil Classification System (USCS) by a geologist or scientist working under the supervision of a State of California Professional Geologist. Boring logs for the borings are included in Appendix A. Standard Operating Procedures (SOPs) for drilling and soil sampling are in Appendix B.

3.4.2 Direct-Push Borings

Between October 2 and 5, 2017, 17 of the hand-auger borings were further advanced to greater depths using track-mounted dual tube, direct-push equipment operated by S/G Drilling of Lompoc, California. The locations for the deeper borings were selected based on the historical review and/or field observation results from the initial hand-auger borings. The soil borings completed by direct-push are identified as HA-20, HA-36, HA-32(b), HA-34, HA-36, HA-37(a), and HA-39 through HA-49 (Figure 2). Further advancement by direct push was attempted in boring HA-37; however, an obstruction was encountered at the same depth as the hand auger boring (9 feet bgs) which prompted the step out location at HA-37(a).

The borings were completed to depths ranging between 15 and 25 feet bgs. Soil cores were collected in acetate sample liners and soil samples for potential laboratory analysis were collected at approximately five-foot intervals of depth to termination of the borings. All soil samples were prepared and retained for laboratory analysis. The soil cores were field screened for potential volatile organic vapors using a PID. All soil borings were backfilled with hydrated bentonite chips.

3.5 PERIMETER AIR MONITORING

Stantec performed air sampling in conjunction with the hand auger and drilling activities to monitor for potential airborne ACM fibers at the perimeter of the work area. Specific air sampling locations were selected based on wind direction and coverage of the exclusion zone. Air sampling pumps were positioned on the north, east, south, and west perimeters, just outside of the exclusion zone. The pumps were placed at these locations daily throughout the remainder of the work activities. Wind direction was typically westerly with occasional easterly winds in the morning, transitioning to westerly in the late



morning and for the remainder of the day. The wind direction and placement of the air sampling pumps upwind, crosswind (on two sides), and downwind, was monitored during work activities.

The high-volume air sampling filter cassettes used for daily monitoring were 25-millimeter diameter, preloaded, three-piece cassettes equipped with 0.8-micron, mixed-cellulose ester filters and 50-millimeter long extension cowls.

After the air sampling pumps were placed by Stantec, they were individually calibrated at flowrates between 10 and 12 liters of air per minute (LPM). The air sampling cassettes were placed at a height of approximately 60 inches above the ground surface, perpendicular to the wind. Prior to shutting off the pump, a secondary calibration was performed to obtain the average flowrate.

3.6 WASTE MANAGEMENT

Soil and other solid wastes generated daily were managed using the standard practice of 6 milliliter (ml) double-bagging. The wastes included, but were not limited to, soil, personal protective equipment (PPE), disposable tools/materials, wipes used for tools and equipment decontamination, cleaning cloths, visqueen, and the contents of a wet/dry HEPA vacuum used in daily cleanup. Material was secured in bags, taped closed, and a labeled. Double-bags were individually labeled in accordance with 29CFR 1926.1101(k)(8) and 8CCR5208(j)(5), transported to the SMR ACM accumulation area, and placed in a roll-off bin designated and labelled for ACM waste. The roll-off bin was transported and disposed as part of the routine SMR ACM waste stream.

The only liquid generated during assessment activities was water from the shower used for personnel decontamination. The water was passed through a 100 micron drain filter before discharge to the ground as per the "Technical Work Plan for Asbestos Management and Compliance" prepared by Entact.

3.7 LABORATORY ANALYSIS

3.7.1 Soil Samples

Laboratory analysis of soil samples was conducted by BC Laboratories in Bakersfield, California. BC Laboratories is certified under the State of California Environmental Laboratory Accreditation Program. Selected soil samples from each boring were analyzed for the following:

- TPH as gasoline (TPHg), diesel (TPHd), and motor oil (TPHo) by Environmental Protection Agency (EPA) Test Method 8015M/FFP.
- Asbestos by EPA Test Method 600/R-93/116.

Based on recorded soil descriptions and field monitoring results selected soil samples were additionally analyzed for the following:

- VOCs by EPA Test Method 8260B.
- PAH using select ion monitoring (SIM) by EPA Test Method 8270C.
- Dioxins and furans by EPA Test Method 8290.
- Chlorinated acid herbicides by EPA Test Method 8151A.
- Organochlorine pesticides and Polychlorinated biphenyl's (PCBs) by EPA Test Method 8080.



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- Organophosphorus pesticides by EPA Test Method 8141A.
- Cyanide by EPA Test Method 9012.
- pH by EPA Test Method 9045-D.
- Hexavalent chromium by EPA Test Method 7199.
- California Title 22 Metals by EPA Test Method 6010.

3.7.2 Perimeter Air Samples

Stantec submitted perimeter air samples to EMSL Laboratories, Inc. (EMSL) located in Cinnaminson, New Jersey for analysis of asbestos content using Phase Contrast Microscopy (PCM). EMSL is accredited by the State of California, Department of Public Health (CDPH) and the National Institute of Science and Technology's (NIST) National Voluntary Laboratory Accreditation Program (NVLAP, code #101048-0). EMSL participates in the National Institute for Occupational Safety and Health (NIOSH) Proficiency Analytical Testing Program and has substantial experience in the analysis of asbestos. All air samples were collected and analyzed following the NIOSH 7400 Method.



4.0 ASSESSMENT RESULTS

4.1 SUBSURFACE CONDITIONS

Subsurface conditions encountered in the soil borings were consistent with the 1990 site investigation. Fine to medium-grained, poorly graded, loose dune sands comprise the predominant native soil lithology from the ground surface to the total depth explored (up to 25 feet bgs). The presence of disposal material in several of the borings was indicated by petroleum hydrocarbons, sulfur cake, metal debris, wood debris and fibrous materials. The petroleum hydrocarbons were indicated by black stained sand, cohesive chunks of black tar binding the sand, and fragments of asphaltic material. VOC's were not detected by the PID field measurements in any of the soil samples.

4.2 ANALYTICAL RESULTS

The following sections summarize the analytical results for the soil samples collected from the borings and the perimeter monitoring air samples.

4.2.1 Soil Analytical Results

Where applicable and available, the soil analytical results are compared with Tier I Environmental Screening Levels (ESLs) for direct exposure to soil, developed by the RWQCB – San Francisco Bay Region (SFRWQCB, 2016). Tier I ESLs are intended for sites where unrestricted land use is sought. The soil analytical results are also compared to Total Threshold Limit Concentrations (TTLC) for toxicity as listed in California Code of Regulations, Title 22, Chapter 11, Article 3 (CCR 22). If the concentration equals or exceeds the TTLC level in a solid waste, it is considered a State of California hazardous waste. With the exception of asbestos, no concentrations were detected above the corresponding TTLC for any of the analytes.

In some instances, the laboratories may assign the data qualifier "J" flag for concentrations that are detected higher than the method detection limit (MDL), but less than the practical quantification limit (PQL). As indicated by the laboratory, any concentrations that have been assigned a "J" flag are considered estimated values. "J" flagged values may be considered usable for meeting certain Data Quality Objectives.

Analytical results for soil samples collected from the 2017 assessment are summarized in Tables 1 through 11. Laboratory reports and chain of custody documentation are included in Appendix C.

4.2.1.1 Total Petroleum Hydrocarbons

A minimum of one sample from each soil boring was analyzed for TPHg (C4-C12), TPHd (C13-C22), and TPHo (C23-C40). A total of 173 samples were analyzed for TPH. TPHg was not detected above the PQL in any of the samples analyzed. TPHd was detected above the PQL in two samples, HA-32(1)-1', and HA-32(3)-5' at concentrations of 7,400 and 3,600 milligrams per kilogram (mg/kg), respectively. The concentrations in both samples exceed the Tier I ESL for TPHd of 230 mg/kg. TPHo was detected above



the PQL in 68 samples with concentrations ranging from 20 mg/kg (HA-24-8') to 82,000 mg/kg (HA-37-9'). TPHo was reported above the Tier 1 ESL for of 5,100 mg/kg in a total of 11 samples from soil borings HA-26, HA-31, HA-32(1), HA-32(3), HA-37, HA-37(a), and HA-39.

Analytical results for TPH are presented in Table 1. TPHo concentrations at each boring location are presented on Figure 3, and cross sections showing TPHo concentrations with respect to depth are presented on Figures 4 through 7.

4.2.1.2 ACM

A minimum of one sample from each soil boring was analyzed for ACM (amosite and chrysotile), for a total of 147 samples. Amosite was detected in 12 samples from 7 of the borings. Chrysotile was detected in 45 samples from 16 of the borings. Amosite was detected at a concentration of 2% in two samples (HA-22-1' and HA-37-9') and at 3% in sample HA-22-3'. The remainder of the amosite concentrations detected were reported at less than 1%.

Chrysotile was detected at a concentration of 2% in samples HA-37(a)-1' and HA-39-1'. A portion of a sample from boring HA-37 was segregated and described as "insulation". The chrysotile concentration for the insulation sample was reported at 50%. The remaining detections for chrysotile were reported at less than 1%.

No ESLs have been established for ACM; however, the samples with amosite and/or chrysotile concentrations at or greater than 1% exceeded the TTLC of 1%. Analytical results for ACM are presented in Table 2. Amosite and chrysotile concentrations at each boring location are presented on Figure 3. Cross sections showing amosite and chrysotile concentrations with respect to depth are presented on Figures 4 through 7.

4.2.1.3 Other Analyses

Four samples identified as HA-26-1', HA-32(1)-1', HA-37-8', and HA-37(a)-5' were selected for additional analyses, including VOC, PAH, dioxins, herbicides, pesticides, pH, cyanide, PCBs, and metals. These samples were selected for additional analyses because field observations (e.g. dark, oily soil) indicated they were representative "worst case" samples. Two additional samples, HA-37(a)-10' and HA-26-3' were also analyzed for dioxins and metals after initial data review. Summaries for each of the additional analyses are presented below.

VOC

Of the VOC constituents analyzed, including BTEX, only 1,2,4-trimethylbenzene was detected above the PQL at concentrations of 0.0079 mg/kg and 0.0072 mg/kg in samples collected from borings HA-26-1' and HA-37-8', respectively. Several other VOC were detected at estimated concentrations in all four samples. No VOC were detected above ESLs. Analytical results for BTEX are included in Table 1 and results for full list VOC (including BTEX) are presented in Table 3.



PAH

Several PAH compounds were detected above ESLs in the four samples analyzed. Benzo(a)pyrene (BaP) was reported at concentrations of 1.6, 4.6, and 8.9 mg/kg in samples HA-26-1', HA-32(1)-1', and HA-37(a)-5', respectively. Benzo(a)anthracene was reported above the ESL in all four of the samples analyzed (HA-37-8' had the only J-flagged concentration of 0.46 mg/kg). Several PAH were detected above the ESLs in the other three samples analyzed. In addition, the BaP equivalent (BaPeq) was calculated for each sample by multiplying the result by the Toxic Equivalency Factor (TEF) for each carcinogenic PAH, and the resulting products were summed and compared to the ESL for BaPeq, as per the "Users Guide: Derivation and Application of Environmental Screening Levels (ESLs)" (SFRWQCB, 2016). All four samples had BaPeq values greater than the ESL of 0.016 mg/kg ranging from 0.046 mg/kg (HA-37-8') to 18.1 mg/kg (HA-32(a)-5'). It should be noted that the BaPeq calculation for the sample from HA-37-8' used an estimated J-flag concentration for benzo(a)anthracene. Analytical results for PAH are presented in Table 4.

Dioxins and Furans

Dioxin compound 2,3,7,8-TCDD was reported above the ESL of 4.9 picograms per gram (pg/g) in the samples from HA-26-1', HA-32(1)-1', and HA-37(a)-5' at concentrations of 6.34, 10.3 and 4.94 pg/g, respectively. In addition, the dioxin toxic equivalent (TEQ) was calculated for each sample by multiplying the result by the TEF for each congener, and the resulting products were summed and compared to the ESL for 2,3,7,8-TCDD (SFRWQCB, 2016). It should be noted that some of the TEF calculations used estimated J-flag concentrations for some constituents. Five of the six samples had TEQ values greater than the ESL of 4.9 pg/g ranging from 6.6 pg/g (HA-26-3') to 179 pg/g (HA-32(1)-1'). The sample with a TEQ less than the ESL was HA-37(a)-10' with a TEQ value of 0.01. Analytical results for dioxins and furans are presented in Table 5.

Chlorinated Herbicides

No chlorinated herbicide compounds were detected above the PQLs in any of the four samples analyzed. Analytical results for chlorinated herbicides are presented in Table 6.

Organo-Phosphorus Pesticides

No organo-phosphorus pesticide compounds were detected above the PQLs in any of the four samples analyzed. Analytical results for organo-phosphorus pesticide are presented in Table 7.

pH and Total Cyanide

Measurements of pH were reported at 7.32, 3.35, 7.60 and 6.81 in the samples from HA-26-1', HA-32(1)-1', HA-37-8', and HA-37(a)-5', respectively.

Cyanide was detected above the ESL of 0.0036 mg/kg in the samples from HA-26-1', HA-32(1)-1', and HA-37(a)-5' at concentrations of 0.73, 3.3, and 0.20 J mg/kg, respectively. Cyanide was not reported above the PQL of 0.50 mg/kg in HA-37-8' (note the PQL concentration is above the ESL value of 0.0036 mg/kg). Analytical results for pH and Cyanide are presented in Table 8.



ASSESSMENT RESULTS

Organochlorine Pesticides and PCBs

Organochlorine pesticide compounds 4,4-DDE, 4,4-DDT, and dieldrin were detected in the sample collected from HA-32(1)-1', at concentrations of 0.025, 0.062 and 0.015 mg/kg, respectively. Of the pesticide compounds detected, dieldrin was the only compound reported above its respective ESL of 0.00017 mg/kg.

PCBs were not detected above the PQLs in any of the four samples. Analytical results for polychlorinated pesticides and PCB are presented in Table 9.

California Title 22 Metals and Hexavalent Chromium

Arsenic was reported above the ESL of 0.067 mg/kg in all samples, occurring at concentrations ranging from 1.1 mg/kg in sample HA-32(1)-1' to 2.0 mg/kg in sample HA-37(a)-5'. Nickel was reported above the ESL of 86 mg/kg in samples HA-26-1' and HA-37(a)-5', at concentrations of 130 and 110 mg/kg, respectively. Hexavalent chromium was detected above the ESL of 0.30 mg/kg in all six samples at concentrations ranging from 0.55 J mg/kg (HA-37(a)-10') to 2.4 mg/kg (HA-26-1'). It should be noted that the PQL for four of the samples were greater than the ESL of 0.30 mg/kg. Analytical results for metals and hexavalent chromium are presented in Table 10.

4.2.2 Perimeter Air Sampling Results

There are no outdoor clearance air standards currently established for ACM. However, the State of California, Division of Occupational Safety and Health (DOSH) Permissible Exposure Limit (PEL) for asbestos is 0.1 fiber per cubic centimeter (f/cc) and the EPA indoor air clearance level is 0.01 f/cc following asbestos abatement activities. The analytical results of the air samples collected as a part of this project were below both the DOSH PEL and the EPA indoor clearance levels. However, ACM concentrations could not be determined in the samples collected in the afternoon of October 4, 2017 because the filters were overloaded (excessive dust or particles preventing accurate analysis). Although these samples could not be analyzed, based on the trend of other samples collected during this project, it is not expected that fiber concentrations would have exceeded the DOSH PEL. Perimeter air sampling results are presented in Table 11.



5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

The primary objectives of the site assessment activities were to better define the extent of the former northern NIWS, and to characterize the waste material found within the NIWS boundaries. Findings from the current phase of assessment are consistent with previous assessments; however, the lateral extent of environmental impacts were larger than previously identified. In general, NIWS COPC consist primarily of soils impacted with ACM and TPHo.

5.1.1 Waste Characterization

The presence of disposal material was indicated by sulfur cake, metal debris, black granular/asphaltic material, wood debris and visibly fibrous materials. This typical debris-type of waste can generally be considered defined; and occurring in the western and northwestern portions of the NIWS, at depths less than 3 feet bgs. Although, discoloration was noted in the eastern portions of the NIWS area, there was no evidence of debris-type fill material. In general, locations where debris was observed correlated with detections of TPHo and/or ACM with some exceptions. In contrast, there are instances where analytical results showed detections of TPHo and/or ACM without the occurrence of debris-type material.

5.1.2 Lateral and Vertical Extent

5.1.2.1 Total Petroleum Hydrocarbons

All TPH concentrations primarily occurred in the oil range. TPHo was detected above the PQL in a minimum of one sample from 25 of the 34 borings. TPHo was reported over the ESL in a minimum of one sample from 7 of the 34 borings. TPHd was detected in soil samples HA-32(1)-1' and HA-32(3)-5' at concentrations above the ESL. TPHg was not detected in any of the soil samples.

As shown on Figure 3, analytical results indicate two areas with TPHo impacts above the ESL. A larger area on the west side of the NIWS is bounded by (clockwise from the north) borings HA-24, HA-25, HA-30, HA-33, HA-32(b), HA-32(a), and HA-38. The smaller area on the east side is present due to the TPHo concentration above the ESL in sample HA-26-1'. This area is bounded by borings HA-45, HA-27, and HA-30.

Where TPHo was reported above the ESL, vertical delineation was achieved within the boring or a nearby 'step-out' boring. Specifically, the vertical extent of TPHo impacted soil above the ESL ranges between 1-foot bgs (borings HA-39, HA-37(a), HA-32(1), and HA-26) to approximately 10 feet bgs (boring HA-37), as indicated by the step-out boring HA-37(a). The majority of TPHo impacted soils above the ESL occurred in the near surface between 1 and 3 feet bgs. Based on the assumed depth to groundwater of 60 to 70 feet bgs in the vicinity of the NIWS, groundwater is not expected to be impacted by petroleum hydrocarbons associated with the NIWS waste storage activities. This assumption is based on the relative stability of TPHo and the approximately 50 feet of vertical distance between the deepest encountered impacted soils (approximately 10 feet bgs) and the assumed depth to groundwater.



5.1.2.2 ACM

ACM as either amosite or chrysotile was reported in a minimum of one sample from 20 of the 34 borings with samples from 4 borings detected above the TTLC of 1%. Vertical delineation was achieved in the borings with ACM values above the TTLC with the exception of samples from borings HA-22 and HA-37. A concentration of ACM at <1% was detected at total depth of boring HA-22 (8 feet bgs) and a concentration of 2% was detected at total depth in boring HA-37 (9 feet bgs). In 6 of the 34 borings, concentrations of <1% ACM were detected to total depth ranging from 3 feet to 8 feet bgs, which indicates the need for further vertical delineation to the investigation limit of non-detect. In the borings selected for further sampling by direct-push equipment, ACM was not reported beyond a depth of 8 feet bgs.

In general, concentrations of ACM at <1% are dispersed laterally at a greater extent than TPHo and the typical debris-type waste. While TPHo impacts appear to be confined toward the western portion of the investigation area (with the exception of sample HA-26-1'), ACM concentrations <1% were present in both the western and eastern portions of the investigation area. ACM concentrations <1% were detected in several of the perimeter borings on all sides of the approximate NIWS boundary, indicating the need for further lateral delineation to the non-detect investigation limit.

5.1.2.3 Other Analyses

Soil analytical results indicated constituents of PAH, dioxins and furans, cyanide, and metals along with BaPeq and dioxin TEQ detected at concentrations above the respective ESLs. With a few exceptions, these detections appear to correlate with the corresponding TPHo concentrations that were detected above the ESL. The exceptions include the following:

- 2,3,7,8-TCDD, several constituents of PAH, and BaPeq were detected above ESLs in sample HA-37(a)-5' which contained TPHo at 3,900 mg/kg, which is below the TPHo ESL of 5,100 mg/kg;
- Dioxin TEQs calculated for 5 of the 6 samples analyzed for dioxins were above the ESL for 2,3,7,8-TCDD, including sample HA-26-3' which did not contain concentrations of TPHo detected above the PQL. It should be noted that the concentrations from several of the constituents were J-flagged but were used at the estimated value for the calculations.

Arsenic was detected above the ESL for all six samples analyzed for metals. However, as stated in the ESL Users Guide (SFRWQCB, 2016), arsenic concentrations in site soils typically exceed the ESL for arsenic due to naturally occurring background levels. The detected arsenic concentrations in the six samples ranged from 1.1 to 2.0 mg/kg and likely represent background levels based on the similar concentrations detected in all samples. This includes sample HA37(a)-10' which had an arsenic concentration of 2.0 mg/kg and a corresponding estimated TPHo concentration of 14 J mg/kg.

5.2 RECOMMENDATIONS

Final closure of the former NIWS will be met when 1) corrective actions are successfully implemented without the use of deed restrictions (property owner driven); and 2) corrective actions satisfy regulatory



requirements (regulatory agency driven). Although the SLOEHS opted to relinquish lead environmental regulatory agency status, it is expected that the regulatory agency that ultimately assumes lead agency status will require corrective action prior to issuing final closure. Furthermore, agency concurrence will be needed to ensure that a deed restriction will not be required for the NIWS portion of the property.

The assessment confirmed the primary COPC as petroleum hydrocarbons (primarily TPHo), other compounds that appear to be associated with the occurrence of TPHo (e.g. PAH, dioxins and furans), and ACM (amosite and chrysotile). The COPC were encountered at depths ranging from near surface soils to approximately 10 feet bgs. The lateral and vertical extent of TPHo and associated compounds has been adequately defined. However, ACM concentrations <1% were detected in samples from borings located over a large portion of the approximate NIWS boundary.

Although concentrations at <1% ACM are not considered hazardous waste, generated material containing trace concentrations must be handled in compliance with Cal-OSHA regulations. This implies that ACM concentrations <1% must be addressed to prevent the need for a deed restriction. As stated previously, additional assessment is needed to determine the lateral and vertical extent of ACM at <1%. Accordingly, 11 direct-push borings (identified as GP-1 through GP-11) are proposed for additional lateral delineation of ACM concentrations at <1%. Four other direct-push borings (identified as GP-12 through GP-15) are proposed to confirm the vertical extent of ACM encountered during the September/October 2017 assessment. The proposed boring locations are presented on Figure 8.

5.2.1 Evaluation of Remedial Alternatives

Three remedial alternatives considered to obtain closure for the NIWS include:

- 1. No Further Action;
- 2. Soil Containment/Capping in Place; and,
- 3. Soil Excavation/Off-Site Disposal

The following sections briefly describe each of the remedial alternatives and evaluation criteria. The evaluation criteria include effectiveness, implementation, and cost.

5.2.1.1 No Further Action

The No Further Action alternative would not require implementing any measures at the site, and no costs would be incurred. This alternative includes no institutional controls, no treatment of soil, and no monitoring. However, under the No Further Action alternative, the impacts due to the presence of COPC in soil would not be addressed and there would be no reduction in potential risks. Furthermore, a deed restriction would be required. This alternative, therefore, does not meet the effectiveness criterion.

5.2.1.2 Soil Containment/Capping in Place

The Soil Containment/Capping in Place alternative would consist of installing a low permeability cap, cover, and associated drainage controls over the surface of the impacted areas. The cap would be used to minimize the potential exposure to impacted soil. A land use restriction would be executed and



recorded to ensure that the cap is functioning, inspected, and maintained and that future uses of the property are consistent with these requirements.

The containment/capping-in-place alternative would involve grading and disturbance of the impacted soil prior to placing the cap material. Therefore, there would be some exposure to the COPC with moderate short-term risks. The surface cap and drainage controls would require long-term inspection and maintenance to provide long-term effectiveness. Containment is a relatively simple technology that is easily implemented and can be installed in a relatively short timeframe. As the COPC would remain on site, obtaining permits and regulatory approval may be difficult. In addition, property owner acceptance for this alternative may be difficult since the COPC would remain on-site thus requiring a deed restriction. Containment technologies typically involve low to moderate costs depending on the technology used. Although an effective and readily implemented alternative, it would require a deed restriction and would therefore fail to meet the property owner criteria.

5.2.1.3 Soil Excavation/Off-Site Disposal

The Soil Excavation/Off-site Disposal alternative would consist of removing and transporting impacted soil to an appropriate, permitted off-site disposal facility. Excavation activities will likely be conducted using conventional construction equipment. Suppressant, water spray, and other forms of dust control may be required during excavation for dust/vapor abatement. Workers would be required to use personal protective equipment to reduce exposure to COPC. Confirmation soil sampling and analysis would be conducted at the final excavation extent to verify that cleanup criteria are achieved.

Potential short-term risks to on-site workers, public health, and the environment could result from dust or particulates that may be generated during excavation and soil handling activities. These risks would be mitigated at the site using personal protective equipment for on-site workers and engineering controls, such as dust suppression; and additional traffic and equipment operating safety procedures. Excavation and off-site disposal would remove the COPC from the site, and therefore, eliminates the long-term risk.

Excavation/off-site disposal is a well-proven, readily implementable technology for the remediation of contaminated sites. Equipment and labor required for remedial excavation to relatively shallow depths are typically readily available. It is anticipated that regulatory approval would be obtained since it is a proven technology. The estimated cost for excavation, transportation, and disposal of the impacted soils would be the highest of the three alternatives. The project costs would include permitting, excavation/removal, transportation, and disposal at an approved off-site disposal facility. The remedial excavation would then be backfilled, if necessary, and the surface restored in accordance with permit conditions. Furthermore, following successful completion of remedial excavation activities to the cleanup criteria, a deed restriction would not be warranted.

5.2.2 Recommended Remedial Alternative

Stantec recommends excavation of impacted soil as the preferred remedial alternative because:

- It is the only alternative that will allow unrestricted use of the site and no requirement for a deed restriction.
- It is a proven technology with long-term effectiveness.



CONCLUSIONS AND RECOMMENDATIONS

• It should meet the cleanup requirements of the agency, property owner, and other project stakeholders.

The following sections describe the recommended general approach for the proposed additional data gap assessment using direct-push borings, and the remedial soil excavation and disposal alternative.



6.0 DATA GAP ASSESSMENT

A data gap assessment is proposed to further define the lateral and vertical extent of ACM identified from the 2017 soil assessment. This will be accomplished using a track-mounted direct-push rig to advance the proposed borings at the approximate locations shown on Figure 8. All proposed boring locations may be modified from the locations shown depending on potential surface or subsurface obstructions, topography, and access limitations. Additional "step-out" borings may be added depending on field indications of impacts and/or analytical results.

The proposed borings will be advanced to a target maximum depth of 15 feet bgs. Soil cores will be collected in acetate sample liners, and soil samples for potential laboratory analysis will be collected at approximately five-foot intervals of depth beginning within the upper five feet bgs, and/or within visually impacted horizons, to termination of the borings. All soil samples will be prepared and retained for possible laboratory analysis. The soil cores will be field screened for potential volatile organic vapors using a PID. All boring locations will be surveyed by Stantec for horizontal coordinates using a GPS unit capable of sub-meter accuracy. Soil borings will be backfilled with hydrated bentonite chips.

The soil samples will be analyzed for the following:

- TPHg, TPHd and TPHo by EPA Test Method 8015M/FFP.
- Asbestos by EPA Test Method 600/R-93/116.



7.0 CONCEPTUAL CLOSURE PLAN

7.1 REMEDIAL ACTION OBJECTIVES

The results of the site characterization have indicated the presence of COPC in soil at the site. To address these COPC, remedial action objectives have been developed based on exposure pathways, cleanup goals, and regulatory requirements.

7.1.1 Exposure Pathways

The most likely receptor for exposure to impacted soil is assumed to be onsite workers. Also, to assess unrestricted site use, future onsite residents were assumed to be exposed to the COPC in soil. Under both scenarios, potential receptors could be exposed to COPC via direct contact and inhalation of fugitive dust emissions.

7.1.2 Proposed Cleanup Goals

The proposed cleanup goals are intended to provide for unrestricted use of the property. For the purposes of this CCP, the proposed cleanup goals are the Tier I ESL for TPHo (5,100 mg/kg) and no detectable concentrations of ACM (amosite and chrysotile). Other constituents also exceeded ESLs, including BaPeq, 2,3,7,8-TCDD, cyanide, arsenic, hexavalent chromium, and nickel. Those constituents appeared closely associated with the occurrence of high TPHo concentrations. A detailed confirmation sampling plan will be prepared to address those constituents.

7.1.3 Regulatory Requirement Review

A review of pertinent laws, regulations, and other criteria was performed to identify applicable regulatory requirements to be considered for remediating the site. A summary of the potentially applicable regulatory requirements is presented below.

Requirement	Description
Resource Conservation and Recovery Act, as amended by the Hazardous and Solid Waste Amendments (40 CFR 260 to 299, 42 USC 7401-7642)	Federal act that classifies and regulates hazardous waste and facilities that treat, store, and dispose of hazardous waste.
40 CFR 264.110 and 264.117	Requirements for closing and monitoring hazardous waste management units.
40 CFR 264.250 and 42 USC 6924	Requirements that prohibit placement of certain hazardous wastes in a land disposal unit.
40 CFR 263	Standards applicable to transporters of hazardous waste.



Requirement	Description
Occupational Safety and Health Act (29 CFR 1910.120 et seq.)	Identifies permissible exposure limits (PELs) for inhalation or dermal exposure of workers to chemicals. When PELs are exceeded, OSHA requires the use of personal protective equipment or other methods to block exposure.
Endangered Species Act of 1973	Established to conserve endangered or threatened species.
Hazardous Waste Control Act (HSC, Chapter 6.5, section 25100 et seq., 22 CCR 66260.1 et seq.)	Establishes criteria for determining waste classification for the purposes of transportation and land disposal of wastes in California. Regulates treatment, storage, transportation, and disposal of substances identified as hazardous.
Hazardous Waste Generator Requirements (22 CCR 66262.1 et seq.)	Establishes standards applicable to generators of hazardous waste.
Land Disposal Restrictions (22 CCR 66268.7 et seq.)	Establishes standards for treatment and land disposal of hazardous waste.
Stockpiling Requirements for Contaminated Soil (HSC section 25123.3(a)(2)	Establishes standards for stockpiling of non-RCRA contaminated soil
California Hazardous Substances Account Act (HSC section 25340-25392)	Establishes fees regarding disposal of hazardous substances and outlines process for cleanup of hazardous substance release sites.
Asbestos Standard for the Construction Industry (29 CFR 1926.1101, 8 CCR 1529)	Regulates asbestos exposure in all work as defined in 29 CFR 1910.12(b)
Construction permit requirements (8 CCR 341)	Directs that asbestos removal work must be conducted by a DOSH- registered contractor
Hazardous Waste Haulers Act (22 CCR Chapter 30)	Governs transportation of hazardous materials in California.
Safe Drinking Water and Toxic Enforcement Act (Proposition 65) (22 CCR section 12000 et seq.)	Requires public warnings of potential exposure to suspected carcinogens and reproductive toxins.
California Occupational Health and Safety (8 CCR 5192)	Requires workers involved in hazardous substance operations associated with cleanup of sites perform the cleanup operations in accordance with Cal OSHA health and safety requirements.

The excavation and soil handling will be conducted by a qualified, HAZWOPER-trained and state certified ACM contractor.

7.1.4 Areas Exceeding Cleanup Goals

As shown in Figure 8, remedial excavation of soil with COPC concentrations exceeding the soil cleanup goals will generally be required to depths ranging from approximately 3 to 10 feet bgs. The areal extent of soil with COPC concentrations exceeding the soil cleanup goals is approximately 0.8 acres. As such, the total in-place volume of affected soil requiring remediation is approximately 13,000 cubic yards (cy). The actual volume of affected soil may change based on the results of the additional assessment and the confirmation sample laboratory analytical results.



7.2 REMEDIAL APPROACH

The following sections present the approach to implement the preferred remedial alternative. Additional details will be presented in a remedial design package and implementation plan to be prepared at a later date.

7.2.1 Pre-Construction Activities

7.2.1.1 Grading plan and Permitting

A Land Use Permit application package, including completed forms, grading plans, and required fees will be submitted to the San Luis Obispo County Department of Planning and Building (SLOPB) for review. The existing topographic survey will be reviewed and expanded as necessary to include the excavation areas and vicinity of the work areas for inclusion in the design drawings.

Accordingly, the following permits and approvals may be required for remedial excavation operations:

- Land use and grading permits from the (SLOPBD).
- General Permit for Stormwater Discharges for Construction and Land Disturbance Activities and a Stormwater Pollution Prevention Plan (SWPPP) if more than one-acre of disturbance is anticipated.
- Approval from the San Luis Obispo County Air Pollution Control District (SLOAPCD).
- Waste acceptance at the designated NIWS

7.2.1.2 Health and Safety Scope

The scope of work for the health and safety task includes the following:

- A Site-specific HASP for remedial excavation activities prepared in accordance with 29 CFR 1910.120, including a comprehensive set of Job Safety Analyses (JSAs).
- A workplan for ACM management prepared by a certified asbestos contractor.
- Preparation of a Phillips 66 Safework Execution Plan (SWEP) and Excavation Permit.
- Stewardship of Phillips 66 Safety through a dedicated full-time health and safety officer onsite during construction activities to monitor compliance with the HASP.

The HASP documents a proactive exposure assessment which identifies and aids field personnel in understanding the risks associated with the site. The HASP also outlines the proactive precautions to be taken to avoid the risks. The goal of the HASP is to complete the work onsite without any incidents at all—no injuries, no illnesses, and no impacts to the environment, property, and equipment. The subcontractors and other project participants are also expected to share the same goal. In addition, each subcontractor is expected to develop their own HASP tailored to the specific job tasks they expect to perform.

7.2.1.3 Quality Assurance/Quality Control

Stantec will prepare a Quality Assurance Project Plan (QAPP) for the NIWS project to specify the policies, organizations, functions, quality assurance (QA), and quality control (QC) activities designed to achieve data quality objectives (DQOs) for the project. The intent of the QAPP is to present the QA/QC



procedures that will be applied to data collection and analysis of soil samples to assure that the environmental data obtained are of the type and quality needed to meet the overall goals of the project. The QAPP will outline the analytical methods and associated detection limits to be used for determining concentrations of the COPC. The QAPP will be modified as necessary when guidelines and regulatory documents are revised, or when additional sampling or analytical methods are required for monitoring efforts.

7.2.1.4 Backfill Sampling

All onsite (non-remedial excavation related) and/or import sourced soil; and segregated soil from the remedial excavation for use as suitable backfill must meet the Tier 1 ESLs for petroleum hydrocarbons and asbestos concentrations at <1%.

7.2.1.5 Utility Locating

Underground Service Alert (USA) will be contacted a minimum of 48 hours prior to ground disturbance activities to arrange for underground utility locating. In addition, Stantec will utilize a private utility locator to further evaluate the presence and location of buried piping and other potential obstructions within the work area.

7.2.1.6 Notifications

Prior to the start of work, all required notifications will be made to the appropriate agencies and project stakeholders. The ACM contractor will be responsible for notifying Cal OSHA 24 hours prior to work in accordance with 8 CCR 1529.

7.2.2 Site Preparation

7.2.2.1 Site Entrance/Egress/Traffic Control

Primary access to the site will be via Willow Road. No upgrades or modifications to facilitate site entrance/egress of project vehicles are expected.

7.2.2.2 Staging and Mobilization

All necessary equipment and personnel will be mobilized to the site prior to the initiation of remedial activities. All involved parties including Stantec, Phillips 66, subcontractors, and other project stakeholders will be invited to participate in a pre-construction kickoff meeting. Prior to conducting field activities, the contractor will delineate the equipment staging areas, access routes, and temporary soil stockpile locations as necessary.

Remedial excavation activities will be conducted using conventional construction equipment. The contractor will be responsible for the ultimate selection of equipment used to complete the project in accordance with project specifications and permit requirements.



7.2.2.3 Temporary Facilities

It is anticipated that temporary facilities utilized during field activities will include sanitary facilities, a PPE trailer, and a construction office trailer.

7.2.2.4 Locating and Staking

Prior to excavation, the perimeter of the proposed excavation extent will be delineated with labeled construction flags or stakes by Stantec. The locations of the markers will be based on GPS coordinates and field measurements.

7.2.3 Excavation Methodology

7.2.3.1 Remedial Excavation

To optimize removal of impacted soil, it is proposed to excavate soil to the prescribed depth at the remediation area and verify lateral removal to the applicable cleanup goal using conventional excavation equipment. Prior to excavation, any surface obstructions and/or materials that may impede remedial activities will be removed, as necessary. Soil samples will then be collected at the excavation bottom and, based on those results and to confirm previous site assessment data, the remaining material above the applicable cleanup goal will be removed to the prescribed depths at each site (see Section 7.2.6.1). The excavation will be backfilled with a combination of native soil and imported backfill (as needed) and restored (see Section 7.2.7)

Qualified field personnel will be onsite to direct excavation activities, conduct air monitoring, collect confirmation samples; and provide health and safety oversight. Impacted soil will be temporarily stockpiled in staging areas near the excavations and moistened with water, have a cement binder applied, or covered as needed for dust and emissions control.

7.2.3.2 Excavation Volume and Extent

The estimated volume of impacted soil designated for removal, based on the proposed cleanup goals, is approximately 13,000 cy with excavation depths ranging from approximately 3 to 10 feet bgs. The total areal extent of disturbance is approximately 0.8 acres including removal of impacted soils and excavation side sloping. The excavation could expand laterally and/or vertically in some areas based on field indications of impacts or laboratory analytical results. Depending on moisture content and the presence of fine-grained sediment binders, the excavation areas are anticipated be sloped at a minimum slope of 1:1 to provide appropriate stability in accordance with Cal-OSHA regulations. Work is anticipated to be conducted during weekday, normal daylight hours.

7.2.3.3 Soil Loading and Transportation for Offsite Disposal

During the remedial design phase of the project, Stantec will evaluate waste transport and disposal options for impacted soil. Waste management options may include transportation by rail and/or truck and disposal at either an in-state or out-of-state facility.



Some soil may need to be stockpiled onsite prior to loading. If any temporary stockpiling outside the area of concern is necessary, the contractor shall design and operate the remediation waste staging area in compliance with the regulations set forth in HSC Section 25123.3. If necessary, a separate document describing the design and operation of the remediation waste staging area will be prepared and submitted.

7.2.3.4 Dust Control Measures

The ACM contractor will implement dust control measures to comply with Air Permit requirements to protect on-site and off-site receptors from chemicals and ACM in soil and nuisance dust. The ACM contractor will be responsible for selecting the dust suppression methods that may include spraying or misting the work areas (such as the excavation, soil handling areas and haul roads) with water and/or installing a misting system. Misting may also be used on soil placed in the transport trucks or rail cars. Efforts will be made to minimize the soil drop height from the excavator's bucket onto the soil stockpile or into the transport trucks or rail cars. After the soil is loaded, the soil will be covered prior to transport.

7.2.4 Air Monitoring

Air monitoring activities will be conducted in the work zone and perimeter during drilling and excavation activities. Airborne particulate monitoring will be conducted to verify and document the effectiveness of dust suppression measures in conformance with Air Permit requirements. Air monitoring for particulates will be performed during the excavation activities at the perimeter of the property using an upwind/downwind sampling approach. The limit on dust and ACM concentrations at the property boundaries will comply with permit conditions and health and safety requirements.

Periodic real time particulate measurements will be obtained in the working zone in accordance with the HASP. Personal air sampling for ACM will be conducted in the workers breathing zone in accordance with the asbestos management plan and HASP. VOCs are not expected to be encountered at significant concentrations during excavation activities based previous site investigations. Air monitoring, however, will be conducted using a PID during excavation and soil handling activities as specified in the HASP.

7.2.5 Waste Management

7.2.5.1 Water

Water use during field activities includes dust control, soil moisture conditioning, and equipment decontamination. Handling and disposal of any water generated during equipment decontamination will be addressed in the ACM management plan.

7.2.5.2 Impacted Soil

Following waste acceptance profiling, the impacted soil will be transported under waste manifest by licensed haulers to an approved and permitted recycling/disposal facility to be selected prior to commencement of remedial excavation activities.



7.2.5.3 General Waste and Debris

Miscellaneous waste material generated during the project may include PPE, disposable sampling equipment, and other solid media. Miscellaneous waste material generated during field activities will be addressed in the asbestos management plan.

7.2.6 Confirmation Sampling and Analysis

During remedial excavation activities, verification soil sampling will be conducted by Stantec to document the final extent of the excavation. Samples will be collected from excavated soil obtained from the excavation bottom and sidewalls either directly or using the onsite excavator operated by the contractor. Soil samples will then be collected in laboratory supplied jars and submitted for laboratory analysis.

7.2.6.1 Soil Sample Collection

Discrete soil sampling of the excavation extent will be conducted as follows:

- Bottom Samples One sample collected per 50 x 50-foot grid.
- Sidewall Samples One sample collected every 50 linear feet.

Soil samples will be placed on ice for transport, along with completed chain-of-custody forms, to a laboratory certified under the State of California Environmental Laboratory Accreditation Program. All sampling equipment will be properly decontaminated prior to sampling and between sampling intervals to minimize the possibility of cross-contamination.

7.2.6.2 Soil Sample Analysis

All soil verification samples will be analyzed for TPHo and ACM (amosite and chrysotile). Selected verification samples will be further analyzed for dioxins and furans; PAH; cyanide; Title 22 metals; and hexavalent chromium. Analytical methods and associated detection limits will be outlined in the QAPP.

7.2.7 Backfilling and Site Restoration

Depending on final excavation conditions and/or permit requirements, backfilling of some of the areas may be necessary. Backfilling and compaction requirements will be included as part of the Grading Plan to be prepared as part of the Land Use Application package.

The surface of all areas will be graded to match the design final grade. All trash and debris generated during remediation activities will be removed from the site. Required habitat restoration will be addressed in a separate Habitat Restoration Plan.

7.2.8 Post-Excavation Monitoring

Inspection of the Best Management Practices (BMP) for interim erosion controls, backfill and revegetation will be conducted in accordance with the SWPPP and permit conditions to evaluate effectiveness and performance. Potential erosion and sedimentation may occur from the restored slope areas following site restoration activities and prior to the establishment of vegetation. Based on the results of these



inspections, recommendations for BMP maintenance, repair, or replacement of the erosion controls, vegetation and/or backfill will be provided.

7.3 REPORT PREPARATION

A comprehensive source area excavation Completion Report will be generated by Stantec following the site remediation activities. This report will describe the specific actions that were conducted to complete the source area excavation work. The report will document the following activities:

- Scope of work and project background.
- Remedial excavation methodology, quantities, and extent.
- Air monitoring results.
- Confirmation soil sampling and analyses.
- Soil transportation and disposal.
- Site restoration

7.3.1 Analytical Data

Analytical data will be generated by the project laboratory and laboratory analytical reports will be provided in an appendix of the report. Summary tables will be generated presenting the final analytical results.

7.3.2 Waste Manifests

Appropriate manifest documentation will be generated for waste shipped offsite for disposal. Signed waste manifests will be provided in an appendix of the report. A summary table referencing manifest number, waste material quantity, disposal or recycling facility, and date of disposal will be generated. The waste disposal facility will be responsible for providing Stantec waste disposal documentation.

7.4 PROJECT RECORDS CONTROL

A detailed project records file will be maintained onsite at all times. Records may include but not be limited to:

- Equipment calibration logs.
- Field equipment forms.
- Field production rates.
- Chain-of Custody documentation.
- Near miss forms.
- Health and safety, incident, accident, and personnel injury forms.
- · Daily tailgate meeting forms.
- Soil transportation manifests.
- Site activity reports

The contractor will furnish copies of all appropriate records to Stantec field personnel prior to leaving the Site each day. It will be Stantec's responsibility to establish and maintain these records throughout the duration of the project.



8.0 REFERENCES

CCR 22, California Code of Regulations, Title 22, Chapter 11, Article 3.

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Land Conservancy, 2017. Nipomo Lupine 2017 Survey Update. San Luis Obispo Land Conservancy.

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USGS, 2013. Topographic map (Oceano quadrangle), 2013 update. United States Geological Service



TABLES



Table 1 Soil Analytical Results - Total Petroleum Hydrocarbons and BTEX Northern Inactive Waste Site Phillips 66 Santa Maria Refinery (all results in milligrams per kilogram)

Sample ID	Depth (feet)	Sample Date	TPH Gasoline (C4-C12)	TPH Diesel (C13-C22)	TPH Motor Oil (C23-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes
HA-20	1	9/26/2017	<20	<10	<20				
HA-20	3	9/26/2017	<20	<10	7.0 J				
HA-20	8	9/26/2017	<20	<10	6.6 J				
HA-20	10	10/2/2017	<20	<10	<20				
HA-20 HA-20	15 18	10/2/2017 10/2/2017	<20 <20	<10 <10	<20 <20				
HA-20	20	10/2/2017	<20	<10	<20				
HA-21	1	9/26/2017	<20	<10	190				
HA-21	3	9/26/2017	<20	<10	190				
HA-21	8	9/26/2017	<20	<10	25				
HA-22	1	9/26/2017	<40	<20	480				
HA-22	3	9/26/2017	<20	<10	280				
HA-22	5	9/26/2017	<20	<10	65				
HA-22	8	9/26/2017	<20	<10	22				
HA-23	1	9/26/2017	<20	<10	92				
HA-23	3	9/26/2017	<20	<10	19 J				
HA-23	8	9/26/2017	<20	<10	10 J				
HA-24	1	9/25/2017	<430	<210	3,100				
HA-24	3	9/25/2017	<460	<230	2,000				
HA-24	5	9/25/2017	<40	<20	400				
HA-24	8	9/26/2017	<20	<10	20				
HA-25	1	9/25/2017	<400	<200	<400				
HA-25 HA-25	5	9/25/2017 9/25/2017	<430 <460	<210 <230	1,800 510	-			
HA-25	8	9/25/2017	<20	<10	39	<u></u>			
HA-26	1	9/25/2017	<2700	<1400	13,000	<0.005	<0.005	0.0024 J	0.0089 J
HA-26	3	9/25/2017	<430	<210	210 J				
HA-26	5	9/25/2017	<20	<10	38				
HA-26	8	9/25/2017	<20	<10	44				
HA-26	10	10/4/2017	<20	<10	<20				
HA-26	13	10/4/2017	<20	<10	<20				
HA-26	15	10/4/2017	<20	<10	<20				
HA-26	20	10/4/2017	<20	<10	<20				
HA-27	1	9/25/2017	<400	<200	2,300				
HA-27	3	9/25/2017	<430	<210	2,300				
HA-27	5	9/25/2017	<20	<10	210				
HA-27	8	9/25/2017	<20	<10	30				
HA-28 HA-28	3	9/22/2017 9/25/2017	<20 <20	<10 <10	<20 <20				
HA-28	5	9/25/2017	<20	<10	<20	-			
HA-28	8	9/25/2017	<20	<10	<20				
HA-29	1	9/22/2017	<320	<160	420				
HA-29	3	9/22/2017	<20	<10	73				
HA-29	6	9/22/2017	<20	<10	42				
HA-29	8	9/22/2017	<20	<10	16 J				
HA-30	1	9/22/2017	<430	<210	1,500				
HA-30	3	9/22/2017	<460	<230	3,200				
HA-30	5	9/22/2017	<20	<10	18 J				
HA-30	8	9/22/2017	<20	<10	23				
HA-31	1.5	9/22/2017	<380	<190	2,600				
HA-31	3	9/22/2017	<1700	<830	7,300				-
HA-31	5	9/22/2017	<20	<10	180	-			
HA-31	8	9/22/2017	<20	<10	170	<u></u>			
HA-32(1)	1	9/21/2017	<3000	7,400	11,000	<0.005	0.0018 J	<0.005	<0.01
HA-32(3)	3	9/21/2017	<1000	<500	6,000	-			
HA-32(3)	5	9/21/2017	<1200	3,600	9,800				
HA-32(a)	1	9/29/2017	<20	<10	290				
HA-32(a)	3	9/29/2017	<40	<20	200				
HA-32(b)	3	9/29/2017	<20	<10	140				
HA-32(b)	5	9/29/2017	<20	<10	<20				
HA-32(b)	8	9/29/2017	<20	<10	27	-			
HA-32(b)	10	10/3/2017	<20	<10	<20				
HA-32(b)	15	10/3/2017	<20	<10	23				
HA-32(b)	19	10/3/2017	<20	<10	<20				
HA-32(b)	20	10/3/2017	<20	<10	<20				
HA-33	1	9/21/2017	<20	<10	69				

Table 1 Soil Analytical Results - Total Petroleum Hydrocarbons and BTEX Northern Inactive Waste Site Phillips 66 Santa Maria Refinery (all results in milligrams per kilogram)

	1		1								
Sample ID	Depth (feet)	Sample Date	TPH Gasoline (C4-C12)	TPH Diesel (C13-C22)	TPH Motor Oil (C23-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes		
HA-33	3	9/21/2017	<20	<10	<20						
HA-33	5	9/21/2017	<20	<10	<20						
HA-33	8	9/22/2017	<20	<10	<20						
HA-34	2	9/20/2017	<20	<10	12 J						
HA-34	4	9/20/2017	<20	<10	<20						
HA-34	6	9/20/2017	<20	<10	17 J						
HA-34	8	9/20/2017	<20	<10	10 J						
HA-34	10	10/3/2017	<20	<10	<20						
HA-34	15	10/3/2017	<20	<10	<20						
HA-34	18	10/3/2017	<20	<10	<20						
HA-34	20	10/3/2017	<20	<10	<20						
HA-34	25	10/3/2017	<20	<10	<20						
HA-35	1	9/27/2017	<20	<10	<20						
HA-35	3	9/27/2017	<20	<10	<20						
HA-35	5	9/27/2017	<20	<10	<20						
HA-35	8	9/27/2017	<20	<10	<20						
HA-36	1	9/26/2017	<40	<20	310						
HA-36	3	9/26/2017	<20	<10	28						
HA-36	8	9/26/2017	<20	<10	7.4 J						
HA-36	8*	10/3/2017	<20	<10	25						
HA-36	10	10/3/2017	<20	<10	<20						
HA-36	15	10/3/2017	<20	<10	<20						
HA-36	20	10/3/2017	<20	<10	<20						
HA-37	1	9/20/2017	<600	<300	4,100						
HA-37	3	9/20/2017	<400	<200	1,900	-					
HA-37	4	9/20/2017	<600	<300	5,800						
HA-37	6	9/20/2017	<600	<300	5,300						
HA-37	8	9/20/2017	<1000	<500	11,000	0.0025 J	0.0045 J	0.0022 J	0.0077 J		
HA-37	9	9/20/2017	<12000	<6000	82,000	-					
HA-37	9*	10/3/2017	<20	<10	22						
HA-37(a)	1	10/4/2017	<710	<350	5,600						
HA-37(a)	3	10/4/2017	<40	<20	320						
HA-37(a)	5	10/4/2017	<330	<170	3,900	< 0.005	< 0.005	<0.005	<0.01		
HA-37(a)	10	10/4/2017	<20	<10	14 J						
HA-37(a)	15	10/4/2017	<20	<10	<20						
HA-37(a)	20	10/4/2017	<20	<10	<20						
HA-38	1	9/20/2017	<40	<20	340						
HA-38	3	9/20/2017	<20	<10	42						
HA-39	1	9/27/2017	<800	<400	6,900						
HA-39	3	9/28/2017	<280	<140	1,600						
HA-39	5	9/28/2017	<290	<150	1,200						
HA-39	8	9/28/2017	<20	<10	210						
HA-39	10		<20	<10	<20						
HA-39	15	10/5/2017 10/5/2017		<10	<20						
			<20			-					
HA-39	20	10/5/2017	<20	<10	<20						
HA-40	1	9/27/2017	<20	<10	9.1 J						
HA-40	3	9/27/2017	<20	<10	<20						
HA-40	8	9/27/2017	<20	<10	<20						
HA-40	10	10/5/2017	<20	<10	<20						
HA-40	20	10/5/2017	<20	<10	<20						
HA-41	1	9/27/2017	<20	<10	22						
HA-41	3	9/27/2017	<20	<10	<20						
HA-41	8	9/27/2017	<20	<10	<20	-					
HA-41	10	10/5/2017	<20	<10	<20	-					
HA-41	20	10/5/2017	<20	<10	<20						
HA-41	25	10/5/2017	<20	<10	<20						
HA-42	1	9/28/2017	<20	<10	22						
HA-42	3	9/28/2017	<20	<10	36						
HA-42	8	9/28/2017	<20	<10	<20						
HA-42	10	10/2/2017	<20	<10	12 J						
HA-42	12.5	10/2/2017	<20	<10	<20						
HA-42	15	10/2/2017	<20	<10	<20						
· · · · · -	1	1	1				I	1	1		

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Table 1 Soil Analytical Results - Total Petroleum Hydrocarbons and BTEX Northern Inactive Waste Site Phillips 66 Santa Maria Refinery (all results in milligrams per kilogram)

Sample	Depth (feet)	Sample	TPH Gasoline	TPH Diesel	TPH Motor Oil				
ID		Date	(C4-C12)	(C13-C22)	(C23-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes
HA-42	18.5	10/2/2017	<20	<10	<20				
HA-42	20	10/2/2017	<20	<10	<20				
HA-42	25	10/2/2017	<20	<10	<20				
HA-43	1	9/28/2017	<20	<10	67				
HA-43	3	9/28/2017	<20	<10	<20				
HA-43	8	9/28/2017	<20	<10	<20				
HA-43	9	10/4/2017	<20	<10	62				
HA-43	15	10/4/2017	<20	<10	<20				
HA-43	20	10/4/2017	<20	<10	<20				
HA-44	1	9/28/2017	<20	<10	<20				
HA-44	3	9/28/2017	<20	<10	<20				
HA-44	8	9/28/2017	<20	<10	<20				
HA-44	10	10/4/2017	<20	<10	<20				
HA-44	15	10/4/2017	<20	<10	<20				
HA-45	1	9/29/2017	<20	<10	<20				
HA-45	3	9/29/2017	<20	<10	<20				
HA-45	8	9/29/2017	<20	<10	8.4 J				
HA-45	10	10/4/2017	<20	<10	<20				
HA-45	15	10/4/2017	<20	2.6 J	<20				
HA-45	20	10/4/2017	<20	1.5 J	<20				
HA-46	1	9/28/2017	<20	<10	160				
HA-46	3	9/28/2017	<20	<10	<20				
HA-46	8	9/28/2017	<20	<10	<20				
HA-46	10	10/3/2017	<20	<10	6.9 J				
HA-46	15	10/3/2017	<20	<10	<20				
HA-46	20	10/3/2017	<20	<10	<20				
HA-47	1	9/29/2017	<20	<10	<20				
HA-47	3	9/29/2017	<20	<10	<20				
HA-47	8	9/29/2017	<20	<10	<20				
HA-47	10	10/2/2017	<20	<10	<20				
HA-47	15	10/2/2017	<20	<10	<20				
HA-47	20	10/2/2017	<20	<10	<20				
HA-47	23	10/2/2017	<20	<10	<20				
HA-47	1	9/29/2017	<20	<10	<20	-			
HA-48	3	9/29/2017	<20	<10	<20	-			
HA-48	8	9/29/2017	<20	<10	<20	<u>-</u>			
HA-48	10	10/3/2017	<20	<10	15 J	-			
HA-48	15	10/3/2017	<20	<10	<20	<u>-</u>			
HA-48	18	10/3/2017	<20	<10	<20				
HA-48	20	10/3/2017	<20	<10 <10	<20				
HA-49		10/4/2017	<20		27				
HA-49	3	10/4/2017	<20	<10		<20			
HA-49	5	10/4/2017	<20	<10	<20				
HA-49	10	10/5/2017	<20	<10	<20				
HA-49			<20	<10	<20				
	TIER 1 ESLs	<u> </u>	100	230	5,100	0.044	2.9	1.4	2.3
	TTLC					0.50			

Notes:

TPH: Total Petroleum Hydrocarbons, EPA Method 8015B/FFP

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes; EPA Method 8260B

Bold: Detected concentration

J: Estimated value. Analyte detected at a level less than the Practical Quantitation Limit and greater than or equal to the Method Detection Limit.

<##: Less than the Practical Quantitation Limit

#* : Sample collected from direct push equipment

--: Not Analyzed

-Exceeds Tier 1 ESL

Tier 1 ESLs: Environmental Screening Limits

TTLC: Total Threshold Limit Concentration

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Commis ID	Domth	Comple Date	Amazita	Ohmer etile
Sample ID	Depth	Sample Date	Amosite	Chrysotile
HA-20	1	9/26/2017	ND	ND
HA-20	3	9/26/2017	ND	ND
HA-20	5	9/26/2017	ND	ND
HA-20	8	9/26/2017	ND	ND
HA-20	10	10/2/2017	ND	ND
HA-21	1	9/26/2017	<1%	ND
HA-21	3	9/26/2017	ND	ND
HA-21	5	9/26/2017	ND	ND
HA-21	8	9/26/2017	ND	ND
HA-22	1	9/26/2017	2%	ND
HA-22	3	9/26/2017	3%	ND
HA-22	5	9/26/2017	<1%	ND
HA-22	8	9/26/2017	<1%	ND
HA-23	1	9/26/2017	ND	ND
HA-23	3	9/26/2017	ND	ND
HA-23	5	9/26/2017	ND	ND
HA-23	8	9/26/2017	ND	ND
HA-24	1	9/25/2017	<1%	ND
HA-24	3	9/25/2017	<1%	ND
HA-24	5	9/25/2017	<1%	ND
HA-24	8	9/26/2017	ND	ND
HA-25	1	9/25/2017	ND	<1%
HA-25	3	9/25/2017	ND	<1%
HA-25	5	9/25/2017	ND	<1%
HA-25	8	9/25/2017	ND	<1%
HA-26	1	9/25/2017	ND	<1%
HA-26	3	9/25/2017	ND	<1%
HA-26	5	9/25/2017	ND	<1%
HA-26	8	9/25/2017	ND	<1%
HA-26	10	10/4/2017	ND	ND
HA-26	13	10/4/2017	ND	ND
HA-26	15	10/4/2017	ND	ND
HA-27	1	9/25/2017	ND ND	<1%
HA-27	3	9/25/2017	ND ND	<1%
HA-27	5	9/25/2017	ND ND	ND
HA-27	8	9/25/2017	ND ND	<1%
HA-28 HA-28	3	9/22/2017	ND ND	<1% <1%
HA-28	5	9/25/2017	ND ND	<1%
HA-28	8	9/25/2017	ND	ND
HA-29	1	9/22/2017	ND ND	<1%
HA-29	3	9/22/2017	ND ND	<1%
HA-29	6	9/22/2017	ND	<1%

Sample ID	Depth	Sample Date	Amosite	Chrysotile
HA-29	8	9/22/2017	ND	<1%
HA-30	1	9/22/2017	ND	<1%
HA-30	3	9/22/2017	ND	<1%
HA-30	5	9/22/2017	ND	<1%
HA-30	8	9/22/2017	ND	<1%
HA-31	1.5	9/22/2017	ND	<1%
HA-31	3	9/22/2017	ND	<1%
HA-31	5	9/22/2017	ND	<1%
HA-31	8	9/22/2017	ND	<1%
HA-32(1)	1	9/21/2017	ND	ND
HA-32(3)	3	9/21/2017	ND	<1%
HA-32(3)	5	9/21/2017	ND	ND
HA-32(a)	1	9/29/2017	ND	ND
HA-32(a)	3	9/29/2017	<1%	<1%
HA-32(b)	3	9/29/2017	ND	ND
HA-32(b)	5	9/29/2017	ND	ND
HA-32(b)	8	9/29/2017	ND	ND
HA-32(b)	10	10/3/2017	ND	ND
HA-32(b)	15	10/3/2017	ND	ND
HA-33	1	9/21/2017	ND	ND
HA-33	3	9/21/2017	ND	ND
HA-33	5	9/21/2017	ND	ND
HA-33	8	9/22/2017	ND	ND
HA-34	2	9/20/2017	ND	ND
HA-34	4	9/20/2017	ND	ND
HA-34	6	9/20/2017	ND	ND
HA-34	8	9/20/2017	ND	ND
HA-34	10	10/3/2017	ND	ND
HA-35	1	9/27/2017	ND	ND
HA-35	3	9/27/2017	ND	ND
HA-35	5	9/27/2017	ND	ND
HA-35	8	9/27/2017	ND ND	ND
HA-36	1	9/26/2017	ND	ND
HA-36	3	9/26/2017	<1%	ND ND
HA-36	5	9/26/2017	ND ND	ND
HA-36	8	9/26/2017	ND	ND
HA-36	8*	10/3/2017	ND ND	ND
HA-36	10	10/3/2017	ND ND	ND F09/
HA-37-Insulation	1	9/20/2017	ND ND	50%
HA-37	1	9/20/2017	ND ND	ND ND
HA-37	3	9/20/2017	ND ND	ND ND
HA-37	4	9/20/2017	ND ND	ND ND
HA-37	6	9/20/2017	ND	ND

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Sample ID	Depth	Sample Date	Amosite	Chrysotile
HA-37	8	9/20/2017	ND	ND
HA-37	9	9/20/2017	2%	ND
HA-37	9*	10/3/2017	ND	ND
HA-37(a)	1	10/4/2017	ND	2%
HA-37(a)	3	10/4/2017	ND	ND
HA-37(a)	5	10/4/2017	ND	<1%
HA-37(a)	10	10/4/2017	ND	ND
HA-37(a)	15	10/4/2017	ND	ND
HA-38	1	9/20/2017	ND	ND
HA-38	3	9/20/2017	ND	ND
HA-39	1	9/27/2017	<1%	2%
HA-39	3	9/28/2017	ND	<1%
HA-39	5	9/28/2017	ND	<1%
HA-39	8	9/28/2017	ND	<1%
HA-39	10	10/5/2017	ND	ND
HA-39	15	10/5/2017	ND	ND
HA-40	1	9/27/2017	ND	ND
HA-40	3	9/27/2017	ND	ND
HA-40	5	9/27/2017	ND	ND
HA-40	8	9/27/2017	ND	ND
HA-41	1	9/27/2017	ND	ND
HA-41	3	9/27/2017	ND	ND
HA-41	5	9/27/2017	ND	ND
HA-41	8	9/27/2017	ND	ND
HA-42	1	9/28/2017	ND	<1%
HA-42	3	9/28/2017	ND	<1%
HA-42	5	9/28/2017	ND	ND
HA-42	8	9/28/2017	ND	ND
HA-42	10	10/2/2017	ND	ND
HA-43	1	9/28/2017	ND	<1%
HA-43	3	9/28/2017	ND	<1%
HA-43	5	9/28/2017	ND	ND
HA-43	8	9/28/2017	ND	<1%
HA-44	1	9/28/2017	ND	<1%
HA-44	3	9/28/2017	ND	<1%
HA-44	5	9/28/2017	ND	ND
HA-44	8	9/28/2017	ND	ND
HA-44	10	10/4/2017	ND	ND
HA-45	1	9/29/2017	ND ND	ND
HA-45	3	9/29/2017	ND ND	ND ND
HA-45	8	9/29/2017	ND	ND
HA-46	1	9/28/2017	ND ND	<1%
HA-46	3	9/28/2017	ND	<1%

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Sample ID	Depth	Sample Date	Amosite	Chrysotile
HA-46	5	9/28/2017	ND	ND
HA-46	8	9/28/2017	ND	<1%
HA-46	10	10/3/2017	ND	ND
HA-46	15	10/3/2017	ND	ND
HA-47	1	9/29/2017	ND	ND
HA-47	3	9/29/2017	ND	ND
HA-47	5	9/29/2017	ND	ND
HA-47	8	9/29/2017	ND	ND
HA-47	10	10/2/2017	ND	ND
HA-48	1	9/29/2017	ND	ND
HA-48	3	9/29/2017	ND	ND
HA-48	5	9/29/2017	ND	ND
HA-48	8	9/29/2017	ND	ND
HA-48	10	10/3/2017	ND	ND
HA-49	1	10/4/2017	ND	ND
HA-49	3	10/4/2017	ND	ND
HA-49	5	10/4/2017	ND	ND
HA-49	10	10/5/2017	ND	ND
	TTLC		1%	1%

Notes:

EPA Method 600/R-93/116 **Bold**: Detected concentration

ND: Not-detected

-Exceeds TTLC of 1%

 $\#^*$: Sample collected from direct push equipment

TTLC: Total Threshold Limit Concentration

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Table 3 Soil Analytical Results - Volatile Organic Compounds Northern Inactive Waste Site Phillip 66 Santa Maria Refinery

Sample ID	Depth	Sample Date	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloro-1,2,2- trifluoroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3- chloropropane	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane
HA-26	1.00	9/25/2017	<0.005	<0.005	<0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.005	0.0079	<0.005	<0.005	< 0.005	<0.005
HA-32(1)	1.00	9/21/2017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
HA-37	8.00	9/20/2017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0072	<0.005	<0.005	<0.005	<0.005
HA-37(a)	5.00	10/4/2017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TIER 1 ESLs		SLs	0.010	7.8	0.018		0.070	0.20	0.55				1.5		0.0045	0.00033	1.6	0.0045
TTLC								0.7									0.5	

Table 3 Soil Analytical Results - Volatile Organic Compounds Northern Inactive Waste Site Phillip 66 Santa Maria Refinery (all results in miligrams per kilogram)

Sample ID	Depth	Sample Date	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	4-Chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene
HA-26	1.00	9/25/2017	<0.005	0.0047 J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
HA-32(1)	1.00	9/21/2017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
HA-37	8.00	9/20/2017	<0.005	0.0030 J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0025 J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
HA-37(a)	5.00	10/4/2017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Т	TER 1 ES	SLs	0.12		7.4		0.59				0.044			0.52	1.7	0.30	0.048	1.5
	TTLC				_		7.5				0.5						0.5	100

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Table 3 Soil Analytical Results - Volatile Organic Compounds Northern Inactive Waste Site Phillip 66 Santa Maria Refinery (all results in miligrams per kilogram)

Sample ID	Depth	Sample Date	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	Methyl t-butyl ether	Methylene chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene
HA-26	1.00	9/25/2017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0024 J	<0.005	0.0019 J	<0.005	<0.01	<0.005	<0.005	0.0019 J
HA-32(1)	1.00	9/21/2017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005
HA-37	8.00	9/20/2017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0022 J	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005
HA-37(a)	5.00	10/4/2017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00054 J	<0.01	<0.005	<0.005	<0.005
T	IER 1 ES	SLs	1.1	0.068	29	0.19		3.8			1.4	0.68		0.023	0.077	0.033		
	TTLC																	

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Table 3 Soil Analytical Results - Volatile Organic Compounds Northern Inactive Waste Site Phillip 66 Santa Maria Refinery (all results in miligrams per kilogram)

Sample ID	Depth	Sample Date	o-Xylene	p- & m-Xylenes	p-Isopropyltoluene	sec-Butylbenzene	Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	Total Xylenes	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride
HA-26	1.00	9/25/2017	0.0048 J	0.0040 J	0.0025 J	0.0017 J	<0.005	<0.005	<0.005	<0.005	0.0089 J	<0.005	<0.005	<0.005	<0.005	<0.005
HA-32(1)	1.00	9/21/2017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0018 J	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005
HA-37	8.00	9/20/2017	0.0034 J	0.0043 J	0.0018 J	<0.005	<0.005	<0.005	<0.005	0.0045 J	0.0077 J	<0.005	<0.005	<0.005	<0.005	<0.005
HA-37(a)	5.00	10/4/2017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Т	IER 1 ES	SLs					1.5		0.42	2.9	2.3	0.67		0.46		0.0082
	TTLC								0.7					0.5		0.2

Notes:

EPA Method 8260B

Bold: Detected concentration

J: Estimated value. Analyte detected at a level less than the Practical Quantitation Limit and greater than or equal to the Method Detection Limit.

<##: Less than the Practical Quantitation Limit</p>

-Exceeds Tier 1 ESL

Tier 1 ESLs: Environmental Screening Limits
TTLC: Total Threshold Limit Concentration

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Table 4 Soil Analytical Results - Polynuclear Aromatic Hydrocarbons Northern Inactive Waste Site Phillips 66 Santa Maria Refinery (all results in milligrams per kilogram)

Sample ID	Depth	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)Pyrene	Naphthalene	Phenanthrene	Pyrene	BaPeq
HA-26	1	9/25/2017	<0.90	<0.90	1.8	1.5	1.6	<0.90	3.7	<0.90	3.1	<0.90	<0.90	< 0.90	<0.90	2.6	1.5	<0.90	1.8
HA-32(1)	1	9/21/2017	0.80	<0.60	1.6	4.1	4.6	4.9	2.9	0.60	9.5	2.0	1.0	1.1	1.0	3.1	4.5	5.0	7.6
HA-37	8	9/20/2017	<0.59	<0.59	<0.59	0.46 J	<0.59	<0.59	0.40 J	<0.59	0.86	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	0.046
HA-37(a)	5	10/4/2017	<0.64	<0.64	5.8	14	8.9	9.9	9.9	1.3	13	6.5	1.6	1.8	3.3	3.6	7.4	9.7	18.1
	TIER 1 ESL	s	16	13	2.8	0.16	0.016	0.16	2.5	1.6	3.8	0.016	60	8.9	0.16	0.023	11	85	0.016

Notes:

EPA Method 8270C-SIM

Bold: Detected concentration

J: Estimated value. Analyte detected at a level less than the Practical Quantitation Limit and greater than or equal to the Method Detection Limit.

<##: Less than the Practical Quantitation Limit

-Exceeds Tier 1 ESL

Tier 1 ESLs: Environmental Screening Limits

Table 5 Soil Analytical Results - Dioxins and Furans **Northern Inactive Waste Site Phillips 66 Santa Maria Refinery** (all results in picograms per gram)

Sample ID	Depth	Sample Date	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF
HA-26	1	9/25/2017	1,940	218	14.9	8.05	5.35	42.4	4.52 J	21.8	<0.799	14.4	1.04 J	6.85	1.47 J
HA-26	3	9/25/2017	215	24.7	1.73 J	0.857 J	0.616 J	4.61 J	0.540 J	2.82 J	<0.325	1.50 J	<0.217	0.814 J	<0.243
HA-32(1)	1	9/21/2017	7,230	956	57.6	17.7	21.5	140	13.9	59.1	4.44 J	23.3	2.11 J	25.8	3.33 J
HA-37	8	9/20/2017	405	49	3.93 J	1.73 J	1.21 J	7.16	0.911 J	4.23 J	<0.478	1.73 J	<0.271	1.56 J	0.553 J
HA-37(a)	5	10/4/2017	634	57.5	6.02 J	5.99 J	2.36 J	19.3	2.10 J	18.9	3.36 J	9.35	<1.88	3.29 J	<1.94
HA-37(a)	10	10/4/2017	0.847 J	< 0.335	<0.322	<0.291	<0.360	<0.309	< 0.346	<0.275	<0.387	<0.218	<0.196	< 0.357	<0.206
T	IER 1 ESL	.s						_				_			
	TTLC														

Table 5 Soil Analytical Results - Dioxins and Furans Northern Inactive Waste Site Phillips 66 Santa Maria Refinery (all results in picograms per gram)

Sample ID	Depth	Sample Date	2,3,7,8-TCDD	2,3,7,8-TCDF	освр	осрғ	Total HpCDD	Total HpCDF	Total HxCDD	Total HxCDF	Total PeCDD	Total PeCDF	Total TCDD	Total TCDF	Dioxin TEQ
HA-26	1	9/25/2017	6.34	0.575 J	31,600	1,510	3,900	1,060	266	200	68.8	29.9	24.9	9.48	62
HA-26	3	9/25/2017	0.636 J	<0.134	3,090	161	428	115	28.6	20.9	7.37	2.61 J	1.40	0.493 J	6.6
HA-32(1)	1	9/21/2017	10.3	3.07	104,000	7,190	14,000	4,910	696	841	128	117	57.4	36.4	179
HA-37	8	9/20/2017	1.07	<0.192	6,670	336	820	237	43.9	37.8	9.68	5.71	2.64	1.29	11
HA-37(a)	5	10/4/2017	4.94	<1.14	7,040	442	1,150	319	144	57.5	59.4	5.20 J	27.3	<1.14	29
HA-37(a)	10	10/4/2017	<0.187	<0.138	5.25 J	<0.55	1.77 J	<0.335	<0.309	<0.387	<0.218	<0.206	<0.187	<0.138	0.01
1	TER 1 ESI	.s	4.9												4.9
	TTLC		10,000												

Notes:

EPA Method 8290

Bold: Detected concentration

J - Estimated value. Analyte detected at a level less than the Practical Quantitation Limit and greater than or equal to the Method Detection Limit.

<##: Less than the Practical Quantitation Limit</pre>

-Exceeds Tier 1 ESL

Tier 1 ESLs: Environmental Screening Limits

TTLC: Total Threshold Limit Concentration

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Table 6 Soil Analytical Results - Chlorinated Herbicides Northern Inactive Waste Site Phillips 66 Santa Maria Refinery (all results in milligrams per kilogram)

Sample ID	Depth	Sample Date	2,4,5-T	2,4,5-TP (Silvex)	2,4-D	2,4-DB	Dalapon	Dicamba	Dichloroprop	Dinoseb
HA-26	1	9/25/2017	<0.082	<0.082	<0.55	<1.1	<1.4	<0.055	<0.55	<0.19
HA-32(1)	1	9/21/2017	<0.26	<0.26	<1.8	<3.5	<4.4	<0.18	<1.8	<0.62
HA-37	8	9/20/2017	<0.090	<0.090	<0.6	<1.2	<1.5	<0.060	<0.60	<0.21
HA-37(a)	5	10/4/2017	<0.30	<0.30	<2.0	<4.0	<5.0	<0.20	<2.0	<0.70
TTLC				10						

Notes:

EPA Method 8151A

Bold: Detected concentration

<##: Less than the Practical Quantitation Limit</p>
TTLC: Total Threshold Limit Concentration

Table 7 Soil Analytical Results - Organo-Phosphorus Pesticides Northern Inactive Waste Site Phillip 66 Santa Maria Refinery (all results in miligrams per kilogram)

Sample ID	Depth	Sample Date	Azinphos methyl	Bolstar	Chlorpyrifos	Coumaphos	Demeton O/S	Diazinon	Dichlorvos	Disulfoton	Ethoprop	Fensulfothion	Fenthion	Merphos	Methyl parathion	Mevinphos	Naled	Phorate	Ronnel (Fenchlorphos)	Stirophos (Tetrachlorvinph os)	Tokuthion (Prothiofos)	Trichloronate
HA-26	1	9/25/2017	< 0.30	<0.30	<0.30	<0.30	< 0.30	< 0.30	< 0.30	<0.30	<0.30	< 0.30	< 0.30	<0.30	< 0.30	<0.30	<0.30	< 0.30	< 0.30	<0.30	<0.30	< 0.30
HA-32(1)	1	9/21/2017	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
HA-37	8	9/20/2017	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
HA-37(a)	5	10/4/2017	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25

Notes:

EPA Method 8141A

Bold: Detected concentration

<##: Less than the Practical Quantitation Limit

Table 8 Soil Analytical Results - Temperature, pH, and Total Cyanide Northern Inactive Waste Site Phillips 66 Santa Maria Refinery

Sample ID	Depth	Sample Date	Temperature (°Celsius)	рН	Total Cyanide (mg/kg)
HA-26	1	9/25/2017	19.2	7.32	0.73
HA-32(1)	1	9/21/2017	23.1	3.35	3.3
HA-37	8	9/20/2017	19.4	7.60	<0.50
HA-37(a)	5	10/4/2017	25	6.81	0.20 J
	TIER 1 ESLs				0.0036

Notes:

Temperature and pH; EPA Method 9045D

Total Cyanide; EPA Method 9012 **Bold**: Detected concentration

J: Estimated value. Analyte detected at a level less than the Practical Quantitation Limit and greater than or equal to the Method Detection Limit.

<##: Less than the Practical Quantitation Limit

-Exceeds Tier 1 ESL

Tier 1 ESLs: Environmental Screening Limits

Table 9 Soil Analytical Results - Organochlorine Pesticides and PCBs **Northern Inactive Waste Site Phillips 66 Santa Maria Refinery** (all results in miligrams per kilogram)

Sample ID	Depth	Sample Date	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	beta-BHC	Chlordane (Technical)	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Total Endosulfans	Endosulfan sulfate	Endrin	Endrin aldehyde
HA-26	1	9/25/2017	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<6.8	<0.068	<0.068	<0.068	<0.068	<0.13	<0.068	<0.068	<0.068
HA-32(1)	1	9/21/2017	<0.014	0.025	0.062	<0.014	<0.014	<0.014	<1.4	<0.014	0.015	<0.014	<0.014	<0.028	<0.014	<0.014	<0.014
HA-37	8	9/20/2017	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<6.2	<0.062	<0.062	<0.062	<0.062	<0.12	<0.062	<0.062	<0.062
HA-37(a)	5	10/4/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<5.0	<0.05	<0.05	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05
T	TER 1 ESL	5	2.7	1.9	1.9	0.036			0.48		0.00017			0.0046		0.00065	
	TTLC		1.0	1.0	1.0	1.4					8.0					0.20	

Table 9 Soil Analytical Results - Organochlorine Pesticides and PCBs Northern Inactive Waste Site Phillips 66 Santa Maria Refinery (all results in miligrams per kilogram)

Sample ID	Depth	Sample Date	gamma-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	PCB-1016	PCB-1221	PCB-1232	PCB-1242	PCB-1248	PCB-1254	PCB-1260	Total PCB's (Summation)	Toxaphene
HA-26	1	9/25/2017	<0.068	<0.068	<0.068	<0.068	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<6.8
HA-32(1)	1	9/21/2017	<0.014	<0.014	<0.014	<0.014	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<1.4
HA-37	8	9/20/2017	<0.062	<0.062	<0.062	<0.062	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<6.2
HA-37(a)	5	10/4/2017	<0.05	<0.05	<0.05	<0.05	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
Т	TER 1 ESL	3		0.00077	0.00042	19								0.25	0.00042
	TIER 1 ESLs TTLC			4.7		100									5.0

Notes:

EPA Method 8080

Bold: Detected concentration

<##: Less than the Practical Quantitation Limit</pre>

PCB: Polychlorinate Biphenlys
-Exceeds Tier 1 ESL

Tier 1 ESLs: Environmental Screening Limits
TTLC: Total Threshold Limit Concentration

Page 2 of 2 Stantec

Table 10 Soil Analytical Results - Total Metals/Hexavalent Chromium **Northern Inactive Waste Site Phillips 66 Santa Maria Refinery** (all results in miligrams per kilogram)

Sample ID	Depth	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Hexavalent Chromium
HA-26	1	9/25/2017	<5.0	1.4	14	0.16 J	0.55	20	2.9	7.2	2.4
HA-26	3	9/25/2017	<5.0	1.8	15	0.13 J	0.21 J	8.8	1.3 J	2.4	0.60 J
HA-32(1)	1	9/21/2017	<5.0	1.1	51	0.064 J	0.23 J	24	0.90 J	6.8	0.67 J
HA-37	8	9/20/2017	<5.0	1.3	14	0.12 J	0.15 J	15	1.4 J	2.7	1.0
HA-37(a)	5	10/4/2017	<5.0	2.0	7.5	0.22 J	1.3	19	3.4	7.9	1.5 J
HA-37(a)	10	10/4/2017	<5.0	1.6	11	0.11 J	0.077 J	8.0	1.1 J	1.4	0.55 J
	TIER 1 ESL	.s	31	0.067	3,000	42	39		23	3,100	0.30
	TTLC		500	50	10,000	75	100	2,500	8,000	2,500	500

Table 10 Soil Analytical Results - Total Metals/Hexavalent Chromium Northern Inactive Waste Site Phillips 66 Santa Maria Refinery (all results in miligrams per kilogram)

Sample ID	Depth	Sample Date	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
HA-26	1	9/25/2017	9.7	0.13 J	24	130	1.1	<0.50	<5.0	230	33
HA-26	3	9/25/2017	2.3 J	<0.16	2.8	7.6	<1.0	<0.50	<5.0	14	15
HA-32(1)	1	9/21/2017	41	<0.16	23	38	4.7	<0.50	<5.0	71	11
HA-37	8	9/20/2017	3.6	0.052 J	1.7 J	13	<1.0	<0.50	<5.0	26	15
HA-37(a)	5	10/4/2017	3.8	0.050 J	23	110	1.1	<0.50	<5.0	170	31
HA-37(a)	10	10/4/2017	1.6 J	<0.16	0.20 J	4.2	<1.0	<0.50	<5.0	7.4	6.8
	TIER 1 ESL	.s	80	13	390	86	390	390	0.78	390	23,000
	TTLC		1,000	20	3,500	2,000	100	500	700	2,400	5,000

Notes:

EPA Methods 6010B, 7199, and 7471A

Bold: Detected concentration

J: Estimated value. Analyte detected at a level less than the Practical Quantitation Limit and greater than or equal to the Method Detection Limit.

<##: Less than the Practical Quantitation Limit</pre>

-Exceeds Tier 1 ESL

Tier 1 ESLs: Environmental Screening Limits
TTLC: Total Threshold Limit Concentration

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Perimeter Air Monitoring Analytical Results - Asbestos

Northern Inactive Waste Site Phillips 66 Santa Maria Refinery (all results in fibers per cubic centimeter)

Sample ID	Landfill Investigation Activity	Air Sample Location	Concentration (f/cc)				
20170918-01	Background Sample. Equipment staging only, no soil disturbance.	East Perimeter	0.006				
20170920-01	Hand Auger	North Perimeter	<0.002				
20170920-02	Hand Auger	East Perimeter	<0.002				
20170920-03	Hand Auger	South Perimeter	<0.002				
20170920-04	Hand Auger	West Perimeter	<0.002				
20170920-05	Hand Auger	North Perimeter	<0.002				
20170920-06	Hand Auger	East Perimeter	**				
20170920-07	Hand Auger	South Perimeter	<0.002				
20170920-08	Hand Auger	West Perimeter	<0.002				
20170920-09	Hand Auger	North Perimeter	<0.002				
20170920-10	Hand Auger	East Perimeter	<0.002				
20170920-11	Hand Auger	South Perimeter	<0.002				
20170920-12	Hand Auger	West Perimeter	<0.002				
20170921-01	Hand Auger	North Perimeter	<0.002				
20170921-02	Hand Auger	East Perimeter	<0.002				
20170921-03	Hand Auger	South Perimeter	<0.002				
20170921-04	Hand Auger	West Perimeter	<0.002				
20170921-05	Hand Auger	North Perimeter	<0.002				
20170921-06	Hand Auger	East Perimeter	<0.002				
20170921-07	Hand Auger	South Perimeter	Not Analyzed				
20170921-08	Hand Auger	West Perimeter	<0.002				
20170922-01	Hand Auger	North Perimeter	0.003				
20170922-02	Hand Auger	East Perimeter	<0.002				
20170922-03	Hand Auger	South Perimeter	0.003				
20170922-04	Hand Auger	West Perimeter	0.002				
20170922-05	Hand Auger	North Perimeter	<0.002				
20170922-06	Hand Auger	East Perimeter	<0.002				
20170922-07	Hand Auger	South Perimeter	<0.002				
20170922-08	Hand Auger	West Perimeter	<0.002				
20170922-09	Hand Auger	North Perimeter	Not Analyzed				
20170922-10	Hand Auger	East Perimeter	Not Analyzed				
20170922-11	Hand Auger	South Perimeter	<0.002				
20170922-12	Hand Auger	West Perimeter	<0.002				

Perimeter Air Monitoring Analytical Results - Asbestos

Northern Inactive Waste Site Phillips 66 Santa Maria Refinery

(all results in fibers per cubic centimeter)

Sample ID	Landfill Investigation Activity	Concentration (f/cc)	
20170925-01	Hand Auger	North Perimeter	0.006
20170925-02	Hand Auger	East Perimeter	0.002
20170925-03	Hand Auger	South Perimeter	<0.002
20170925-04	Hand Auger	West Perimeter	0.003
20170925-05	Hand Auger	North Perimeter	0.005
20170925-06	Hand Auger	East Perimeter	<0.002
20170925-07	Hand Auger	South Perimeter	<0.002
20170925-08	Hand Auger	West Perimeter	0.005
20170925-09	Hand Auger	North Perimeter	<0.002
20170925-10	Hand Auger	East Perimeter	<0.002
20170925-11	Hand Auger	South Perimeter	<0.002
20170925-12	Hand Auger	West Perimeter	<0.002
20170926-01	Hand Auger	North Perimeter	0.007
20170926-02	Hand Auger	East Perimeter	0.004
20170926-03	Hand Auger	South Perimeter	0.002
20170926-04	Hand Auger	West Perimeter	0.004
20170926-05	Hand Auger	North Perimeter	0.002
20170926-06	Hand Auger	East Perimeter	<0.002
20170926-07	Hand Auger	South Perimeter	0.003
20170926-08	Hand Auger	West Perimeter	0.006
20170926-09	Hand Auger	North Perimeter	Not Analyzed***
20170926-10	Hand Auger	East Perimeter	Not Analyzed***
20170926-11	Hand Auger	South Perimeter	0.002
20170926-12	Hand Auger	West Perimeter	<0.002
20170927-01	Hand Auger	North Perimeter	<0.002
20170927-02	Hand Auger	East Perimeter	0.002
20170927-03	3 Hand Auger South Perimeter		0.003
20170927-04	Hand Auger	West Perimeter	0.003
20170927-05	Hand Auger North Perimeter		0.002
20170927-06	6 Hand Auger East Perimeter		0.003
20170927-07	Hand Auger	South Perimeter	<0.002
20170927-08	Hand Auger	West Perimeter	0.002
20170927-09	Hand Auger	North Perimeter	0.003
20170927-10	Hand Auger	East Perimeter	0.004

Perimeter Air Monitoring Analytical Results - Asbestos

Northern Inactive Waste Site Phillips 66 Santa Maria Refinery

(all results in fibers per cubic centimeter)

Sample ID	Landfill Investigation Activity	fill Investigation Activity Air Sample Location				
20170927-11	Hand Auger	South Perimeter	0.002			
20170927-12	Hand Auger	West Perimeter	0.003			
20170928-01	Hand Auger	North Perimeter	0.006			
20170928-02	Hand Auger	East Perimeter	<0.002			
20170928-03	Hand Auger	South Perimeter	<0.002			
20170928-04	Hand Auger	West Perimeter	0.004			
20170928-05	Hand Auger	North Perimeter	0.004			
20170928-06	Hand Auger	East Perimeter	<0.002			
20170928-07	Hand Auger	South Perimeter	0.005			
20170928-08	Hand Auger	West Perimeter	<0.002			
20170928-09	Hand Auger	North Perimeter	<0.002			
20170928-10	Hand Auger	East Perimeter	0.002			
20170928-11	Hand Auger	South Perimeter	<0.002			
20170928-12	Hand Auger	West Perimeter	<0.002			
20170929-01	Hand Auger	North Perimeter	<0.002			
20170929-02	Hand Auger	East Perimeter	0.004			
20170929-03	Hand Auger	South Perimeter	0.004			
20170929-04	Hand Auger	West Perimeter	0.003			
20170929-05	Hand Auger	North Perimeter	<0.002			
20170929-06	Hand Auger	East Perimeter	<0.002			
20170929-07	Hand Auger	South Perimeter	<0.002			
20170929-08	Hand Auger	West Perimeter	0.003			
20170929-09	Hand Auger	North Perimeter	0.003			
20170929-10	Hand Auger	East Perimeter	<0.002			
20170929-11	Hand Auger	South Perimeter	0.004			
20170929-12	Hand Auger	West Perimeter	0.003			
20171002-01	Direct Push North Perimeter		0.003			
20171002-02	Direct Push	Direct Push East Perimeter				
20171002-03	Direct Push South Perimeter		<0.002			
20171002-04	Direct Push West Perimeter		<0.002			
20171002-05	Direct Push	North Perimeter	<0.002			
20171002-06	Direct Push	East Perimeter	<0.002			
20171002-07	Direct Push	South Perimeter	0.004			
20171002-08	Direct Push	West Perimeter	<0.002			

Perimeter Air Monitoring Analytical Results - Asbestos

Northern Inactive Waste Site Phillips 66 Santa Maria Refinery

(all results in fibers per cubic centimeter)

Sample ID	Landfill Investigation Activity	Air Sample Location	Concentration (f/cc)
20171002-09	Direct Push	North Perimeter	0.003
20171002-10	Direct Push	East Perimeter	<0.002
20171002-11	Direct Push	0.003	
20171002-12	Direct Push	West Perimeter	<0.002
20171003-01	Direct Push	North Perimeter	0.002
20171003-02	Direct Push	East Perimeter	<0.002
20171003-03	Direct Push	South Perimeter	0.002
20171003-04	Direct Push	West Perimeter	<0.002
20171003-05	Direct Push	North Perimeter	0.002
20171003-06	Direct Push	East Perimeter	0.002
20171003-07	Direct Push	South Perimeter	<0.002
20171003-08	Direct Push	West Perimeter	<0.002
20171003-09	Direct Push	North Perimeter	<0.002
20171003-10	Direct Push	East Perimeter	<0.002
20171003-11	Direct Push	South Perimeter	<0.002
20171003-12	Direct Push	West Perimeter	<0.002
20171004-01	Direct Push	North Perimeter	0.004
20171004-02	Direct Push	East Perimeter	<0.002
20171004-03	Direct Push	South Perimeter	<0.002
20171004-04	Direct Push	West Perimeter	<0.002
20171004-05	Direct Push	North Perimeter	0.003
20171004-06	Direct Push	East Perimeter	0.002
20171004-07	Direct Push	South Perimeter	<0.002
20171004-08	Direct Push	West Perimeter	0.003
20171004-09	Direct Push	North Perimeter	<0.002
20171004-10	Direct Push	East Perimeter	*
20171004-11	Direct Push	South Perimeter	*
20171004-12	1004-12 Direct Push West Perimeter		*
20171005-01	5-01 Direct Push North Perimeter		0.006
20171005-02	Direct Push	East Perimeter	0.003
20171005-03	Direct Push	0.002	
20171005-04	Direct Push	0.008	
20171005-05	Direct Push	North Perimeter	0.006
20171005-06	Direct Push	East Perimeter	0.002

Perimeter Air Monitoring Analytical Results - Asbestos

Northern Inactive Waste Site Phillips 66 Santa Maria Refinery (all results in fibers per cubic centimeter)

Sample ID	Landfill Investigation Activity	Air Sample Location	Concentration (f/cc)					
20171005-07	0.003							
20171005-08	20171005-08 Direct Push West Perimeter							
DOSH PEL	0.1							
EPA Indoor Air Clearan	ce Level		0.01					

Notes:

f/cc = Fibers per cubic centimter

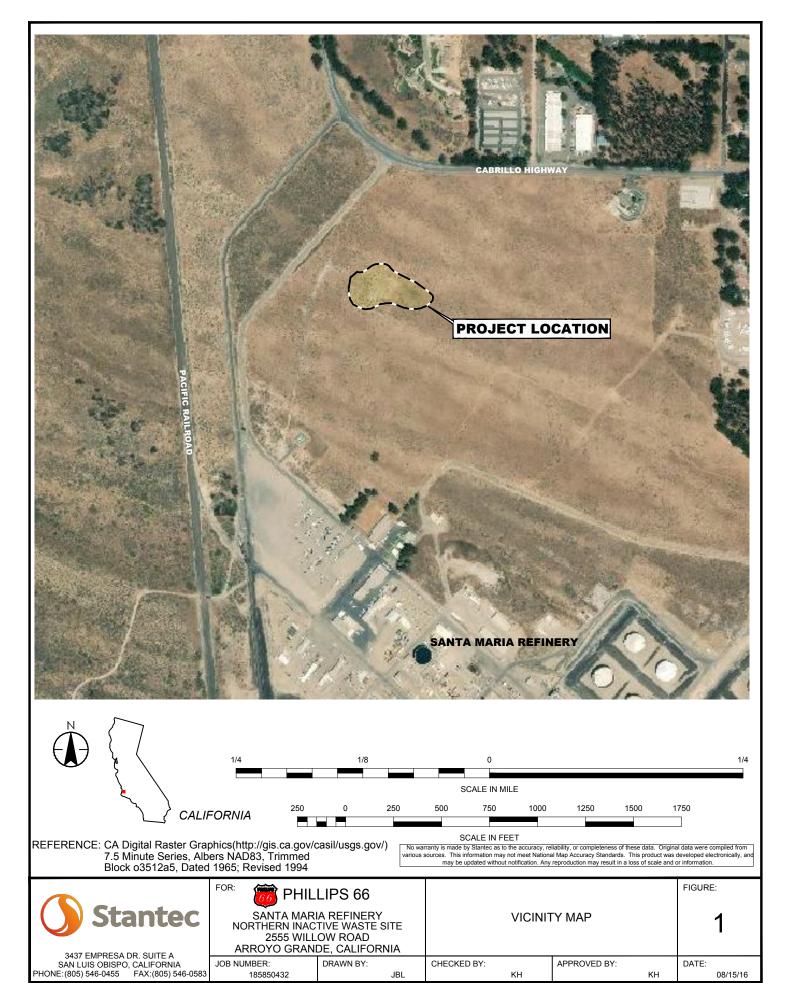
Method = NIOSH 7400

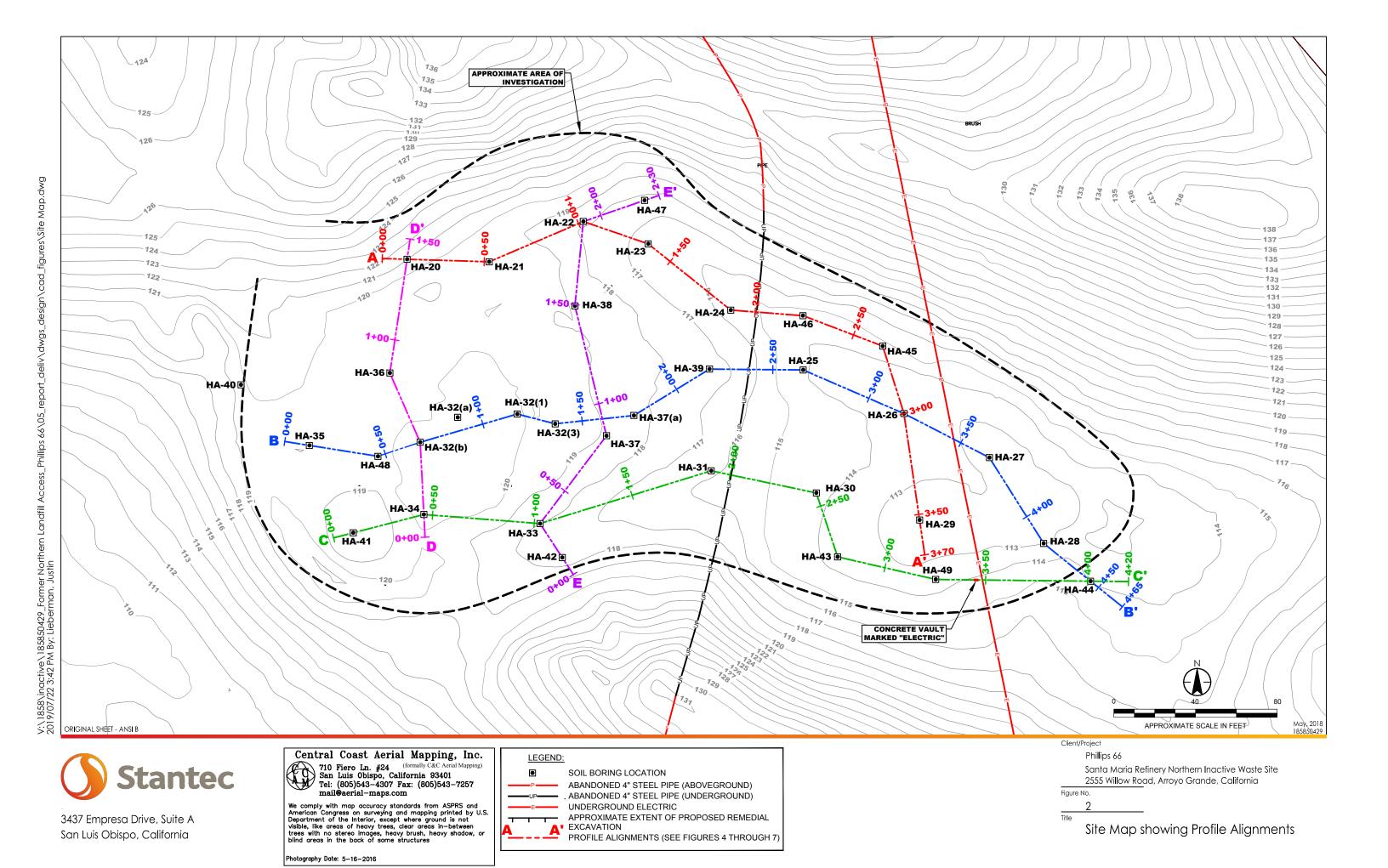
- * Cassette overloaded (excessive dust or other materials collected on the filter prevented accurate fiber count)
- ** Cassette filter damaged
- *** Could not calculate sample run time due to generator malfunction

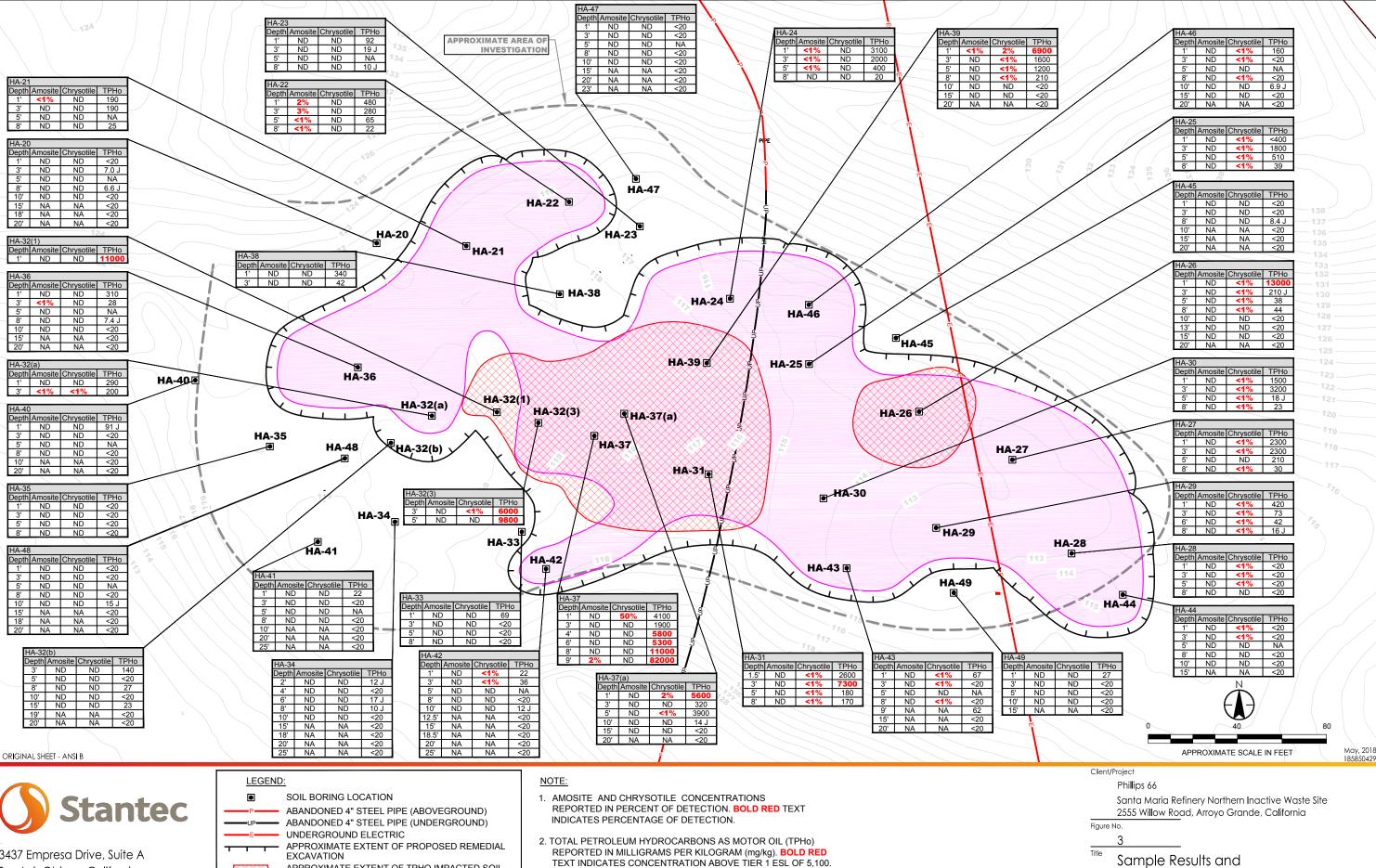
DOSH PEL: Division of Occupational Safety and Health Permissible Exposure Limit

FIGURES









Approximate Extent of Asbestos

Containing Materials and

TPH Motor Oil Impacted Soil

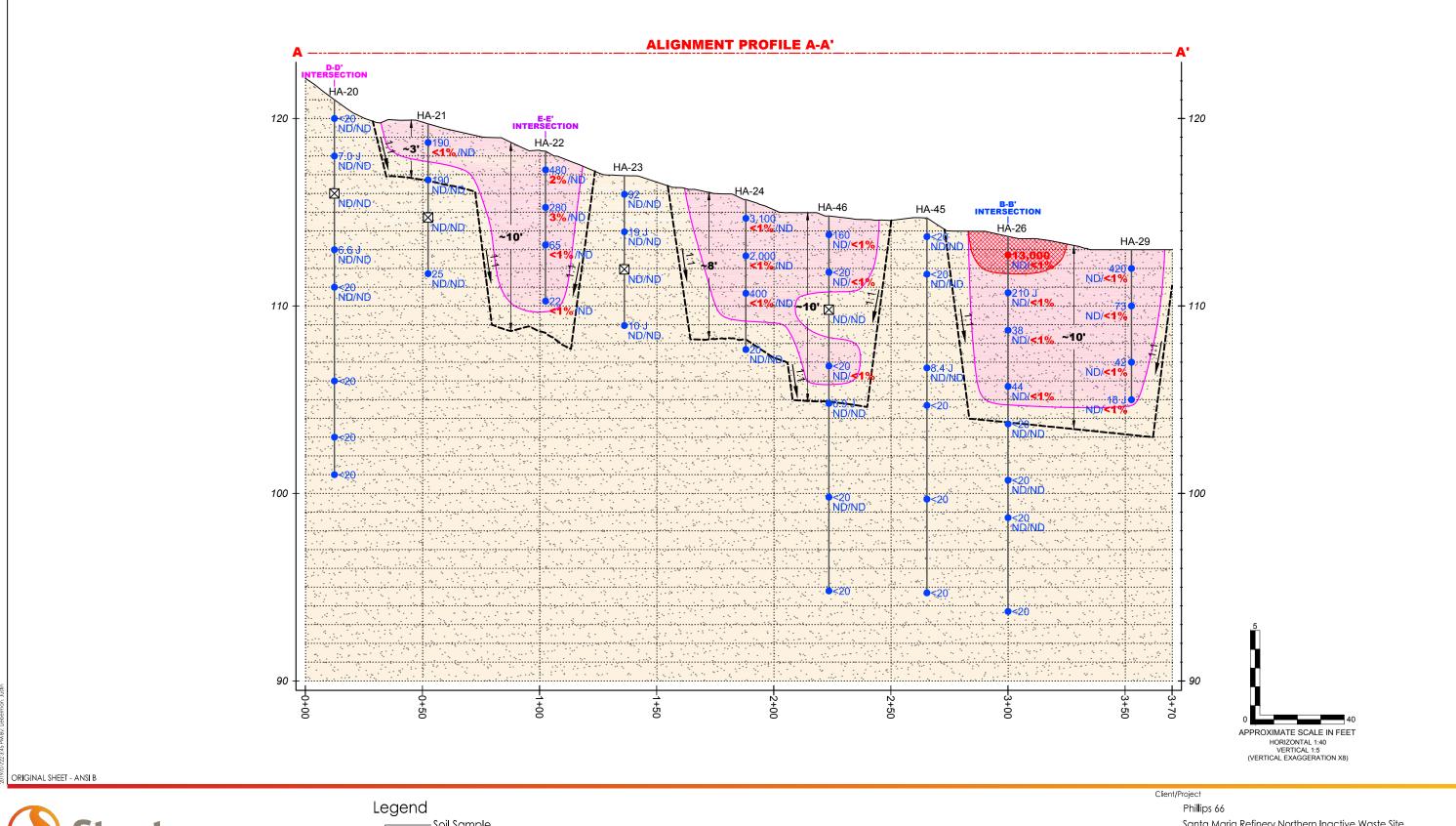
₽∃ V:\1858\inactive\185850429_Form 2019/07/22 3:43 PM By: Lieberman

> 3437 Empresa Drive, Suite A San Luis Obispo, California

APPROXIMATE EXTENT OF TPHO IMPACTED SOIL

APPROXIMATE EXTENT OF ASBESTOS IMPACTED

GREATER THAN TIER 1 ESL





3437 Empresa Drive, Suite A San Luis Obispo, California www.stantec.com Soil Sample

TPHo Result in mg/kg

ND/ND – Amosite/Chrysotile Result in percentage

Approximate extent of TPHo Impacted Soil

Greater than Tier 1 ESL

Approximate extent of IPHo Impacted Soil
Greater than Tier 1 ESL

Approximate extent of Asbestos Impacted Soil

Greater than Tier 1 ESL

Sand with Trace Silt (SP)

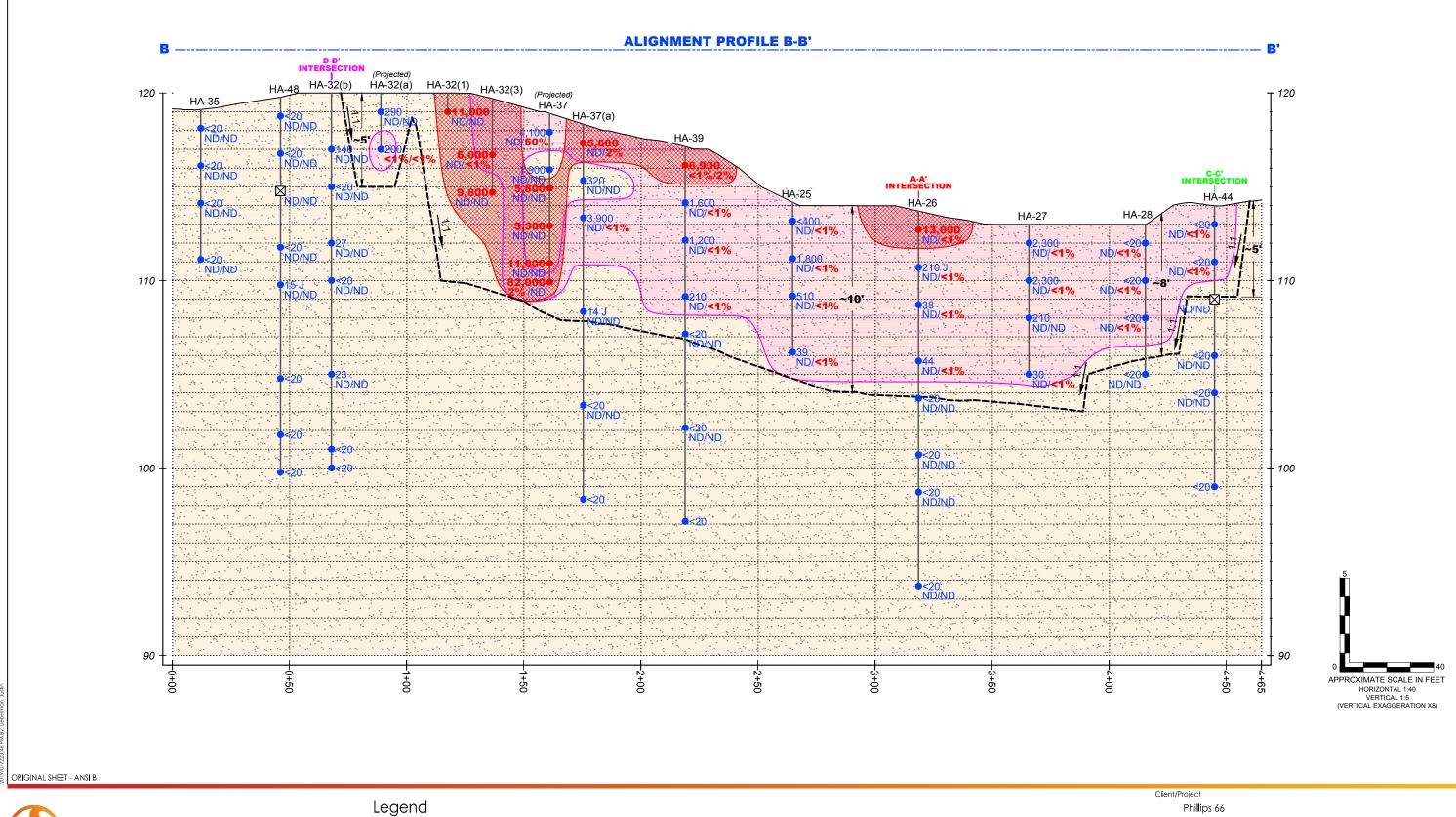
5,100 Bold Red Sample Result indicates TPHo concentration Greater than Tier 1 ESL OF 5,100 mg/kg

Close in the Free of Synaphia and Sample Result indicates percent of asbestos detected

———— Approximate Excavation Profile along Alignment

Client/Project
Phillips 66
Santa Maria Refinery Northern Inactive Waste Site
2555 Willow Road, Arroyo Grande, California
Figure No.
4
Title

Alignment Profile A-A'





3437 Empresa Drive, Suite A San Luis Obispo, California www.stantec.com

Soil Sample

Soil Sample

TPHo Result in mg/kg

ND/ND – Amosite/Chrysotile Result in percentage

Approximate extent of TPHo Impacted Soil Greater than Tier 1 ESL

Approximate extent of Asbestos Impacted Soil Greater than Tier 1 ESL

Sand with Trace Silt (SP)

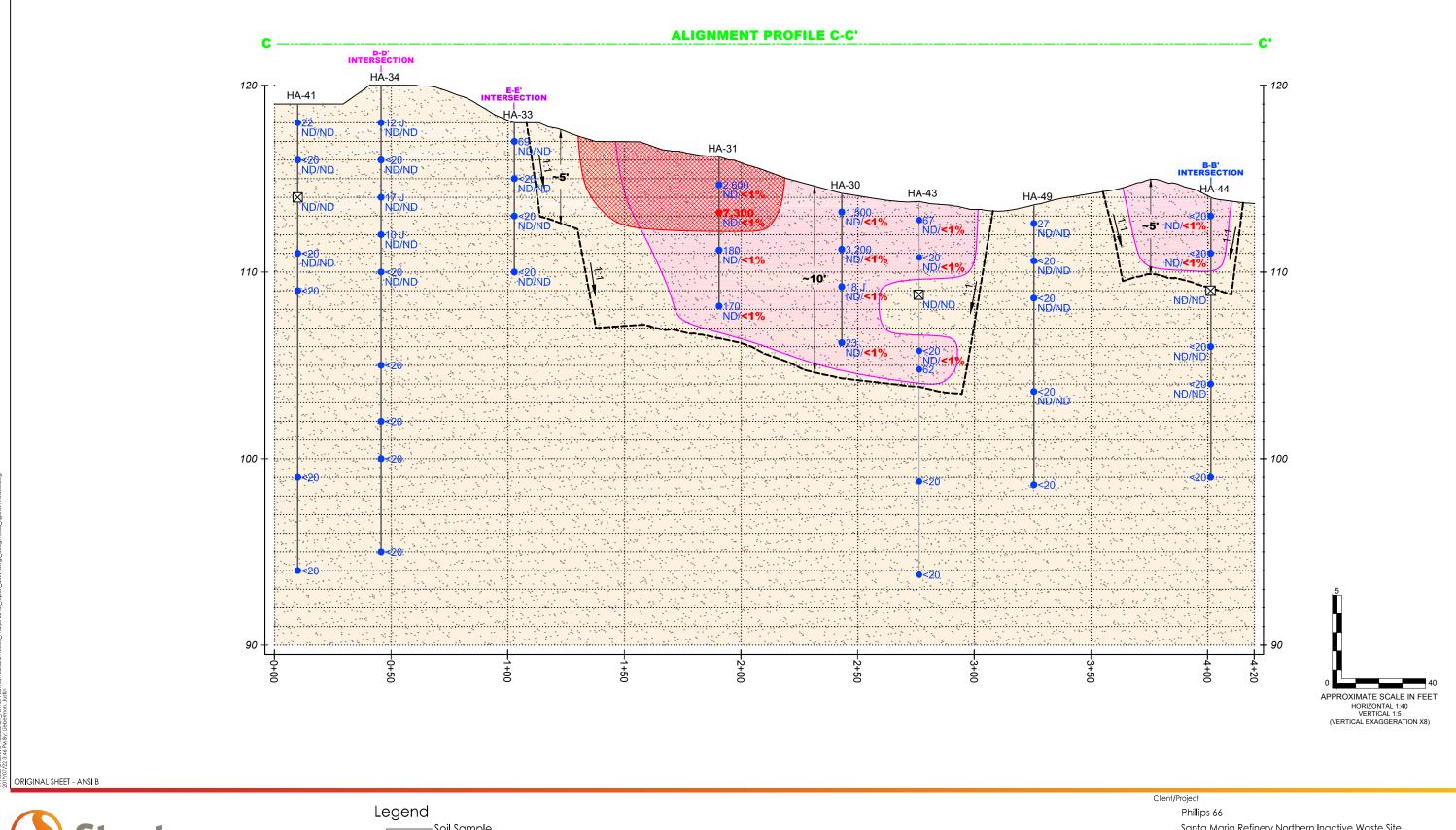
Bold Red Sample Result indicates TPHo concentration Greater than Tier 1 ESL OF 5,100 mg/kg

Bold Red Sample Result indicates percent of asbestos detected

———— Approximate Excavation Profile along Alignment

Santa Maria Refinery Northern Inactive Waste Site 2555 Willow Road, Arroyo Grande, California Figure No.

Alignment Profile B-B'





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Soil Sample
OF TPHO Result in mg/kg
ND/ND - Amosite/Chrysotile Result in percentage Approximate extent of TPHo Impacted Soil Greater than Tier 1 ESL

Approximate extent of Asbestos Impacted Soil Greater than Tier 1 ESL

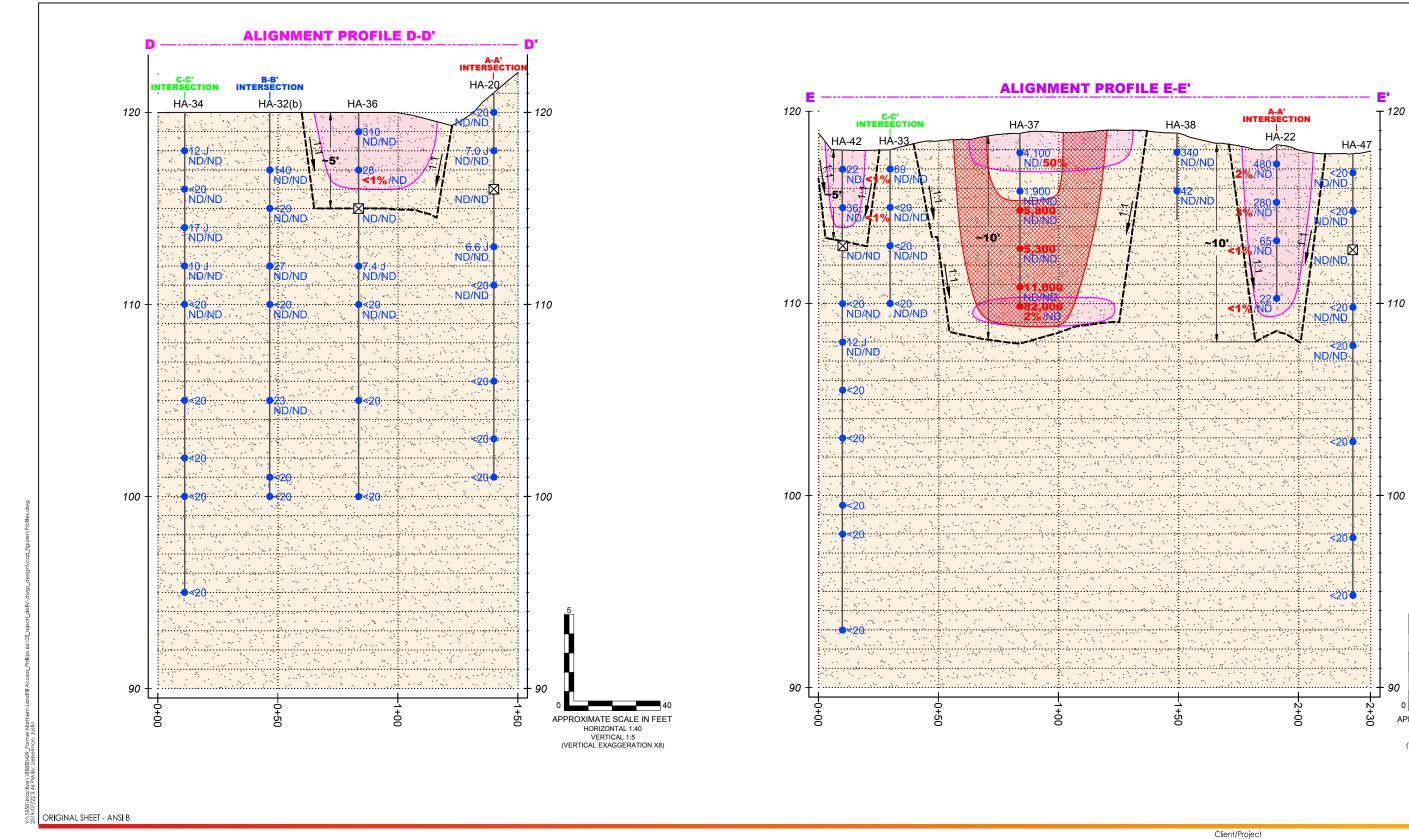
Sand with Trace Silt (SP)

Bold Red Sample Result indicates TPHo concentration

Greater than Tier 1 ESL OF 5,100 mg/kg Bold Red Sample Result indicates percent of asbestos **————** Approximate Excavation Profile along Alignment

Santa Maria Refinery Northern Inactive Waste Site 2555 Willow Road, Arroyo Grande, California Figure No.

Alignment Profile C-C'



Stantec

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Legend

Soil Sample
69 - TPHo Result in mg/kg
ND/ND - Amosite/Chrysotile Result in percentage
Approximate extent of TPHo Impacted Soi

Approximate extent of TPHo Impacted Soil Greater than Tier 1 ESL

Approximate extent of Asbestos Impacted Soil Greater than Tier 1 ESL

Sand with Trace Silt (SP)

5,100 Bold Red Sample Result indicates TPHo concentration Greater than Tier 1 ESL OF 5,100 mg/kg

Control Man Hol F 202 of 67766 mg/kg
8 Bold Red Sample Result indicates percent of asbestos detected

---- Approximate Excavation Profile along Alignment

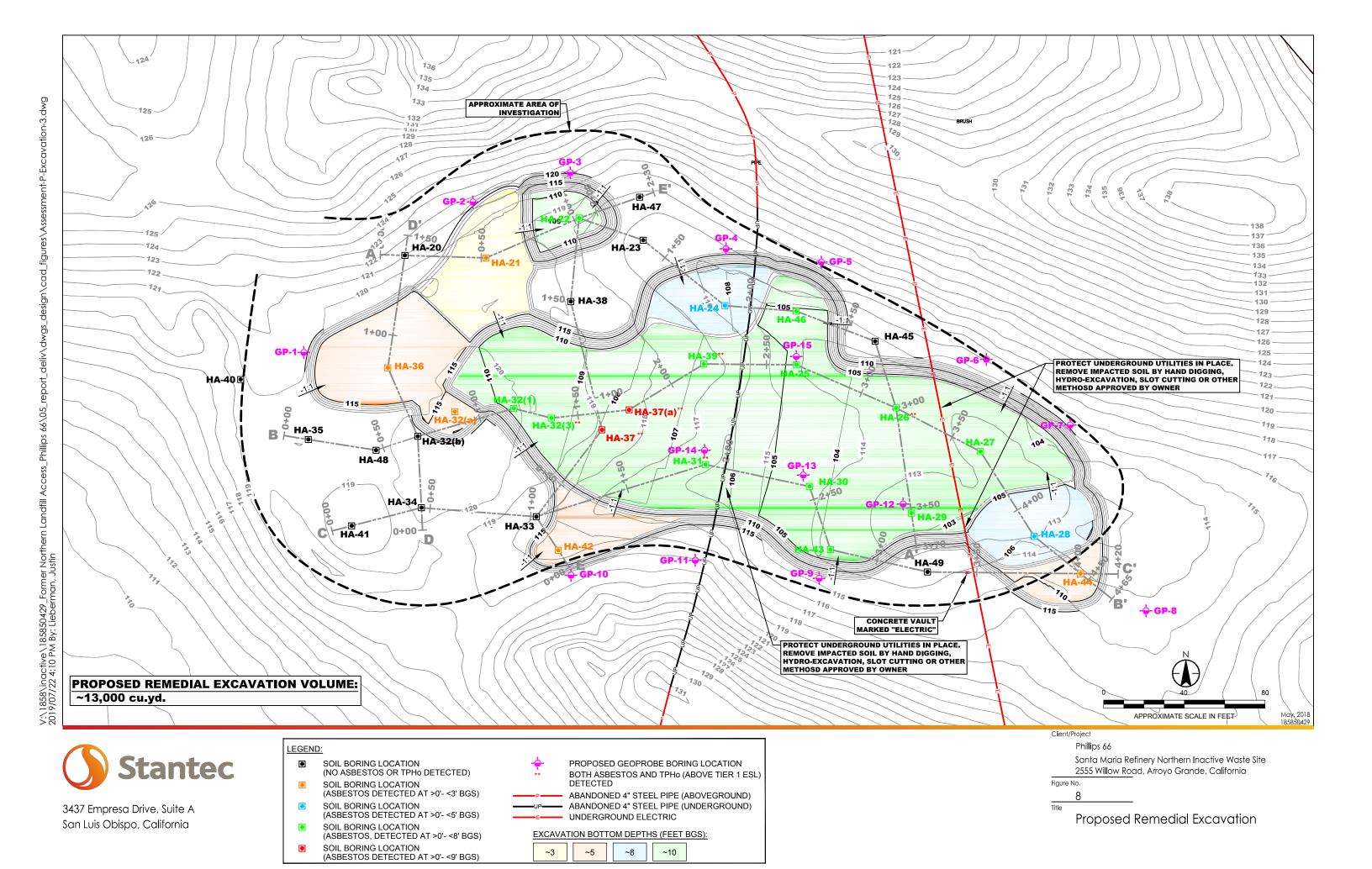
Phillips 66
Santa Maria Refinery Northern Inactive Waste Site 2555 Willow Road, Arroyo Grande, California

APPROXIMATE SCALE IN FEET

HORIZONTAL 1:40

Figure No.

Alignment Profile D-D' & E-E'



APPENDICES



APPENDIX A BORING LOGS



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/26/17

COMPLETED: 10/2/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

SAMPLING EQUIPMENT:

BOREHOLE NO:

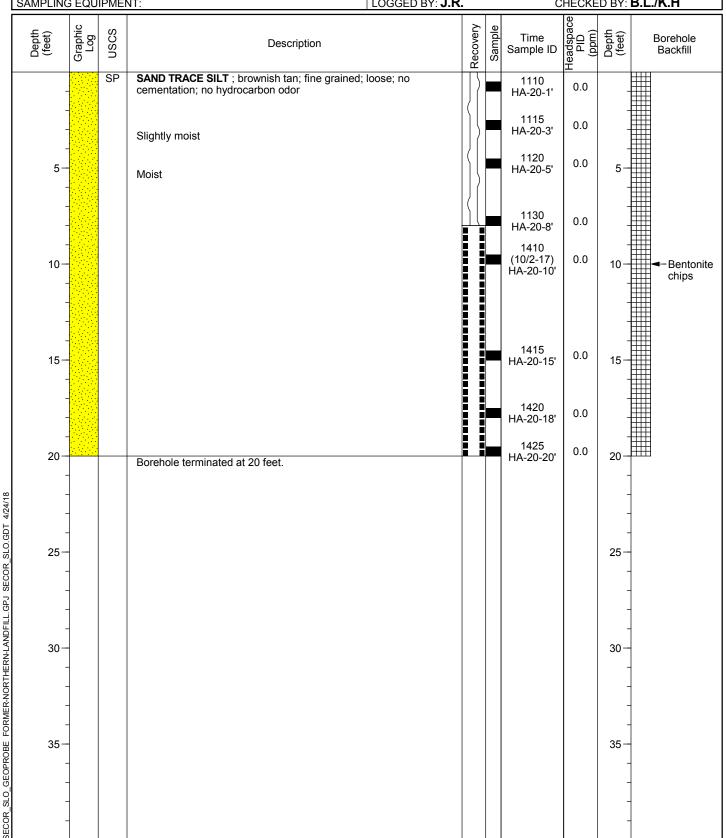


BOREHOLE DEPTH (ft): 20.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/26/17 COMPLETED: 9/26/17

DRILLING COMPANY: Stantec/S&G Drilling

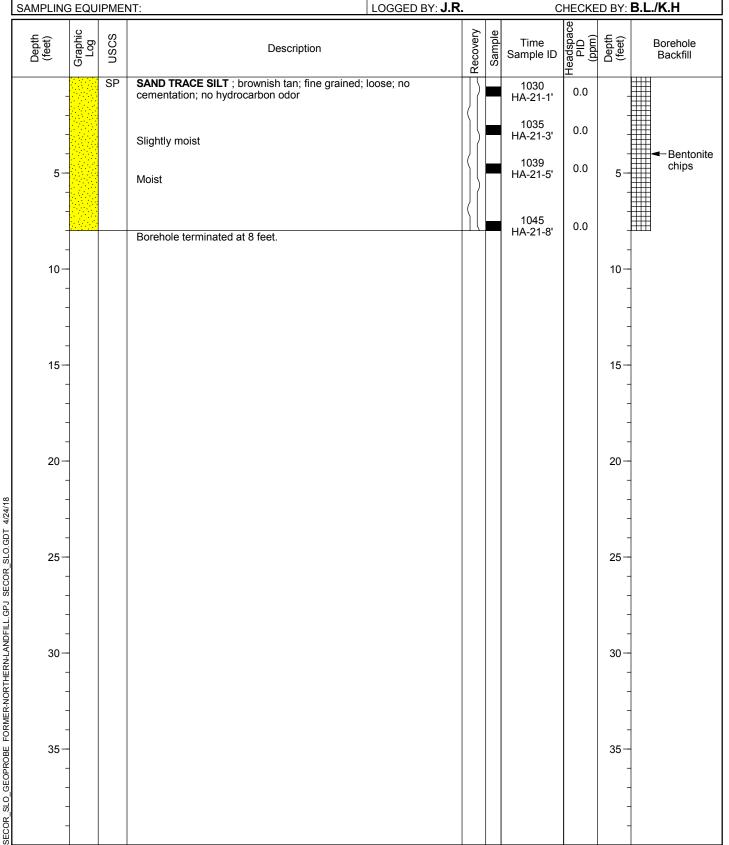
DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

BOREHOLE NO:



BOREHOLE DEPTH (ft): 8.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/26/17 COMPLETED: 9/26/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

SAMPLING EQUIPMENT:

BOREHOLE NO:



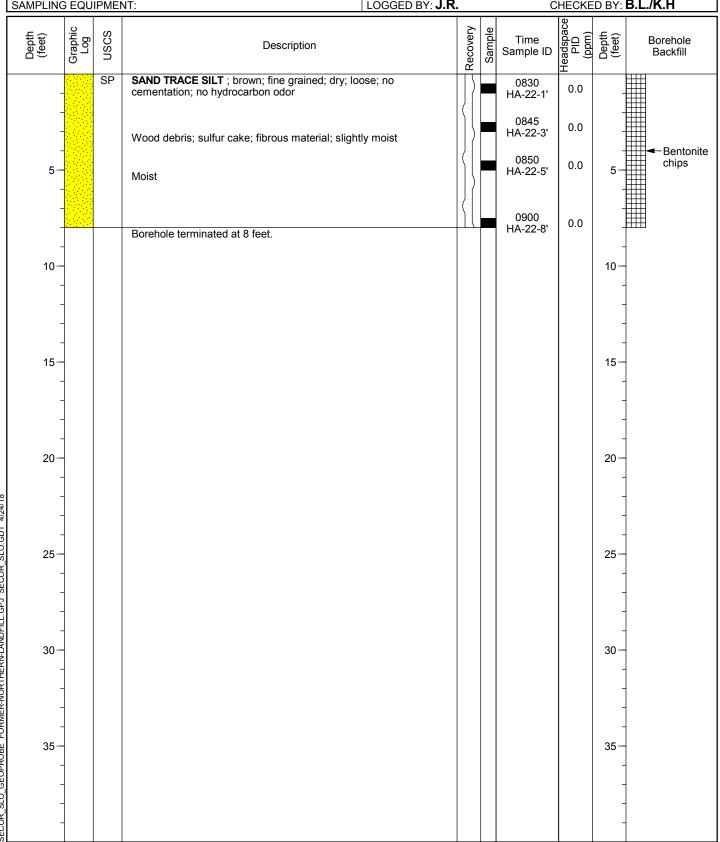
BOREHOLE DEPTH (ft): 8.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:

CHECKED BY: B.L./K.H



SLO_GEOPROBE FORMER-NORTHERN-LANDFILL.GPJ SECOR_SLO.GDT 4/24/18

PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/26/17 COMPLETED: 9/26/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

SAMPLING EQUIPMENT:

BOREHOLE NO:

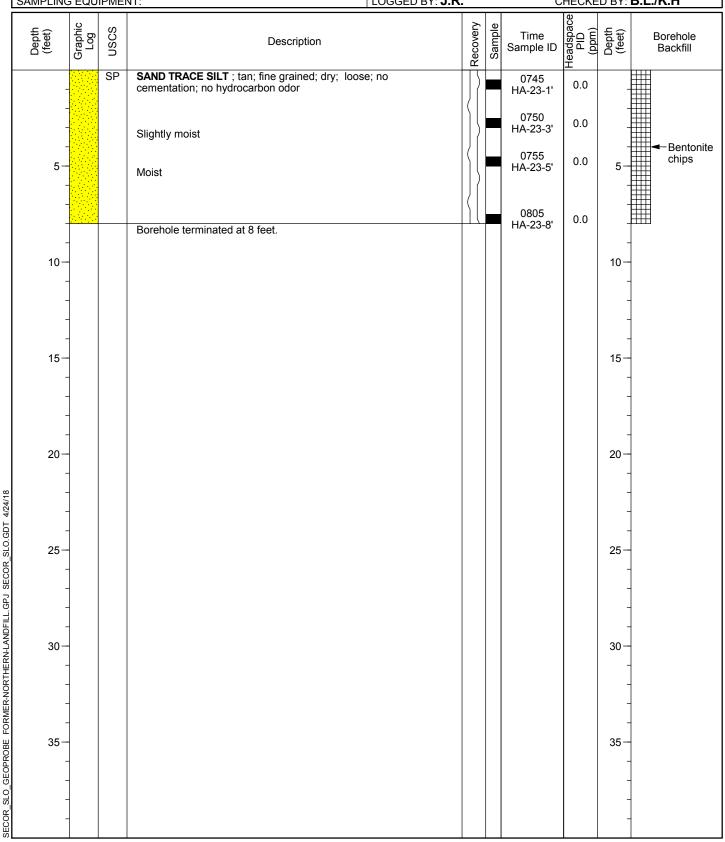


BOREHOLE DEPTH (ft): 8.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: **185850429**

DRILLING STARTED: 9/25/17 COMPLETED: 9/26/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

BOREHOLE NO:



BOREHOLE DEPTH (ft): 8.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): **NE** NORTHING: EASTING: LATITUDE: LONGITUDE:

SP SAND TRACE SILT; dark brown; fine grained; loose; dry; fiberous materials Same as above with trace fragments of silidfied black material Same as above with trace fragments of silidfied black material Borehole terminated at 8 feet. 10- 15- 20- 20- 20- 25- 25- 25- 25- 2	SAMPLING	EQU	IPME	NT:	LOGGED BY: J.R.						B.L./K.H
SP SAND TRACE SILT; dark brown; fine grained; loose; dry; fiberous materials Same as above with trace fragments of silidfied black material 5 - 8 Borehole terminated at 8 feet. 10 - 15 - 15 - 20 - 20 - 25 - 25 - 25 - 25 - 25 - 2	Depth (feet)	Graphic Log	nscs	Description		Recovery	Sample	Time Sample ID	Headspace PID (ppm)	Depth (feet)	Borehole Backfill
Borehole terminated at 8 feet. 10- 15- 20- 20- 25- 25- 25- 25- 25- 2	- - - 5-		SP	fiberous materials Same as above with trace fragments of silidfied				0745 HA-24-1' 0750 HA-24-3' 0755 HA-24-5' (9/26/17) 0805	0.0	5-	■ Bentonite chips
20-	- 10- - -			Borehole terminated at 8 feet.				HA-24-8'		-	
25 – 25 – 25 – 25 – 30 – 30 – 30 – 30 – 30 – 30 – 30 – 3	- 15— - -									- 15 — - -	
25- 25- 25- 30- 30- 30- 35-	-									20	
30 – 30 – 30 – 30 – 30 – 30 – 30 – 30 –	25 —									25 — - -	
일 35 - 35 - 35 - 35 - 35 -	30 —									30-	
	35 —									35— - - -	

SLO_GEOPROBE FORMER-NORTHERN-LANDFILL.GPJ SECOR_SLO.GDT 4/24/18

PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: **185850429**

DRILLING STARTED: 9/25/17 COMPLETED: 9/25/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

BOREHOLE NO:



BOREHOLE DEPTH (ft): 8.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): **NE** EASTING: LATITUDE: LONGITUDE:

NORTHING:

L	SAMPLING	EQUI	PME	NT:	LOGGED BY: J.R.						B.L./K.H
	Depth (feet)	Graphic Log	nscs	Description		Recovery	Sample	Time Sample ID	Headspace PID (ppm)	Depth (feet)	Borehole Backfill
	- - - 5- -		SP	SAND TRACE SILT; tan to brown; fine grained; le cementation; organic material present (roots) Dark brown Black with trace reddish sand; slightly moist Reddish brown Trace dark brown with reddish brown sand; moist				1145 HA-25-1' 1150 HA-25-3' 1155 HA-25-5'	0.0	- - - 5- -	■ Bentonite chips
	- 10 — - -			Borehole terminated at 8 feet.				HA-25-8'		- 10 - -	
	- 15 <i>-</i> - -									- 15 - -	
1/24/18	 20 - -									- 20 - - -	
GPJ SECOR_SLO.GDT 4	- 25 – - - -									- 25 — - - -	
ER-NORTHERN-LANDFILL	30 — - - -									30 - - -	
SECOR_SLO_GEOPROBE FORMER-NORTHERN-LANDFILL.GPJ SECOR_SLO.GDT 4/24/18	- 35 — - - -									35 — - - - -	

PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/25/17 COMPLETED: 10/4/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

SAMPLING EQUIPMENT:

BOREHOLE NO:

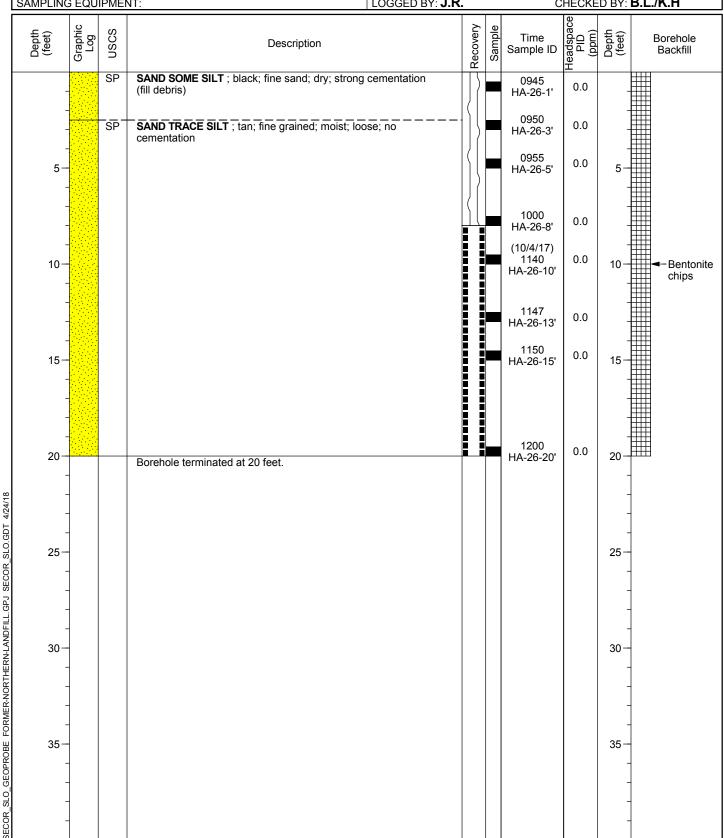


BOREHOLE DEPTH (ft): 20.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/25/17 COMPLETED: 9/25/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

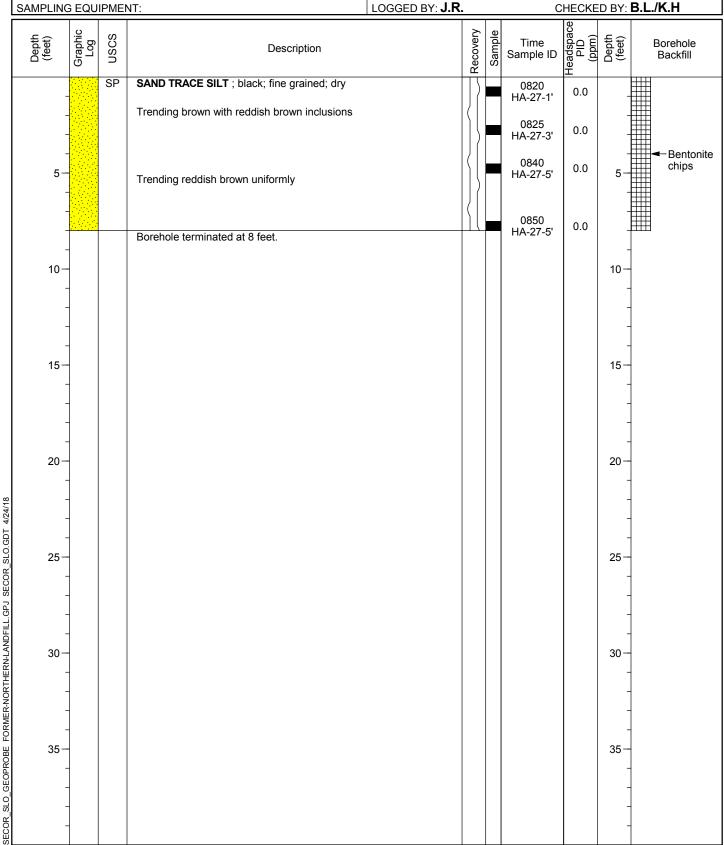
SAMPLING EQUIPMENT:

BOREHOLE NO:



BOREHOLE DEPTH (ft): 8.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/22/17 COMPLETED: 9/25/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

SAMPLING EQUIPMENT:

BOREHOLE NO:



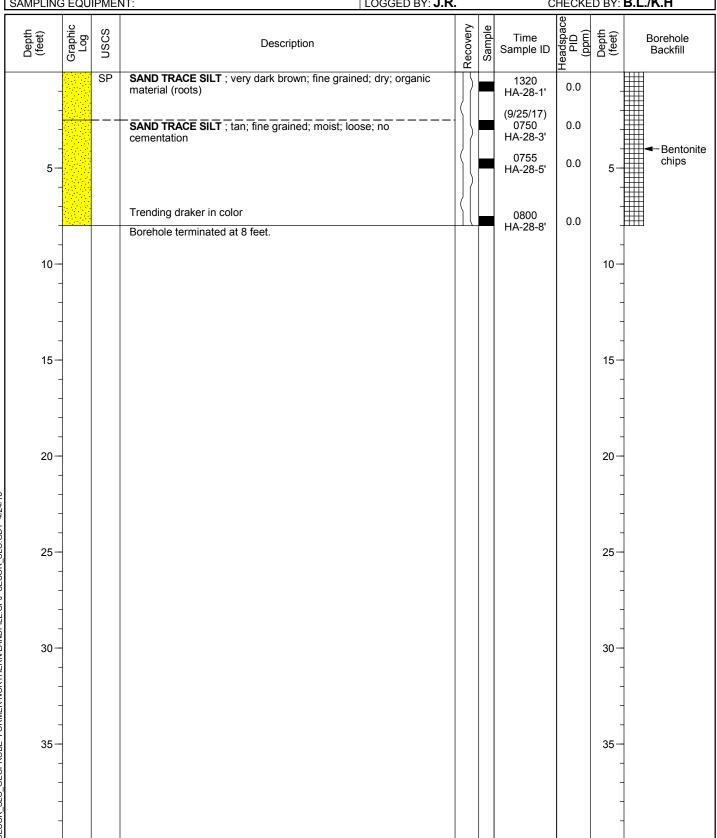
BOREHOLE DEPTH (ft): 8.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:

CHECKED BY: B.L./K.H



SLO_GEOPROBE FORMER-NORTHERN-LANDFILL.GPJ SECOR_SLO.GDT 4/24/18

PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: **185850429**

DRILLING STARTED: 9/22/17 COMPLETED: 9/22/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

BOREHOLE NO:



BOREHOLE DEPTH (ft): 8.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): **NE** NORTHING: EASTING: LATITUDE: LONGITUDE:

	SAMPLING	EQU	PMEN	NT:	LOGGED BY: J.R .						B.L./K.H
	Depth (feet)	Graphic Log	nscs	Description		Recovery	Sample	Time Sample ID	Headspace PID (ppm)	Depth (feet)	Borehole Backfill
	- - - 5- -		SP	SAND TRACE SILT; tan; fine grained; dry; loose; cementation; organic material (roots) Fragments of hardend black material; slightly mo				1237 HA-29-1' 1242 HA-29-3' 1247 HA-29-5'	0.0	- - - 5- -	■ Bentonite chips
	- 10 <i>-</i> - -			Borehole terminated at 8 feet.				HA-29-8'	0.0	- 10 - - -	
	- 15 — - - -									- 15 - -	
T 4/24/18	- 20 - - -									- 20 – - - -	
FILL.GPJ SECOR_SLO.GD	- 25 - - -									25 - - -	
ORMER-NORTHERN-LAND	30 - - -									30	
SECOR_SLO_GEOPROBE FORMER-NORTHERN-LANDFILL.GPJ SECOR_SLO.GDT 4/24/18	35 — - - - -									35 — - - -	

PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/22/17 COMPLETED: 9/22/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

SAMPLING EQUIPMENT:

BOREHOLE NO:

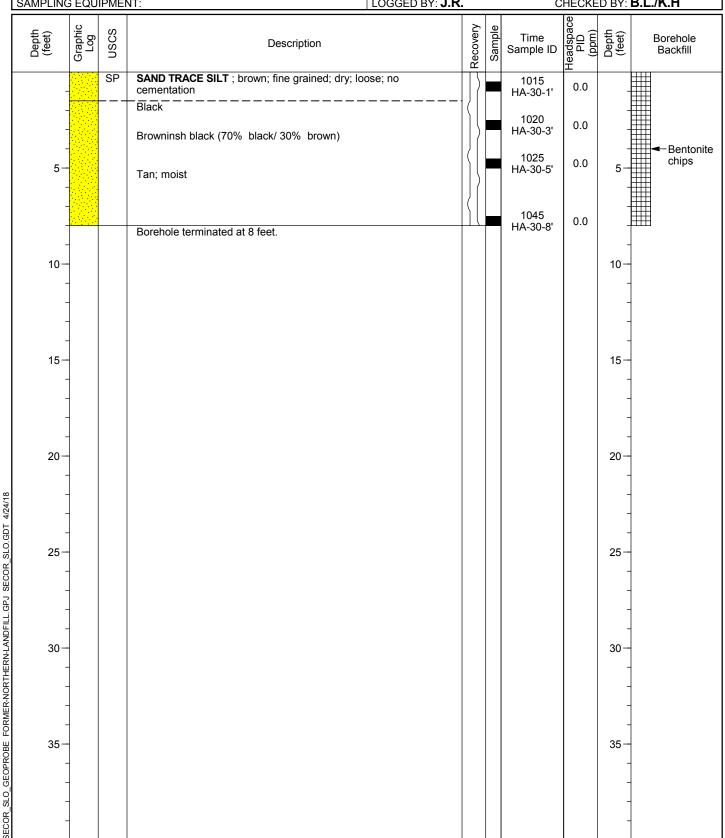


BOREHOLE DEPTH (ft): 8.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: EASTING: LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/22/17 COMPLETED: 9/22/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

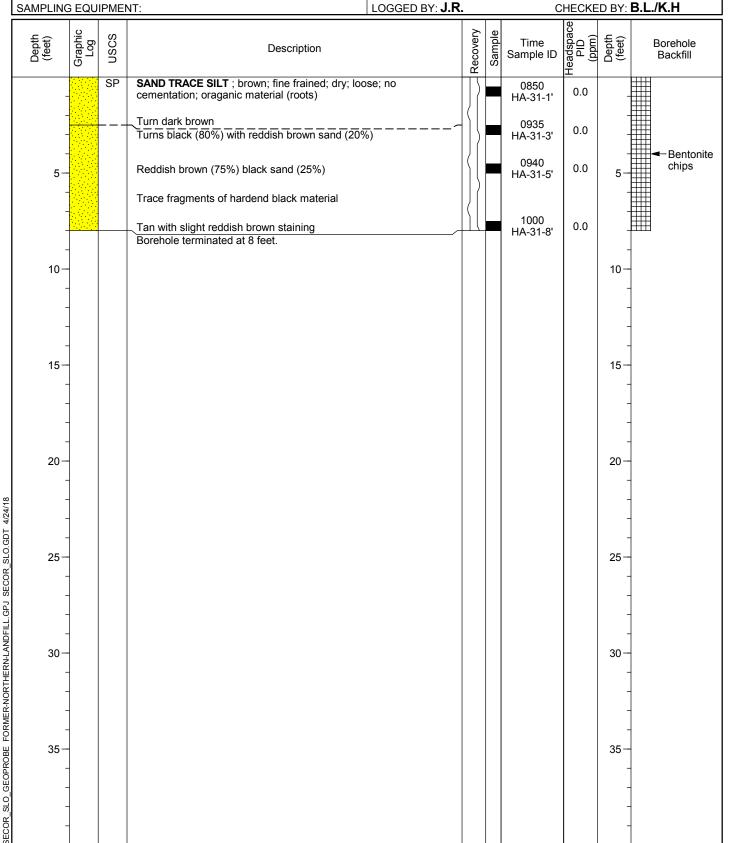
SAMPLING EQUIPMENT:

BOREHOLE NO:



BOREHOLE DEPTH (ft): 8.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/21/17 COMPLETED: 9/21/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

SAMPLING EQUIPMENT:

BOREHOLE NO:



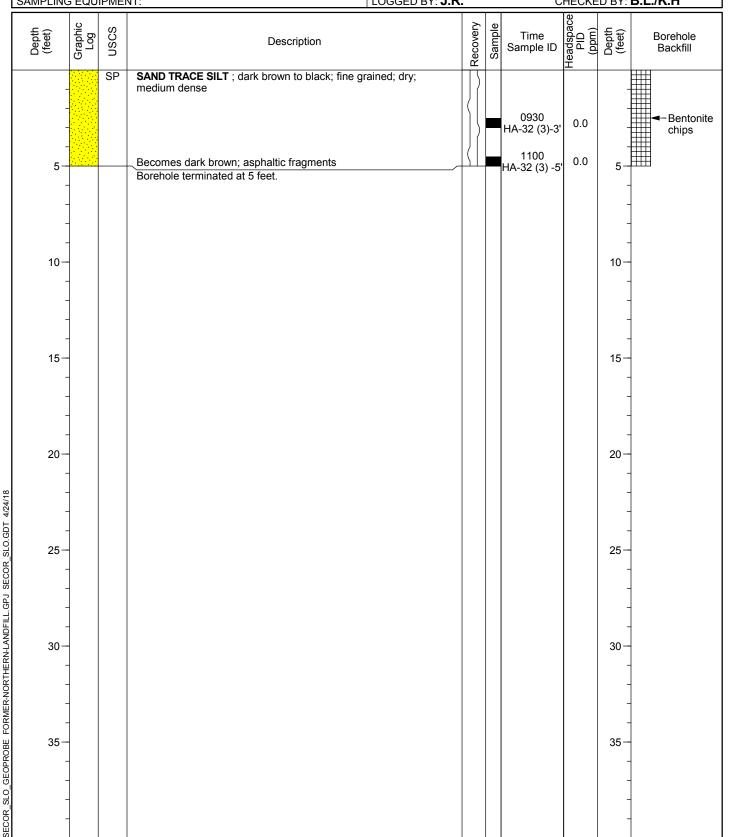
NORTHING:

EASTING:

BOREHOLE DEPTH (ft): 5.0 BOREHOLE DIAMETER (in): 3 INITIAL DTW (ft): **NE**

LATITUDE: STATIC DTW (ft): NE LONGITUDE:

LOGGED BY: J.R. CHECKED BY: B.L./K.H



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/29/17 COMPLETED: 10/3/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

SAMPLING EQUIPMENT:

BOREHOLE NO:

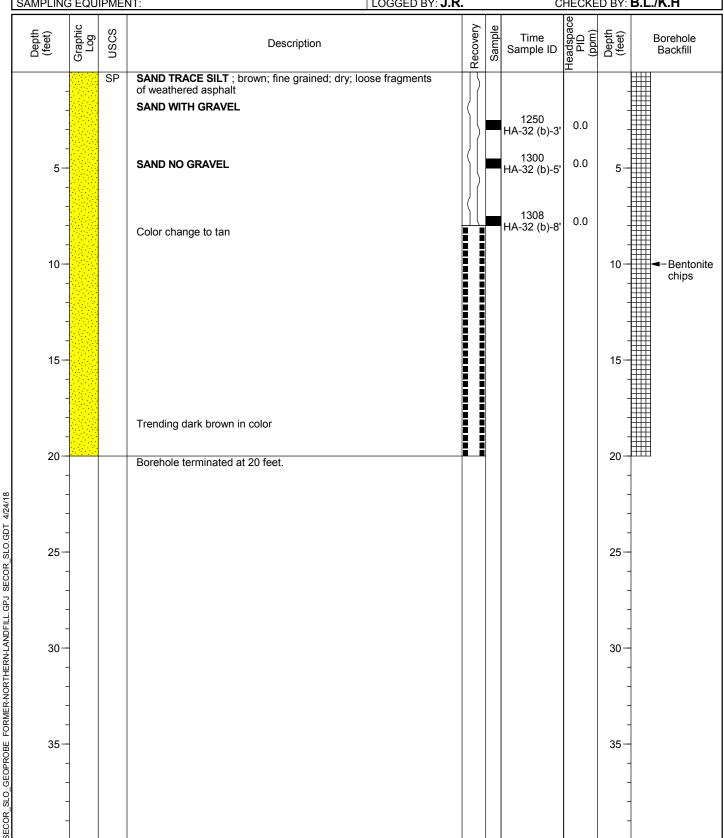


BOREHOLE DEPTH (ft): 20.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: **185850429**

DRILLING STARTED: 9/21/17 COMPLETED: 9/21/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

BOREHOLE NO:



BOREHOLE DEPTH (ft): 1.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): **NE** EASTING: LATITUDE:

NORTHING:

LONGITUDE:

Description Description	L	SAMPLING	EQU		NT:	LOGGED BY: J.R						B.L./K.H
SP SAND TRACE SILT; black staining; asphaltic and tarry material encountered encountered Refusal at 1 feet. Borehole terminated at 1 feet. 5		Depth (feet)	Graphic Log	nscs	Description		Recovery	Sample	Time Sample ID	Headspace PID (ppm)	Depth (feet)	Borehole Backfill
5- 5- 10- 10- 10- 15- 15- 20- 20-	ľ			SP	– encountered				0900 HA-32(1)-1'		_	Native soil
10- 10- 115- 15- 20- 20-		_			Refusal at 1 feet. Borehole terminated at 1 feet.						-	
10- 10- 115- 15- 20- 20-		_									-	
15-		5-									5-	
15-		-									-	
15-		-									-	
15-		10									10	
20-		10-									-	
20-		-									-	
		-									_	
		15-									15-	
		-									_	
		-									-	
30 — 30 —		20-									20 –	
25 — 25 — 25 — 25 — 30 — 30 — 30 — 35 — 35 — 35 — 35 — 3	_	-									-	
1000 015	4/24/18	_									-	
30 — 30 — 30 — 35 — 35 — 35 — 35 — 35 —	O.GDT	-									-	
30 — 30 — 30 — 35 — 35 — 35 — 35 — 35 —	COR_SI	25									25 -	
30 — 30 — 30 — 30 — 35 — 35 — 35 — 35 —	SPJ SE	-									-	
30 - 30 - 30 - 30 - 30 - 30 - 30 - 30 -	DFILL.	-									_	
	RN-LAN	30-									30 —	
	ORTHE										-	
	WER-N	_									-	
	BE FOF	35-									35 —	
σ <u> </u>	EOPRO	_									-	
	SLO_G	_									-	
	SECOR	-									-	

SLO_GEOPROBE FORMER-NORTHERN-LANDFILL.GPJ SECOR_SLO.GDT 4/24/18

PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: **185850429**

DRILLING STARTED: 9/29/17 COMPLETED: 9/29/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

BOREHOLE NO:



BOREHOLE DEPTH (ft): 3.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): **NE**

EASTING: LATITUDE: LONGITUDE:

NORTHING:

SAMPLING	EQU	IPMEN	NT:	LOGGED BY: J.R.	ı					B.L./K.H
Depth (feet)	Graphic Log	nscs	Description		Recovery	Sample	Time Sample ID	Headspace PID (ppm)	Depth (feet)	Borehole Backfill
-		SP	SAND TRACE SILT; dark brown to black; fine gr Turns very dense Refusal at 1 feet. Borehole terminated at 3 feet.				HA-32(a)-1' HA-32(a)-3'	0.0	- - -	
5									5 — - - -	
10-									10	
15-									15 —	
20 —									20 —	
									- - - - - 30-	
30 —									- - - 35—	
									- - -	

SLO_GEOPROBE FORMER-NORTHERN-LANDFILL.GPJ SECOR_SLO.GDT 4/24/18

PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: **185850429**

DRILLING STARTED: 9/21/17 COMPLETED: 9/22/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

BOREHOLE NO:



BOREHOLE DEPTH (ft): 8.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): **NE**

NORTHING: EASTING: LATITUDE: LONGITUDE:

L	SAMPLING			NT:	LOGGED BY: J.R.			C		D BY:	B.L./K.H
	Depth (feet)	Graphic Log	nscs	Description		Recovery	Sample	Time Sample ID	Headspace PID (ppm)	Depth (feet)	Borehole Backfill
-	- - -		SP	SAND TRACE SILT; tan; fine grained; dry; loose staining Slightly moist	trace dark			1110 HA-33-1' 1115 HA-33-3'	0.0		
	5 - -			Moist Borehole terminated at 8 feet.				1120 HA-33-5' (9/22/17) 0815 HA-33-8'	0.0	5-	- Bentonite chips
	- 10 <i></i> - -			borehole terminated at 0 leet.				ПА-33-6		10 –	
	- 15 <i>-</i> - -									15-	
24/18	20 — - -									20 -	
3PJ SECOR_SLO.GDT 4/2	25— - -									25 -	
R-NORTHERN-LANDFILL.	30 — - -									30-	
SECOR_SLO_GEOPROBE FORMER-NORTHERN-LANDFILL.GPJ SECOR_SLO.GDT 4/24/18	35— - -									35 -	
SECOR_SI	_										

PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/20/17 COMPLETED: 10/3/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

BOREHOLE NO:

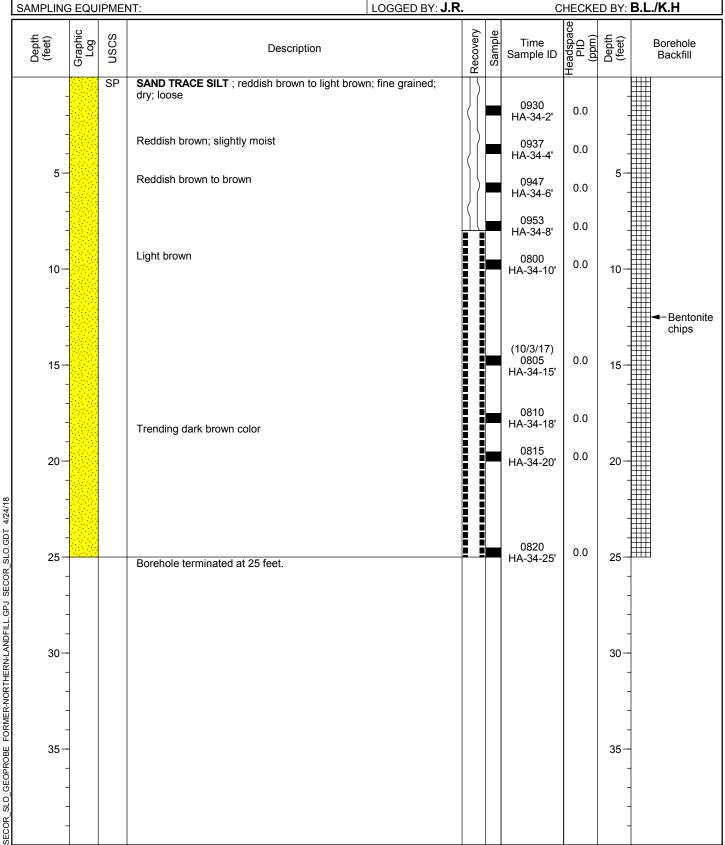


BOREHOLE DEPTH (ft): 25.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

COMPLETED: 9/27/17 DRILLING STARTED: 9/27/17

DRILLING COMPANY: Stantec/S&G Drilling

DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

SAMPLING EQUIPMENT:

BOREHOLE NO:



NORTHING:

EASTING:

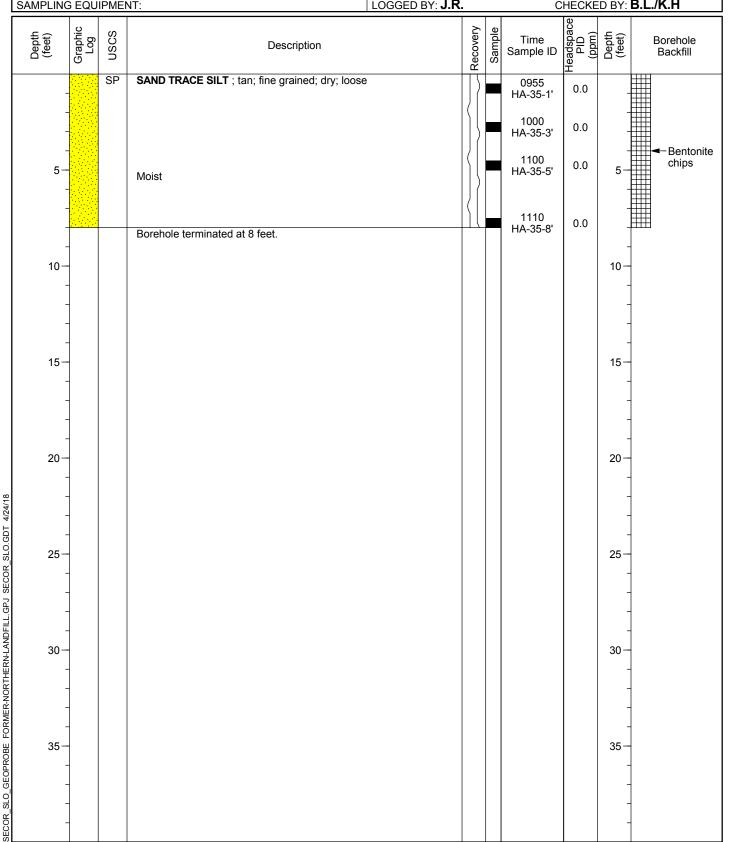
LATITUDE:

BOREHOLE DEPTH (ft): 8.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LONGITUDE:

LOGGED BY: J.R. CHECKED BY: B.L./K.H



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/26/17

COMPLETED: 10/3/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

BOREHOLE NO:

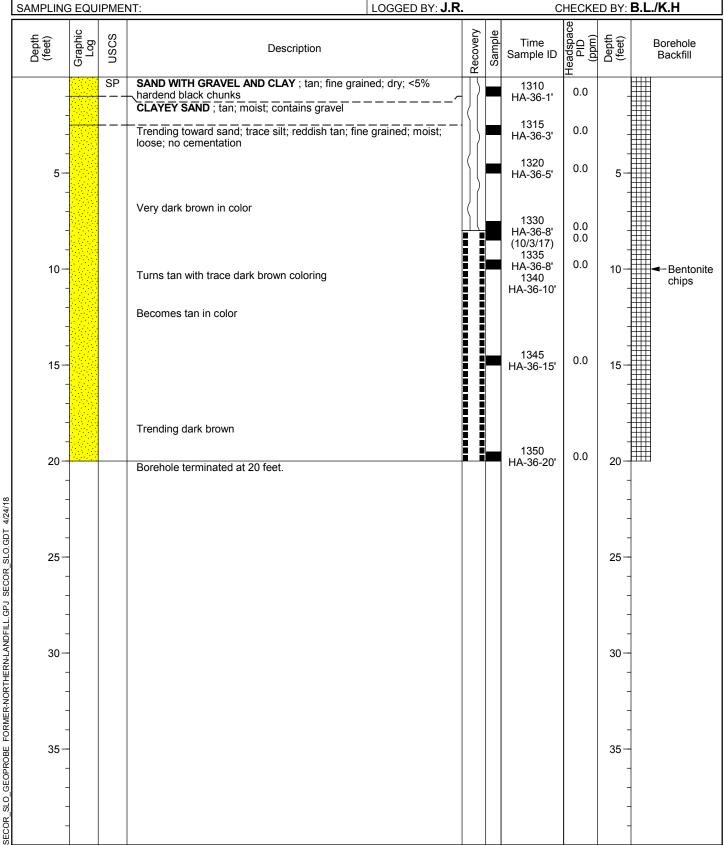


BOREHOLE DEPTH (ft): 20.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/20/17 COMPLETED: 10/3/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

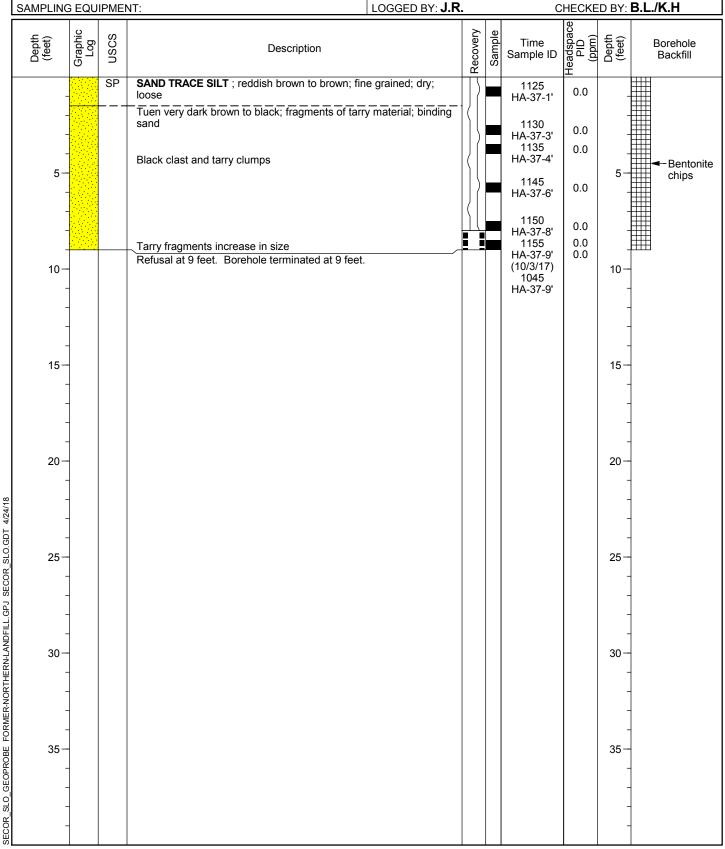
SAMPLING EQUIPMENT:

BOREHOLE NO:



BOREHOLE DEPTH (ft): 9.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 10/4/17 COMPLETED: 10/4/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

BOREHOLE NO:

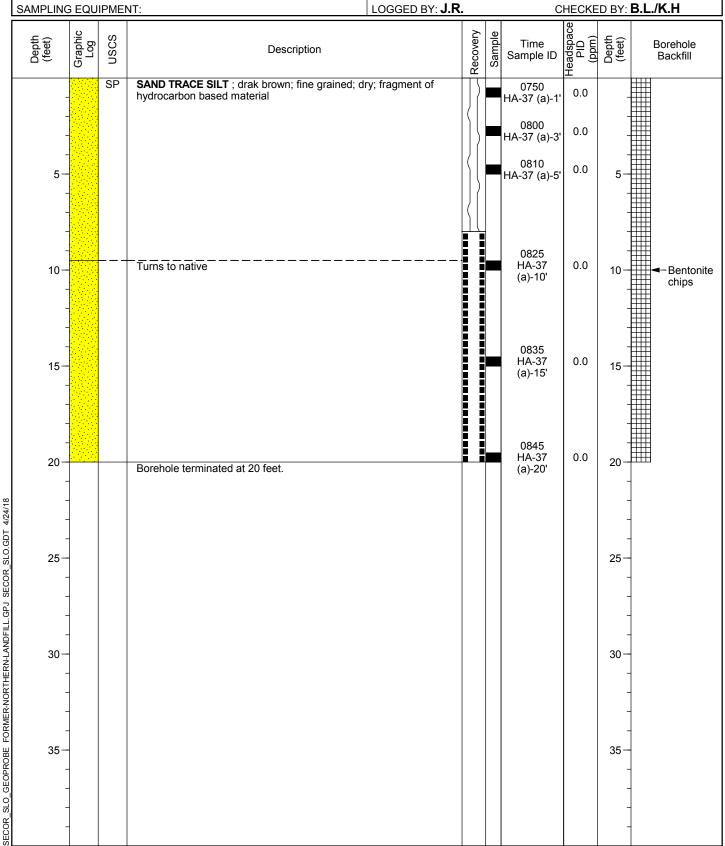


BOREHOLE DEPTH (ft): 20.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/20/17 COMPLETED: 9/20/17

DRILLING COMPANY: Stantec/S&G Drilling

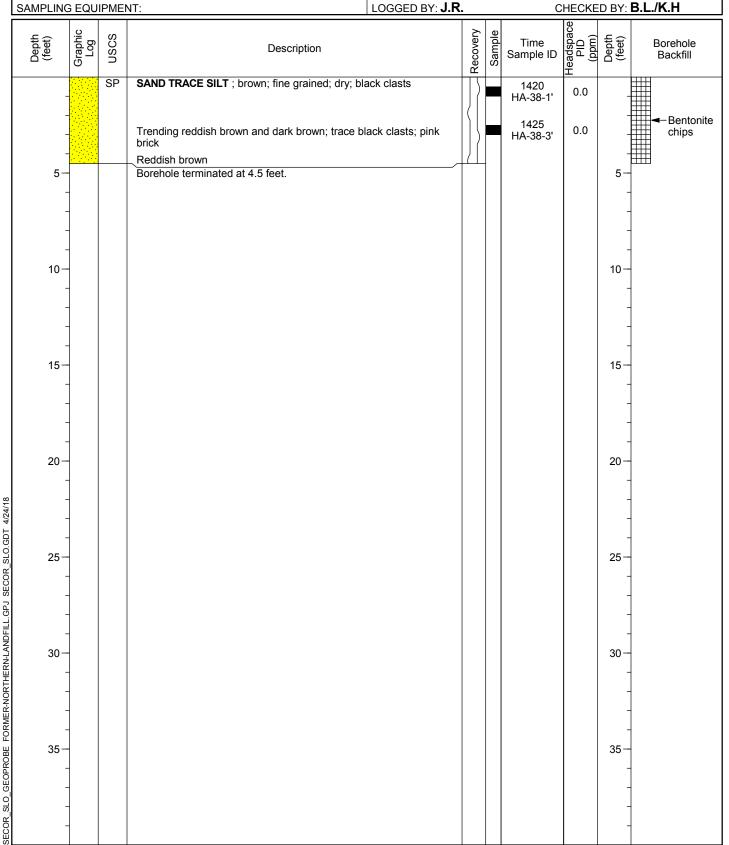
DRILLING EQUIPMENT: Hand Auger DRILLING METHOD: Hand Auger

BOREHOLE NO:



BOREHOLE DEPTH (ft): 4.5 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): **NE** NORTHING: EASTING: LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/27/17 COMPLETED: 10/5/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

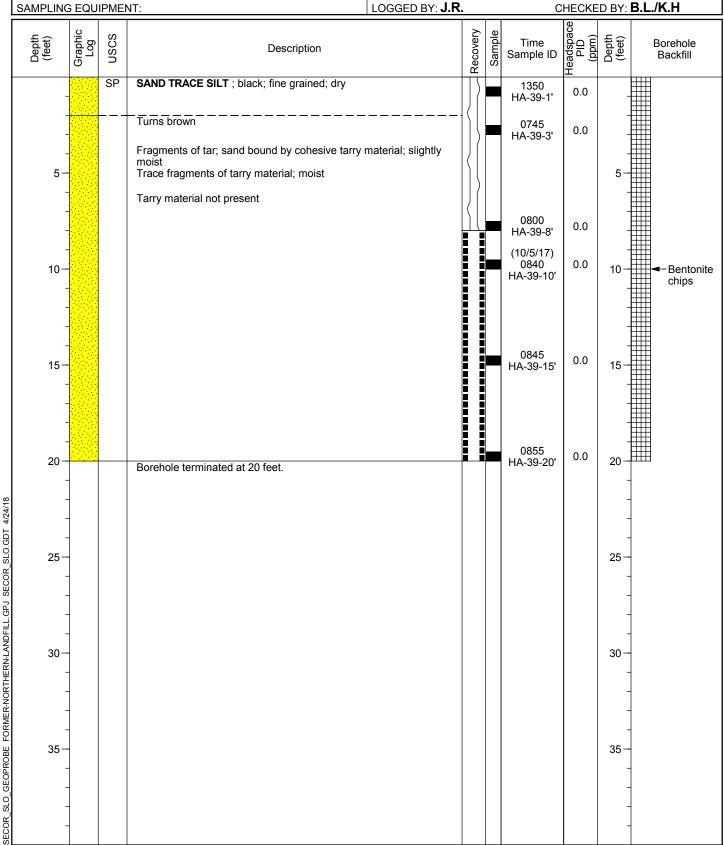
BOREHOLE NO:



BOREHOLE DEPTH (ft): 20.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/27/17 COMPLETED: 10/5/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

SAMPLING EQUIPMENT:

BOREHOLE NO:



BOREHOLE DEPTH (ft): 20.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

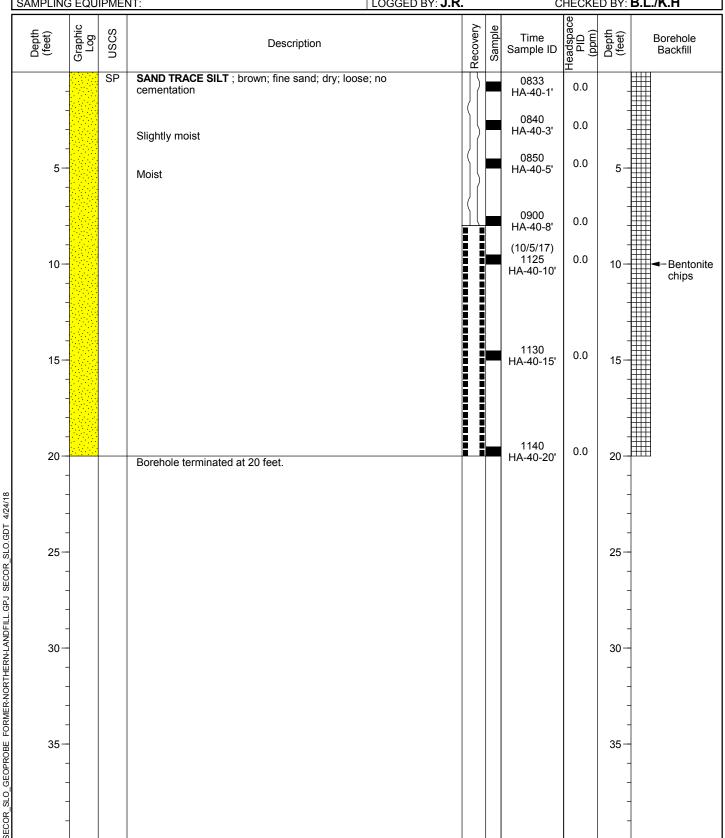
LONGITUDE:

LOGGED BY: J.R. CHECKED BY: B.L./K.H

NORTHING:

EASTING:

LATITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/20/17 COMPLETED: 10/5/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

SAMPLING EQUIPMENT:

BOREHOLE NO:

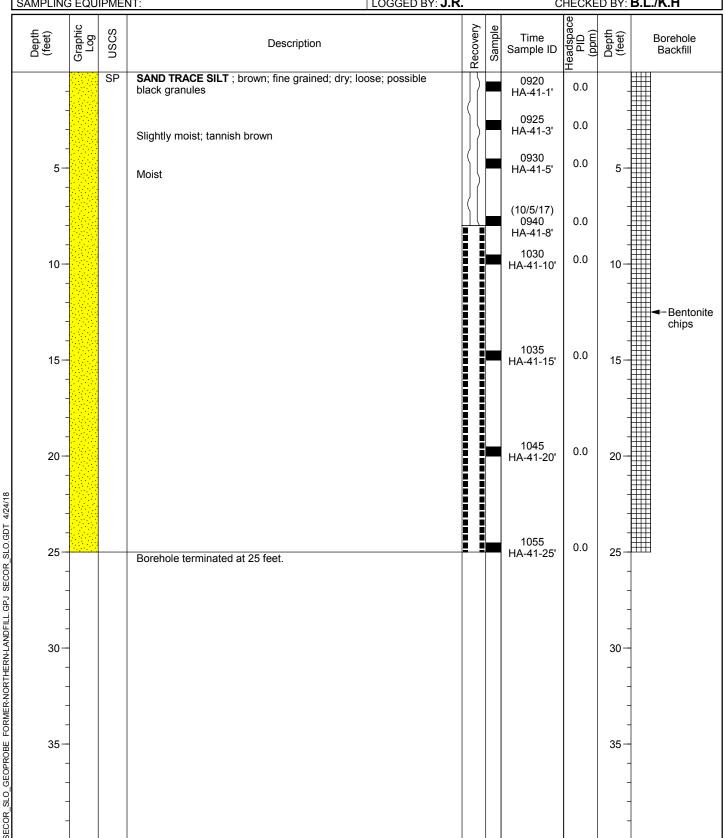


BOREHOLE DEPTH (ft): 25.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/28/17 COMPLETED: 10/2/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

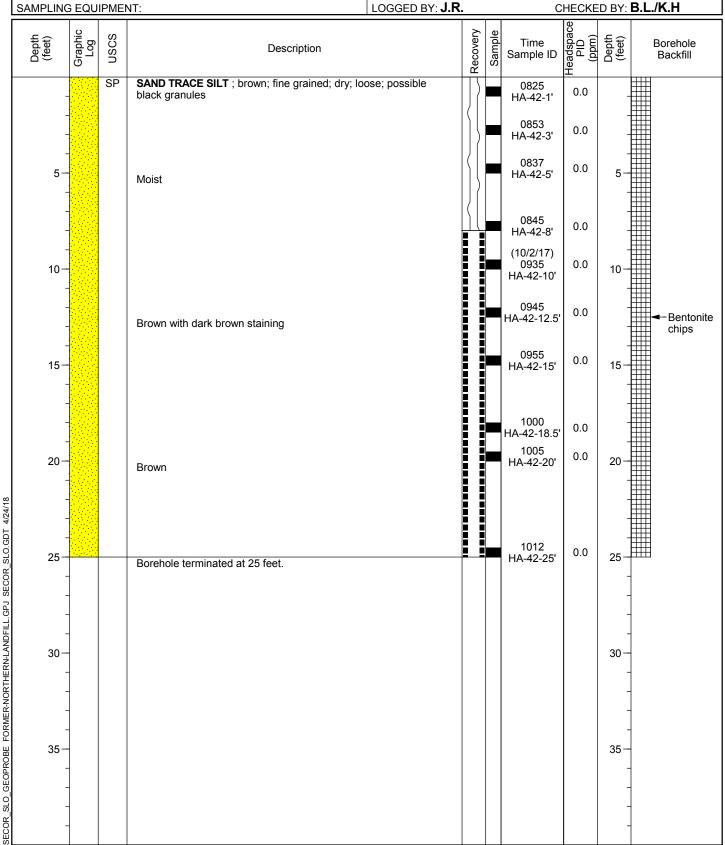
BOREHOLE NO:



BOREHOLE DEPTH (ft): 25.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/28/17 COMPLETED: 10/4/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

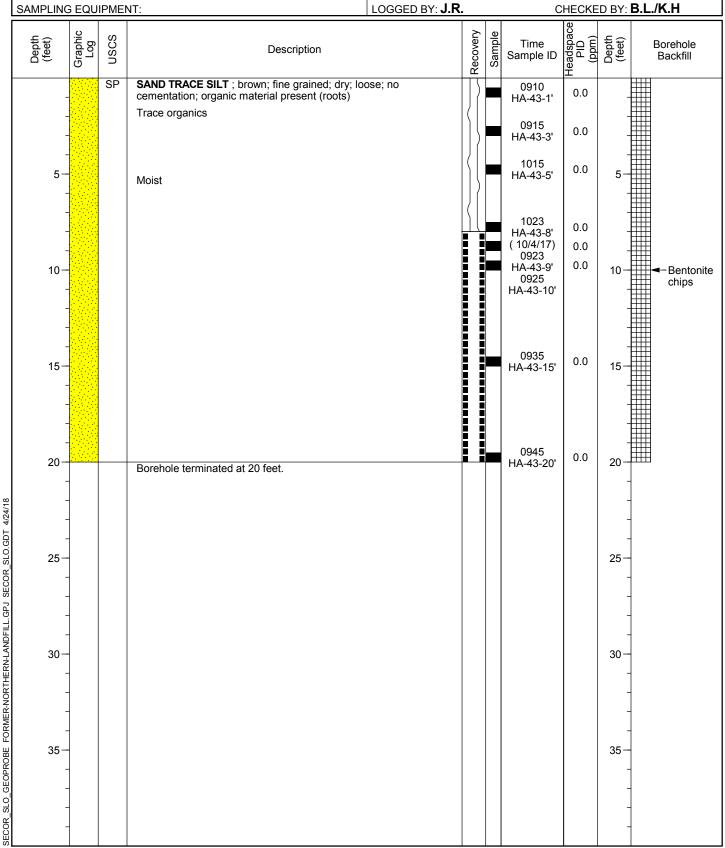
BOREHOLE NO:



BOREHOLE DEPTH (ft): 20.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/28/17 COMPLETED: 10/4/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

SAMPLING EQUIPMENT:

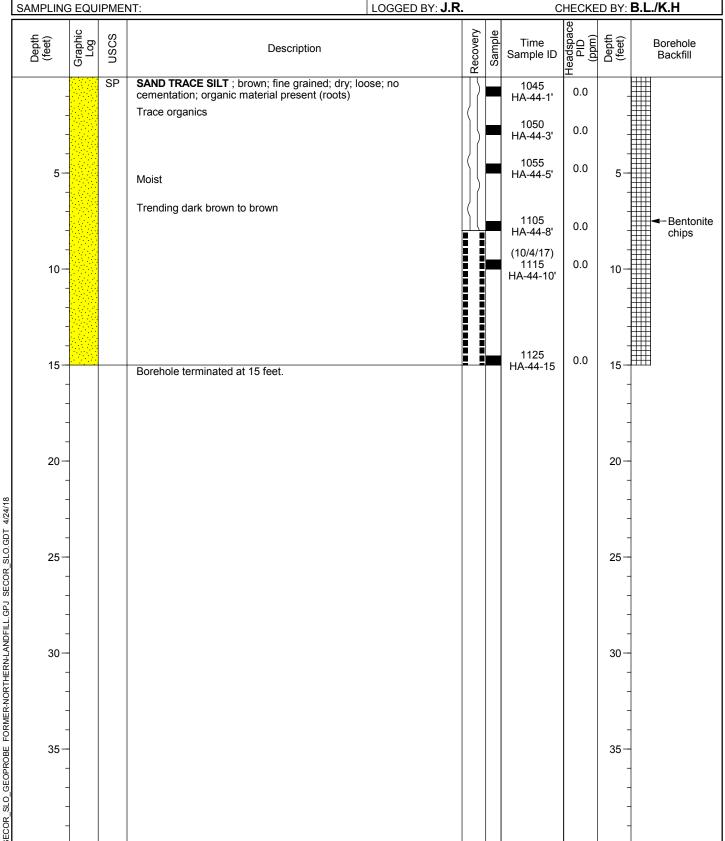
BOREHOLE NO:



BOREHOLE DEPTH (ft): 15.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE **EASTING:** LATITUDE: LONGITUDE:

NORTHING:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/29/17 COMPLETED: 10/4/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

BOREHOLE NO:

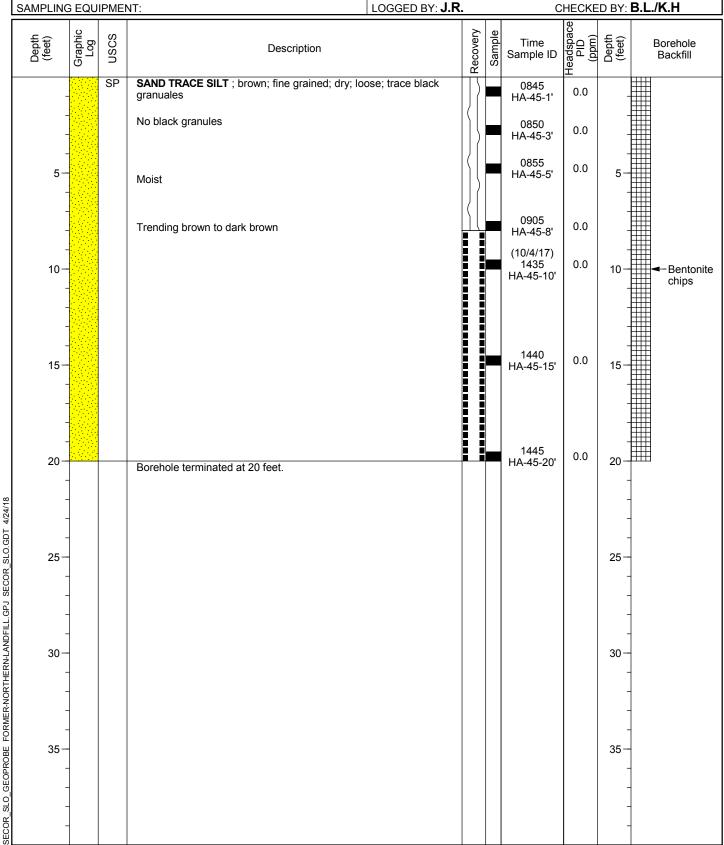


BOREHOLE DEPTH (ft): 20.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/28/17 COMPLETED: 10/3/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

BOREHOLE NO:

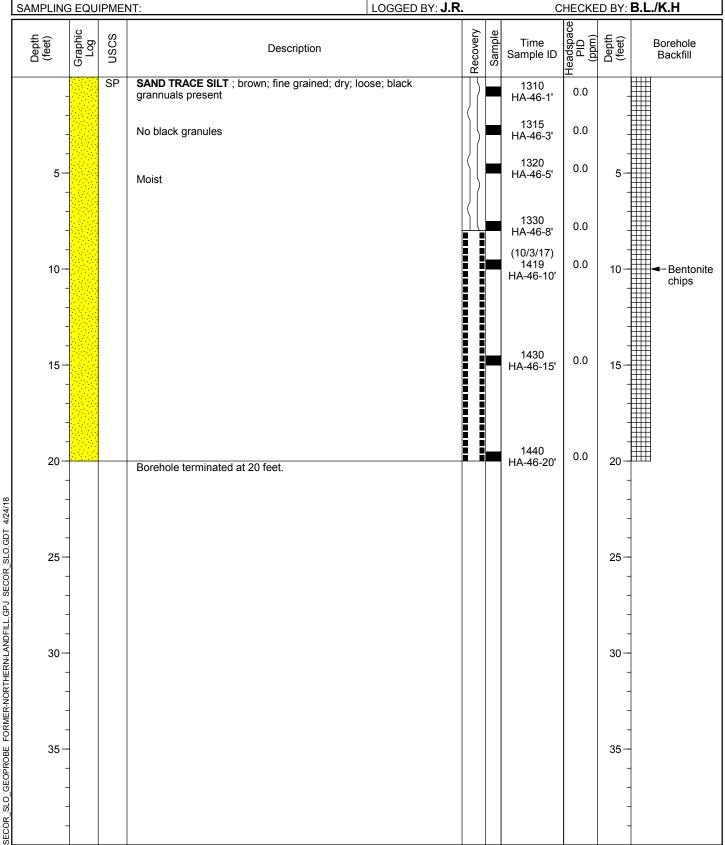


BOREHOLE DEPTH (ft): 20.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/29/17 COMPLETED: 10/2/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

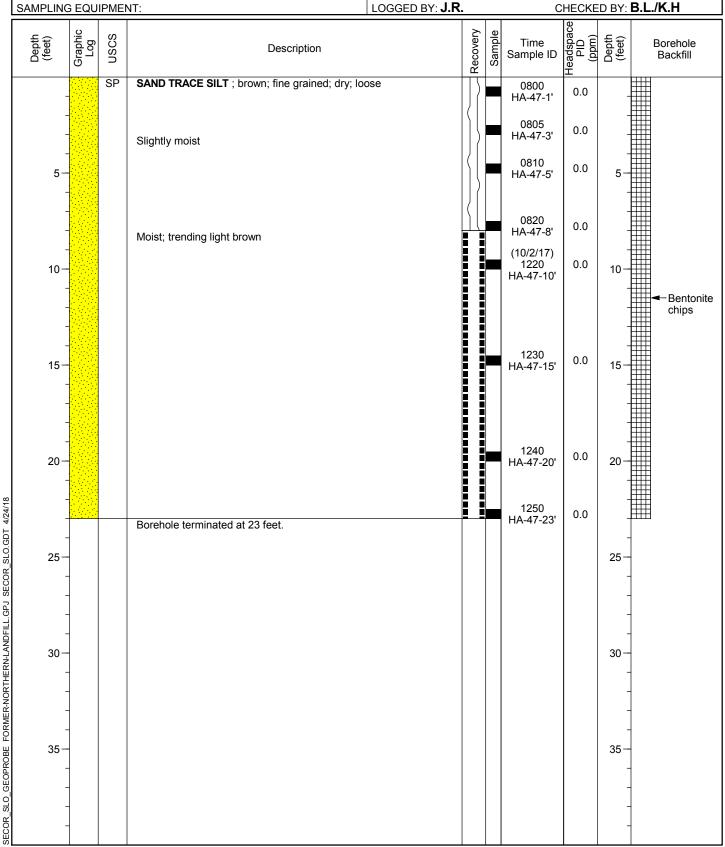
BOREHOLE NO:



BOREHOLE DEPTH (ft): 23.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 9/29/17 COMPLETED: 10/3/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

BOREHOLE NO:

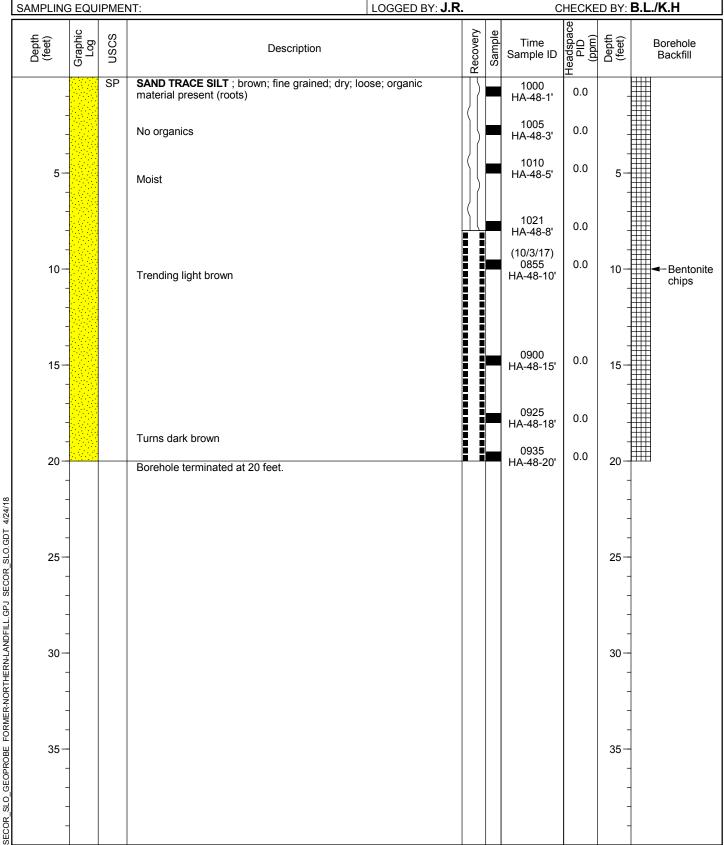


BOREHOLE DEPTH (ft): 20.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



PROJECT: Northern Inactive Waste Site

LOCATION: 2555 Willow Road, Arroyo Grande, CA. 93420

PROJECT NUMBER: 185850429

DRILLING STARTED: 10/4/17 COMPLETED: 10/5/17

DRILLING COMPANY: Stantec/S&G Drilling DRILLING EQUIPMENT: Hand Auger/Geoprobe DRILLING METHOD: Hand Auger/ Direct Push

BOREHOLE NO:

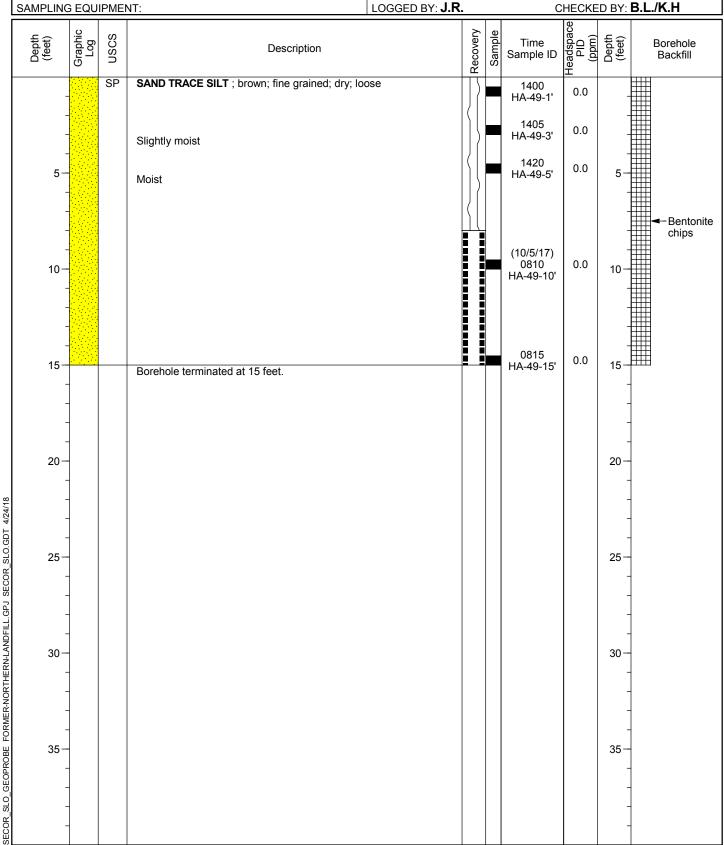


BOREHOLE DEPTH (ft): 15.0 BOREHOLE DIAMETER (in): 3

INITIAL DTW (ft): **NE** STATIC DTW (ft): NE

LOGGED BY: J.R.

NORTHING: **EASTING:** LATITUDE: LONGITUDE:



APPENDIX B STANDARD OPERATING PROCEDURES



STANDARD OPERATING PROCEDURES

The following section describes field techniques that are performed by Stantec personnel to complete the tasks involved with this project.

LOCATING UNDERGROUND UTILITIES

Prior to the commencement of work on site, Stantec personnel marks the boring locations with white paint and researches the location of all underground utilities with the assistance of Underground Service Alert (USA). USA contacts the owners of the various utilities in the vicinity of the site to have the utility owners mark the locations of their underground utilities. In addition, a private utility locator is subcontracted to further locate possible underground utilities in each of the boring areas. Prior to drilling, each boring is advanced manually to a minimum depth of 8 feet to avoid contact with unmarked utilities.

HAND AUGER SOIL BORING AND SOIL SAMPLING PROTOCOL

Auguring and soil sampling are performed under the direction of a Stantec registered geologist or engineer. All down-hole drilling equipment is decontaminated on completion of the boring. The auger bucket is washed between each sampling event to reduce the potential for cross contamination between samples.

The soil samples are obtained from the hand auger bucket and placed directly into sample jars. The remaining soil will be used for screening with the photoionization detector (PID) or equivalent equipment and for soil logging. Each sample is labeled, identified on a chain of custody, and stored in a chilled cooler for transport to the laboratory. Remaining soil in the sampler is used for later screening with a PID. Soil to be field screened will be placed in re-sealable plastic bags and allowed to reach ambient temperature. Headspace vapors in the bags are field screened with a calibrated PID. The highest observed stable reading is then recorded onto the boring log.

All of the soil samples are observed for lithology and visually classified in accordance with the Unified Soil Classification System (USCS). Soil samples are retained for laboratory analysis based on field observations including PID readings.

Following soil classification and sample collection, the borings are abandoned by placement of bentonite chips within the borehole to the ground surface in lifts and hydrated.

DIRECT-PUSH SOIL BORING AND SOIL SAMPLING PROTOCOL

Drilling and soil sampling are performed under the direction of a registered geologist or engineer. The direct-push borings is drilled using a truck- or track-mounted direct push drill rig. During drilling, the soil lithology is classified and described using the Unified Soil Classification System (USCS).

All down-hole drilling and sampling equipment is decontaminated prior to use and between each boring to reduce the chances of cross contamination. The sampler is washed between each sampling event to reduce the potential for cross contamination between samples. Hand augers are washed between each sampling event to reduce the potential for cross contamination between boreholes.

Soil sampling is performed using a 5-foot long stainless-steel sample barrel fitted with a transparent acetate liner. The soil sampler is advanced ahead of the direct-push rods to collect a continuous soil core. The soil core is screened with a PID and soil samples are collected at the desired interval by cutting and capping a 6-inch long section of the acetate sample liner. The

portion of the sample to be retained for potential laboratory analysis is cut from the soil core, sealed with a Teflon liner and a plastic cap, labeled, identified on the chain of custody, and stored in a chilled cooler for transport to the laboratory. Remaining soil in the sampler is used for screening with a PID or equivalent equipment. The soil field screened with a PID is placed in resealable plastic bags and allowed to reach ambient temperature. Headspace vapors in the bags are field screened with a calibrated PID. The highest observed stable reading is then recorded onto the boring log.

SAMPLE COLLECTION AND HANDLING

Proper sample collection and handling are essential in ensuring the quality of each sample. All samples will be collected by experienced field personnel and immediately placed in an ice chest. The ice chest will be delivered to the laboratory via courier or overnight mailing. The individual samples will be collected in suitable containers, which have been pre-cleaned at the laboratory and supplied with the appropriate preservative. The containers will be clearly marked and dated for identification. All samples will be preserved correctly and stored for analysis no longer than the maximum allowable holding time.

Sample identification and chain-of-custody procedures ensure sample integrity and document sample possession from the time of collection to its ultimate disposal. Each sample container submitted for analysis will have a label affixed to identify the job number, sampler, date and time of sample collection, and a sample number unique to that sample. This information, in addition to a description of the sample, field measurements made, sampling methodology, names of on-site personnel, and any other pertinent field observations, will be recorded on the boring log or in the field records. A chain-of-custody sheet will be used to record possession of the sample from the time of collection to its arrival at the laboratory.

APPENDIX C LABORATORY REPORTS AND CHAIN OF CUSTODIES





Date of Report: 01/17/2018

Kirk Henning

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Client Project:

185850429

BCL Project:

Former Northern Landfill

BCL Work Order:

1726917

Invoice ID:

B281501, B283516, B289255

Enclosed are the results of analyses for samples received by the laboratory on 9/21/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000691031

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Stuart Buttram **Technical Director**

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

Report ID: 1000696157

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Volatile Organic Analysis (EPA Method 8260B)	
Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)	
Total Petroleum Hydrocarbons	
Chemical Analysis	
Total Concentrations (TTLC)	
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Total Petroleum Hydrocarbons	21
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Total Petroleum Hydrocarbons	22
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Report ID: 1000696157



Chain of Custody and Cooler Receipt Form for 1726917 Page 1 of 4 Chain of Custody Form ☐ STD ☐ 5 Day** ☐ 2 Day** ☐ 1 Day* Result Request "Surcharge 9-21-17 Notes BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com ě Waste Water Ground Waater appnis Analysis Requested 00:50 09:30 11.15 0912117 11:00 Froser Mothers Le City, State, Zip: Say Lis Obisps, CA Frys Sampleris): Ting Round State of CA? (EDT) Project #: /858504 29 EDF Required? Send Copy to % □ 8 09 21 17 09 21 17 09 21 17 09/21/17 Geotracker ABORATORIES, INC. □ Yes □ Yes Email: Kirk honging stanke low Description HA - 32(3)-3 HA-32(3)-5 HA-32(1)-1 Phone: Bos 250,2854Fax: -33-3 HA-33-1 Street Address: 3434 Nork Order #: M Billing Sample Client: Attn:

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 4 of 54



Chain of Custody and Cooler Receipt Form for 1726917 Page 2 of 4 Chain of Custody Form STD □ 5 Day" □ 2 Day" □ 1 Day Result Request "Surcharge Sate Oato System # !Narded for EDT) - 4100 Atlas Ct. - Bakerstleld, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Comments: 2. Received By ээжм өвгим Ground Waster Dinking Water Single **Analysis Requested** Date 009 Patient kg 3. Retinquished By Global ID (Needed by £09-) Send Copy to State of CA? (EDT) EDF Required? □ Yes □ No □ Yes □ No Geotracker LABORATORIES, INC. Project Name: Sampler(s): Project #: Same as above BC Laboratories, Inc. Fax: Ú Street Address: City, State, Zip: Work Order #: Phone: Billing Email: Address Client: P.O. #: Attn: O. P.

Report ID: 1000696157 4100 Atlas Court Bakerstield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 5 of 54



Chain of Custody and Cooler Receipt Form for 1726917 Page 3 of 4 Chain of Custody Form □STD □ 5 Day** □ 2 Day** □ 1 Day Result Request "Surcharge Date BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661,327.4911 - Fax: 661,327.1918 - www.bclabs.com Comments: Received By Received By Vaste Water Ground Waster Drinking Water Sludge lios Time Analysis Requested Date Global ID (Nosded for EDF) Send Copy to State of CA? (EDT) EDF Required? Geotracker 8 | ŝ ABORATORIES, INC. □ Yes □ Yes Project Name: Sampler(s): Project #: Same as above Description Ü Street Address: City, State, Zip: Work Order #: Email: Billing Address Client: ö Attn:

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 6 of 54



Chain of Custody and Cooler Receipt Form for 1726917

.BORATORIES INC.			000150							
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Diffission #: 4-2011 4	1		COOLER	RECEIPT	PONIVI			ra	de	01 /
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	ntant? Yes		None	☑ Com	ments:					,
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✓ YES □ NO Te	mperature:	(A)	25	°C /	(C) 2	22	ILI C M	Analyst	Init KWK	٤
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NORGANIC CHEMICAL METALS 402 / 802 / 1602									_	
T CYANIDE			1						1	
T NITROGEN FORMS			1							
T TOTAL SULFIDE			1							1
02. NITRATE / NITRITE		-	1	1	1				-	1
T TOTAL ORGANIC CARBON .								-		1
T CHEMICAL OXYGEN DEMAND				1						
A PHENOLICS			1							
oml VOA VIAL TRAVEL BLANK										
Imi VOA VIAL									T .	
T EPA 1664										
r odor										
ADIOLOGICAL										
ACTERIOLOGICAL										
ml VOA VIAL- 504						- 4		+ p40°		
T RPA 508/608/8080										
T EPA 515.1/8150			ļ							
T EPA 525			-							
FEPA 525 TRAVEL BLANK	·		-							
ml EPA 547										
mt EPA 531.1										
z EPA 548			-						-	
F EPA 549										
TEPA 8015M										
FEPA 8270			· -							
1/1602/32q2 AMBER	A	1	h -	~	B	A				
1/1602 NZOZJAR		A	R	A.	1,3	PT			-	
OIL SLEEVE									-	
B VIAL									-	
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CORE			-						-	
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MMA CANIETED										
MMA CANISTER										

Report ID: 1000696157

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1726917-01 COC Number:

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-32(1)-1 Sampled By: SISL **Receive Date:** 09/21/2017 17:30 **Sampling Date:** 09/21/2017 09:00

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-32(1)-1

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1726917-02 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-32(3)-3 Sampled By: SISL **Receive Date:** 09/21/2017 17:30 **Sampling Date:** 09/21/2017 09:30

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-32(3)-3

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1726917-03 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-32(3)-5
Sampled By: SISL

Receive Date: 09/21/2017 17:30

Sampling Date: 09/21/2017 11:00
Sample Depth: --Lab Matrix: Solids

Sample Type: Soil Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-32(3)-5

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000696157

Page 8 of 54

3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1726917-04 COC Number: --

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-33-1 Sampled By: SISL **Receive Date:** 09/21/2017 17:30 **Sampling Date:** 09/21/2017 11:10

Sample Depth:---Lab Matrix:SolidsSample Type:Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-33-1

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1726917-05 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-33-3
Sampled By: SISL

Receive Date: 09/21/2017 17:30 **Sampling Date:** 09/21/2017 11:15

Sample Depth:---Lab Matrix:SolidsSample Type:SoilDelivery Work Order:

Global ID:

Location ID (FieldPoint): HA-33-3

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1726917-06 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-33-5
Sampled By: SISL

Receive Date: 09/21/2017 17:30 **Sampling Date:** 09/21/2017 11:20

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-33-5

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

P: 100606157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Report ID: 1000696157



Misc Report For 1726917 PDF File Name: wo 1726917 misc EDT EMSLA.pdf Page 1 of 1



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order: 091800323 Customer ID: BCLA50 Customer PO: 1726917 Project ID:

Attention: Molly Meyers BC Laboratories, Inc.

4100 Atlas Court Bakersfield, CA 93308

Phone: (661) 327-4911 Fax: (661) 327-1918 Received Date: 01/04/2018 9:30 AM

Analysis Date: 01/09/2018

Collected Date:

Project: 1726917

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-A	sbestos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1726917-03		Black Non-Fibrous		100% Non-fibrous (Other)	None Detected
091800323-0001		Homogeneous			
Soil is a problem matrix	. Other analytical options are reco	mmended such as EPA t	500 PLM/TEM with milling prep)	
172691706		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091800323-0002		Homogeneous			
Soil is a problem matrix	. Other analytical options are reco	mmended such as EPA (100 PLM/TEM with milling prep	,	

Analyst(s) Adam C. Fink (2)

Matthew Batongbacai or Other Approved Signatory

Due to magnification limitations inherent in PLM, asbestos libers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional festing by TEM to confirm asbestos quantities. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 01/10/2018 02:54:32

ASB_PLM_0008_0001 - 1.78 Printed: 1/9/2018 11:54 PM

Page 1 of 1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

September ND mg/kg 0.014 0.0035 EPA-8080 ND S05 1	BCL Sample ID:	1726917-01	Client Sampl	e Name:	Former N	orthern Lan	dfill, HA-32(1)-	1, 9/21/2017 9	:00:00AM	
Addrin ND mg/kg 0.014 0.00083 EPA-8080 ND S05 1 alpha-BHC ND mg/kg 0.014 0.0035 EPA-8080 ND S05 1 beta-BHC ND mg/kg 0.014 0.0035 EPA-8080 ND S05 1 beta-BHC ND mg/kg 0.014 0.0031 EPA-8080 ND S05 1 deta-BHC ND mg/kg 0.014 0.0031 EPA-8080 ND S05 1 deta-BHC ND mg/kg 0.014 0.0031 EPA-8080 ND S05 1 deta-BHC ND mg/kg 0.014 0.0031 EPA-8080 ND S05 1 deta-BHC (Indane) ND mg/kg 0.014 0.0032 EPA-8080 ND S05 1 deta-BHC (Indane) ND mg/kg 0.014 0.0035 EPA-8080 ND S05 1 deta-BHC (Indane) ND mg/kg 0.014 0.0057 EPA-8080 ND S05 1 deta-BHC (Indane) ND mg/kg 0.014 0.0057 EPA-8080 ND S05 1 deta-BHC (Indane) ND mg/kg 0.014 0.0058 EPA-8080 ND S05 1 deta-BHC (Indane) ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 deta-BHC (Indane) ND mg/kg 0.014 0.0032 EPA-8080 ND S05 1 EPA-8080 ND S05 1 deta-BHC (Indane) ND mg/kg 0.014 0.0032 EPA-8080 ND S05 1 EEMossulfan I ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 EEMossulfan I ND Mg/kg 0.014 0.00	Constituent		Result	Units	PQL	MDL	Method			Run #
beta-BHC ND mg/kg 0.014 0.041 EPA-8080 ND S05 1 detta-BHC ND mg/kg 0.014 0.013 EPA-8080 ND S05 1 gamma-BHC (Lindane) ND mg/kg 0.014 0.0022 EPA-8080 ND S05 1 Chlordane (Technical) ND mg/kg 0.014 0.0025 EPA-8080 ND S05 1 4.4-DDD ND mg/kg 0.014 0.0057 EPA-8080 ND S05 1 4.4-DDE 0.025 mg/kg 0.014 0.0025 EPA-8080 ND S05 1 4.4-DDT 0.062 mg/kg 0.014 0.0025 EPA-8080 ND S05 1 Endosulfan ND mg/kg 0.014 0.0022 EPA-8080 ND S05 1 Endosulfan II ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 E	Aldrin									
Month Mont	alpha-BHC		ND	mg/kg	0.014	0.0035	EPA-8080	ND	S05	1
gamma-BHC (Lindane) ND mg/kg 0.014 0.0022 EPA-8080 ND S05 1 Chlordane (Technical) ND mg/kg 1.4 0.046 EPA-8080 ND S05 1 4.4*-DDE ND mg/kg 0.014 0.0057 EPA-8080 ND S05 1 4.4*-DDE 0.025 mg/kg 0.014 0.0055 EPA-8080 ND S05 1 4.4*-DDT 0.062 mg/kg 0.014 0.0025 EPA-8080 ND S05 1 Dickfrin 0.015 mg/kg 0.014 0.0022 EPA-8080 ND S05 1 Endosulfan II ND mg/kg 0.014 0.0028 EPA-8080 ND S05 1 Endosulfan sulfate ND mg/kg 0.014 0.0028 EPA-8080 ND S05 1 Endrin aldehyde ND mg/kg 0.014 0.0025 EPA-8080 ND S05 1	beta-BHC		ND	mg/kg	0.014	0.0041	EPA-8080	ND	S05	1
Chlordane (Technical) ND mg/kg 1.4 0.046 EPA-8080 ND S05 1 4.4*-DDD ND mg/kg 0.014 0.0057 EPA-8080 ND S05 1 4.4*-DDE 0.025 mg/kg 0.014 0.0055 EPA-8080 ND S05 1 4.4*-DDT 0.062 mg/kg 0.014 0.0025 EPA-8080 ND S05 1 Dieldrin 0.015 mg/kg 0.014 0.0025 EPA-8080 ND S05 1 Dieldrin 0.015 mg/kg 0.014 0.0025 EPA-8080 ND S05 1 Dieldrin 0.015 mg/kg 0.014 0.0026 EPA-8080 ND S05 1 Endosulfan I ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Endosulfan II ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Endosulfan II ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Endosulfan II ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Endosulfan II ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Endosulfan II ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Endosulfan II ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Endosulfan II ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Endosulfan II ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Endosulfan II ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 EPA-8080 ND S05	delta-BHC		ND	mg/kg	0.014	0.0013	EPA-8080	ND	S05	1
A4-DDD	gamma-BHC (Lindane)		ND	mg/kg	0.014	0.0022	EPA-8080	ND	S05	1
4.4-DDE 0.025 mg/kg 0.014 0.0055 EPA-8080 ND \$05 1 4.4-DDT 0.062 mg/kg 0.014 0.0025 EPA-8080 ND \$05 1 Dieldrin 0.015 mg/kg 0.014 0.0022 EPA-8080 ND \$05 1 Endosulfan I ND mg/kg 0.014 0.0026 EPA-8080 ND \$05 1 Endosulfan II ND mg/kg 0.014 0.0038 EPA-8080 ND \$05 1 Endrin ND mg/kg 0.014 0.0038 EPA-8080 ND \$05 1 Endrin ND mg/kg 0.014 0.0038 EPA-8080 ND \$05 1 Endrin ND mg/kg 0.014 0.0025 EPA-8080 ND \$05 1 Endrin ND mg/kg 0.014 0.0038 EPA-8080 ND \$05 1 Heptachlor <t< td=""><td>Chlordane (Technical)</td><td></td><td>ND</td><td>mg/kg</td><td>1.4</td><td>0.046</td><td>EPA-8080</td><td>ND</td><td>S05</td><td>1</td></t<>	Chlordane (Technical)		ND	mg/kg	1.4	0.046	EPA-8080	ND	S05	1
4.4-DDT 0.062 mg/kg 0.014 0.022 EPA-8080 ND S05 1 Dieldrin 0.015 mg/kg 0.014 0.0022 EPA-8080 ND S05 1 Endosulfan I ND mg/kg 0.014 0.0060 EPA-8080 ND S05 1 Endosulfan III ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Endosulfan sulfate ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Endrin ND mg/kg 0.014 0.0033 EPA-8080 ND S05 1 Endrin ND mg/kg 0.014 0.0025 EPA-8080 ND S05 1 Endrin ND mg/kg 0.014 0.0033 EPA-8080 ND S05 1 Endrin ND mg/kg 0.014 0.0003 EPA-8080 ND S05 1 Heptachlor	4,4'-DDD		ND	mg/kg	0.014	0.0057	EPA-8080	ND	S05	1
Dielarin 0.015 mg/kg 0.014 0.0022 EPA-8080 ND S05 1 Endosulfan I ND mg/kg 0.014 0.00060 EPA-8080 ND S05 1 Endosulfan II ND mg/kg 0.014 0.00038 EPA-8080 ND S05 1 Endosulfan sulfate ND mg/kg 0.014 0.0033 EPA-8080 ND S05 1 Endrin ND mg/kg 0.014 0.0025 EPA-8080 ND S05 1 Endrin aldehyde ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Heptachlor ND mg/kg 0.014 0.00048 EPA-8080 ND S05 1 Heptachlor epoxide ND mg/kg 0.014 0.00046 EPA-8080 ND S05 1 Methoxychlor ND mg/kg 0.014 0.0057 EPA-8080 ND S05 1	4,4'-DDE		0.025	mg/kg	0.014	0.00055	EPA-8080	ND	S05	1
Endosulfan I ND mg/kg 0.014 0.0060 EPA-8080 ND S05 1 Endosulfan II ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Endosulfan sulfate ND mg/kg 0.014 0.0093 EPA-8080 ND S05 1 Endrin ND mg/kg 0.014 0.0025 EPA-8080 ND S05 1 Endrin aldehyde ND mg/kg 0.014 0.0063 EPA-8080 ND S05 1 Heptachlor ND mg/kg 0.014 0.0063 EPA-8080 ND S05 1 Heptachlor ND mg/kg 0.014 0.00063 EPA-8080 ND S05 1 Heptachlor ND mg/kg 0.014 0.00067 EPA-8080 ND S05 1 Methoxychlor ND mg/kg 0.014 0.0067 EPA-8080 ND S05 1 <t< td=""><td>4,4'-DDT</td><td></td><td>0.062</td><td>mg/kg</td><td>0.014</td><td>0.0025</td><td>EPA-8080</td><td>ND</td><td>S05</td><td>1</td></t<>	4,4'-DDT		0.062	mg/kg	0.014	0.0025	EPA-8080	ND	S05	1
Endosulfan II ND mg/kg 0.014 0.0038 EPA-8080 ND S05 1 Endosulfan sulfate ND mg/kg 0.014 0.0093 EPA-8080 ND S05 1 Endrin ND mg/kg 0.014 0.0025 EPA-8080 ND S05 1 Endrin aldehyde ND mg/kg 0.014 0.0063 EPA-8080 ND S05 1 Heptachlor ND mg/kg 0.014 0.0008 EPA-8080 ND S05 1 Heptachlor epoxide ND mg/kg 0.014 0.00046 EPA-8080 ND S05 1 Methoxychlor ND mg/kg 0.014 0.0057 EPA-8080 ND S05 1 Toxaphene ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1221 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PC	Dieldrin		0.015	mg/kg	0.014	0.0022	EPA-8080	ND	S05	1
Endosulfan sulfate	Endosulfan I		ND	mg/kg	0.014	0.00060	EPA-8080	ND	S05	1
Endrin ND mg/kg 0.014 0.0025 EPA-8080 ND S05 1 Endrin aldehyde ND mg/kg 0.014 0.0063 EPA-8080 ND S05 1 Heptachlor ND mg/kg 0.014 0.00038 EPA-8080 ND S05 1 Heptachlor epoxide ND mg/kg 0.014 0.00046 EPA-8080 ND S05 1 Methoxychlor ND mg/kg 0.014 0.0057 EPA-8080 ND S05 1 Toxaphene ND mg/kg 0.014 0.0057 EPA-8080 ND S05 1 Toxaphene ND mg/kg 1.4 0.26 EPA-8080 ND S05 1 PCB-1016 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1221 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PCB-1232 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PCB-1242 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-12448 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1254 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1254 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1254 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1254 ND mg/kg 0.27 0.19 EPA-8080 ND S05 1 PCB-12560 ND mg/kg 0.27 0.087 EPA-8080 ND S05 1 Total PCB's (Summation) ND mg/kg 0.27 0.14 EPA-8080 ND S05 1 TOTAL EPA-8080 ND S05 1	Endosulfan II		ND	mg/kg	0.014	0.0038	EPA-8080	ND	S05	1
Endrin aldehyde	Endosulfan sulfate		ND	mg/kg	0.014	0.0093	EPA-8080	ND	S05	1
Heptachlor ND mg/kg 0.014 0.00098 EPA-8080 ND S05 1 Heptachlor epoxide ND mg/kg 0.014 0.00046 EPA-8080 ND S05 1 Methoxychlor ND mg/kg 0.014 0.0057 EPA-8080 ND S05 1 Toxaphene ND mg/kg 1.4 0.26 EPA-8080 ND S05 1 PCB-1016 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1221 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PCB-1232 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PCB-1242 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1248 ND mg/kg 0.27 0.19 EPA-8080 ND S05 1 PCB-1260 ND	Endrin		ND	mg/kg	0.014	0.0025	EPA-8080	ND	S05	1
Heptachlor epoxide ND mg/kg 0.014 0.00046 EPA-8080 ND S05 1	Endrin aldehyde		ND	mg/kg	0.014	0.0063	EPA-8080	ND	S05	1
Methoxychlor ND mg/kg 0.014 0.0057 EPA-8080 ND S05 1 Toxaphene ND mg/kg 1.4 0.26 EPA-8080 ND S05 1 PCB-1016 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1221 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PCB-1232 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PCB-1242 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1248 ND mg/kg 0.27 0.19 EPA-8080 ND S05 1 PCB-1254 ND mg/kg 0.27 0.087 EPA-8080 ND S05 1 PCB-1260 ND mg/kg 0.27 0.079 EPA-8080 ND S05 1 Total PCB's (Summation) ND	Heptachlor		ND	mg/kg	0.014	0.00098	EPA-8080	ND	S05	1
Toxaphene ND mg/kg 1.4 0.26 EPA-8080 ND S05 1 PCB-1016 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1221 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PCB-1232 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PCB-1242 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1248 ND mg/kg 0.27 0.19 EPA-8080 ND S05 1 PCB-1254 ND mg/kg 0.27 0.087 EPA-8080 ND S05 1 PCB-1260 ND mg/kg 0.27 0.079 EPA-8080 ND S05 1 Total PCB's (Summation) ND mg/kg 0.27 0.14 EPA-8080 ND S05 1 TCMX (Surrogate) 49.9	Heptachlor epoxide		ND	mg/kg	0.014	0.00046	EPA-8080	ND	S05	1
PCB-1016 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1221 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PCB-1232 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PCB-1242 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1248 ND mg/kg 0.27 0.19 EPA-8080 ND S05 1 PCB-1254 ND mg/kg 0.27 0.087 EPA-8080 ND S05 1 PCB-1260 ND mg/kg 0.27 0.079 EPA-8080 ND S05 1 Total PCB's (Summation) ND mg/kg 0.27 0.14 EPA-8080 ND S05 1 TCMX (Surrogate) 49.9 % 20 - 130 (LCL - UCL) EPA-8080 ND S05 1	Methoxychlor		ND	mg/kg	0.014	0.0057	EPA-8080	ND	S05	1
PCB-1221 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PCB-1232 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PCB-1242 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1248 ND mg/kg 0.27 0.19 EPA-8080 ND S05 1 PCB-1254 ND mg/kg 0.27 0.087 EPA-8080 ND S05 1 PCB-1260 ND mg/kg 0.27 0.079 EPA-8080 ND S05 1 Total PCB's (Summation) ND mg/kg 0.27 0.14 EPA-8080 ND S05 1 TCMX (Surrogate) 49.9 % 20 - 130 (LCL - UCL) EPA-8080 ND S05 1	Toxaphene		ND	mg/kg	1.4	0.26	EPA-8080	ND	S05	1
PCB-1232 ND mg/kg 0.27 0.20 EPA-8080 ND S05 1 PCB-1242 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1248 ND mg/kg 0.27 0.19 EPA-8080 ND S05 1 PCB-1254 ND mg/kg 0.27 0.087 EPA-8080 ND S05 1 PCB-1260 ND mg/kg 0.27 0.079 EPA-8080 ND S05 1 Total PCB's (Summation) ND mg/kg 0.27 0.14 EPA-8080 ND S05 1 TCMX (Surrogate) 49.9 % 20 - 130 (LCL - UCL) EPA-8080 S05 1	PCB-1016		ND	mg/kg	0.27	0.11	EPA-8080	ND	S05	1
PCB-1242 ND mg/kg 0.27 0.11 EPA-8080 ND S05 1 PCB-1248 ND mg/kg 0.27 0.19 EPA-8080 ND S05 1 PCB-1254 ND mg/kg 0.27 0.087 EPA-8080 ND S05 1 PCB-1260 ND mg/kg 0.27 0.079 EPA-8080 ND S05 1 Total PCB's (Summation) ND mg/kg 0.27 0.14 EPA-8080 ND S05 1 TCMX (Surrogate) 49.9 % 20 - 130 (LCL - UCL) EPA-8080 S05 1	PCB-1221		ND	mg/kg	0.27	0.20	EPA-8080	ND	S05	1
PCB-1248 ND mg/kg 0.27 0.19 EPA-8080 ND S05 1 PCB-1254 ND mg/kg 0.27 0.087 EPA-8080 ND S05 1 PCB-1260 ND mg/kg 0.27 0.079 EPA-8080 ND S05 1 Total PCB's (Summation) ND mg/kg 0.27 0.14 EPA-8080 ND S05 1 TCMX (Surrogate) 49.9 % 20 - 130 (LCL - UCL) EPA-8080 S05 1	PCB-1232		ND	mg/kg	0.27	0.20	EPA-8080	ND	S05	1
PCB-1254 ND mg/kg 0.27 0.087 EPA-8080 ND S05 1 PCB-1260 ND mg/kg 0.27 0.079 EPA-8080 ND S05 1 Total PCB's (Summation) ND mg/kg 0.27 0.14 EPA-8080 ND S05 1 TCMX (Surrogate) 49.9 % 20 - 130 (LCL - UCL) EPA-8080 S05 1	PCB-1242		ND	mg/kg	0.27	0.11	EPA-8080	ND	S05	1
PCB-1260 ND mg/kg 0.27 0.079 EPA-8080 ND S05 1 Total PCB's (Summation) ND mg/kg 0.27 0.14 EPA-8080 ND S05 1 TCMX (Surrogate) 49.9 % 20 - 130 (LCL - UCL) EPA-8080 S05 1	PCB-1248		ND	mg/kg	0.27	0.19	EPA-8080	ND	S05	1
Total PCB's (Summation) ND mg/kg 0.27 0.14 EPA-8080 ND S05 1 TCMX (Surrogate) 49.9 % 20 - 130 (LCL - UCL) EPA-8080 S05 1	PCB-1254		ND	mg/kg	0.27	0.087	EPA-8080	ND	S05	1
TCMX (Surrogate) 49.9 % 20 - 130 (LCL - UCL) EPA-8080 S05 1	PCB-1260		ND	mg/kg	0.27	0.079	EPA-8080	ND	S05	1
	Total PCB's (Summation)		ND	mg/kg	0.27	0.14	EPA-8080	ND	S05	1
Decachlorobiphenyl (Surrogate) 58.1 % 40 - 130 (LCL - UCL) EPA-8080 S05 1	TCMX (Surrogate)		49.9	%	20 - 130 (LC	CL - UCL)	EPA-8080		S05	1
	Decachlorobiphenyl (Surro	ogate)	58.1	%	40 - 130 (LC	CL - UCL)	EPA-8080		S05	1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8080	10/11/17 20:30	10/12/17 13:12	HKS	GC-17	27.273	B[J1354	

Page 11 of 54 Report ID: 1000696157

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

BCL Sample ID:	1726917-01	Client Sampl	e Name:	Former No	orthern Lar	ndfill, HA-32(1)-1,	9/21/2017 9	:00:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
Azinphos methyl		ND	mg/kg	0.16	0.12	EPA-8141A	ND	S05	1
Bolstar		ND	mg/kg	0.16	0.035	EPA-8141A	ND	S05	1
Chlorpyrifos		ND	mg/kg	0.16	0.022	EPA-8141A	ND	S05	1
Coumaphos		ND	mg/kg	0.16	0.13	EPA-8141A	ND	S05	1
Demeton O/S		ND	mg/kg	0.16	0.054	EPA-8141A	ND	S05	1
Diazinon		ND	mg/kg	0.16	0.038	EPA-8141A	ND	S05	1
Dichlorvos		ND	mg/kg	0.16	0.014	EPA-8141A	ND	S05	1
Disulfoton		ND	mg/kg	0.16	0.030	EPA-8141A	ND	S05	1
Ethoprop		ND	mg/kg	0.16	0.019	EPA-8141A	ND	S05	1
Fensulfothion		ND	mg/kg	0.16	0.088	EPA-8141A	ND	S05	1
Fenthion		ND	mg/kg	0.16	0.033	EPA-8141A	ND	S05	1
Merphos		ND	mg/kg	0.16	0.030	EPA-8141A	ND	S05	1
Methyl parathion		ND	mg/kg	0.16	0.039	EPA-8141A	ND	S05	1
Mevinphos		ND	mg/kg	0.16	0.038	EPA-8141A	ND	S05	1
Naled		ND	mg/kg	0.16	0.068	EPA-8141A	ND	S05	1
Phorate		ND	mg/kg	0.16	0.041	EPA-8141A	ND	S05	1
Ronnel (Fenchlorphos)		ND	mg/kg	0.16	0.022	EPA-8141A	ND	S05	1
Stirophos (Tetrachlorvinp	hos)	ND	mg/kg	0.16	0.032	EPA-8141A	ND	S05	1
Tokuthion (Prothiofos)		ND	mg/kg	0.16	0.027	EPA-8141A	ND	S05	1
Trichloronate		ND	mg/kg	0.16	0.021	EPA-8141A	ND	S05	1
Triphenylphosphate (Surr	rogate)	117	%	40 - 120 (LC	CL - UCL)	EPA-8141A		S05	1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8141A	10/13/17 18:20	10/16/17 22:38	RSM	GC-18	15.789	B[J1652	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

BCL Sample ID:	1726917-01	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-32(1)-1,	9/21/2017	9:00:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
2,4-D		ND	mg/kg	1.8	0.51	EPA-8151A	ND	A01,S05	1
2,4-DB		ND	mg/kg	3.5	1.5	EPA-8151A	ND	A01,S05	1
Dalapon		ND	mg/kg	4.4	3.0	EPA-8151A	ND	A01,S05	1
Dicamba		ND	mg/kg	0.18	0.14	EPA-8151A	ND	A01,S05	1
Dichloroprop		ND	mg/kg	1.8	0.49	EPA-8151A	ND	A01,S05	1
Dinoseb		ND	mg/kg	0.62	0.21	EPA-8151A	ND	A01,S05	1
2,4,5-T		ND	mg/kg	0.26	0.11	EPA-8151A	ND	A01,S05	1
2,4,5-TP (Silvex)		ND	mg/kg	0.26	0.11	EPA-8151A	ND	A01,S05	1
2,4-Dichlorophenylace (Surrogate)	etic acid	56.2	%	40 - 120 (LC	L - UCL)	EPA-8151A		A01,S05	1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8151A	10/13/17 11:40	10/17/17 13:55	MSB	GC-8	88.235	B[J1645	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1726917-01	Client Sampl	e Name:	Former N	orthern Lan	dfill, HA-32(1)-1	9/21/2017 9	:00:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND	A26	1
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND	A26	1
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B	ND	A26	1
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B	ND	A26	1
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND	A26	1
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B	ND	A26	1
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND	A26	1
sec-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND	A26	1
tert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND	A26	1
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND	A26	1
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND	A26	1
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND	A26	1
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B	ND	A26	1
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND	A26	1
2-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B	ND	A26	1
4-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND	A26	1
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B	ND	A26	1
1,2-Dibromo-3-chloroprop	ane	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND	A26	1
1,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B	ND	A26	1
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B	ND	A26	1
1,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B	ND	A26	1
1,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND	A26	1
1,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND	A26	1
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND	A26	1
1,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND	A26	1
1,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B	ND	A26	1
1,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND	A26	1
cis-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND	A26	1
trans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND	A26	1
1,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B	ND	A26	1
1,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND	A26	1
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND	A26	1
1,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND	A26	1

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 14 of 54

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Stantec - SLO

3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1	726917-01	Client Sampl	e Name:	Former No	rthern Lan	dfill, HA-32(1)-1	, 9/21/2017 9	:00:00AM	
O a markitana a f		D. "	"	PQL	MDL	Madle : 1	MB	Lab	- "
Constituent cis-1,3-Dichloropropene		Result ND	Units mg/kg	0.0050	0.0011	Method EPA-8260B	Bias ND	Quals A26	Run # 1
trans-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND	A26	1
Ethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND	A26	1
Hexachlorobutadiene		ND	mg/kg	0.0050	0.0017	EPA-8260B	ND	A26	1
Isopropylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND	A26	1
p-Isopropyltoluene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND	A26	1
Methylene chloride		ND	mg/kg	0.010	0.0024	EPA-8260B	ND	A26	<u>'</u> 1
Methyl t-butyl ether		ND	mg/kg	0.0050	0.00050	EPA-8260B	ND	A26	<u>'</u> 1
Naphthalene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND	A26	<u>'</u> 1
n-Propylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND	A26	<u>'</u> 1
Styrene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND	A26	<u>'</u> 1
1,1,1,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND	A26	<u>'</u> 1
1,1,2,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND	A26	<u>'</u> 1
Tetrachloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND	A26	<u>.</u> 1
Toluene		0.0018	mg/kg	0.0050	0.0012	EPA-8260B	ND	J,A26	<u>·</u> 1
1,2,3-Trichlorobenzene		ND	mg/kg	0.0050	0.0021	EPA-8260B	ND	A26	 1
1,2,4-Trichlorobenzene		ND	mg/kg	0.0050	0.0020	EPA-8260B	ND	A26	1
1,1,1-Trichloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND	A26	 1
1,1,2-Trichloroethane		ND	mg/kg	0.0050	0.00077	EPA-8260B	ND	A26	1
Trichloroethene		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND	A26	1
Trichlorofluoromethane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND	A26	1
1,2,3-Trichloropropane		ND	mg/kg	0.0050	0.0016	EPA-8260B	ND	A26	1
1,1,2-Trichloro-1,2,2-trifluoro	oethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND	A26	1
1,2,4-Trimethylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND	A26	1
1,3,5-Trimethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND	A26	1
Vinyl chloride		ND	mg/kg	0.0050	0.0016	EPA-8260B	ND	A26	1
Total Xylenes		ND	mg/kg	0.010	0.0034	EPA-8260B	ND	A26	1
p- & m-Xylenes		ND	mg/kg	0.0050	0.0022	EPA-8260B	ND	A26	1
o-Xylene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND	A26	1
1,2-Dichloroethane-d4 (Sur	ogate)	85.9	%	70 - 121 (LCL	- UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)		89.6	%	81 - 117 (LCL	- UCL)	EPA-8260B			1
4-Bromofluorobenzene (Sur	rogate)	85.7	%	74 - 121 (LCL	- UCL)	EPA-8260B			1

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3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID): 1726917-01	Client San	nple Name:	Former Northern Landfill, HA-32(1)-1, 9/21/2017 9:00:00AM					
Run #	Method	Prep Date	Run Date/Time	Analyst	QC Instrument Dilution Batch ID				
1	EPA-8260B	10/18/17 06:00	10/23/17 11:53	ADC	MS-V2	1	B[J1973		

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 16 of 54

Reported: 01/17/2018 8:51

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1726917-01	Client Sampl	e Name:	Former N	orthern Lar	ndfill, HA-32(1)-1, 9	9/21/2017	9:00:00AM	0:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
Acenaphthene		0.80	mg/kg	0.60	0.24	EPA-8270C-SIM	ND	A01,S05	1	
Acenaphthylene		ND	mg/kg	0.60	0.22	EPA-8270C-SIM	ND	A01,S05	1	
Anthracene		1.6	mg/kg	0.60	0.24	EPA-8270C-SIM	ND	A01,S05	1	
Benzo[a]anthracene		4.1	mg/kg	0.60	0.22	EPA-8270C-SIM	ND	A01,S05	1	
Benzo[b]fluoranthene		4.9	mg/kg	0.60	0.19	EPA-8270C-SIM	ND	A01,S05	1	
Benzo[k]fluoranthene		0.60	mg/kg	0.60	0.22	EPA-8270C-SIM	ND	A01,S05	1	
Benzo[a]pyrene		4.6	mg/kg	0.60	0.19	EPA-8270C-SIM	ND	A01,S05	1	
Benzo[g,h,i]perylene		2.9	mg/kg	0.60	0.22	EPA-8270C-SIM	ND	A01,S05	1	
Chrysene		9.5	mg/kg	0.60	0.19	EPA-8270C-SIM	ND	A01,S05	1	
Dibenzo[a,h]anthracene)	2.0	mg/kg	0.60	0.20	EPA-8270C-SIM	ND	A01,S05	1	
Fluoranthene		1.0	mg/kg	0.60	0.28	EPA-8270C-SIM	ND	A01,S05	1	
Fluorene		1.1	mg/kg	0.60	0.22	EPA-8270C-SIM	ND	A01,S05	1	
Indeno[1,2,3-cd]pyrene		1.0	mg/kg	0.60	0.18	EPA-8270C-SIM	ND	A01,S05	1	
Naphthalene		3.1	mg/kg	0.60	0.22	EPA-8270C-SIM	ND	A01,S05	1	
Phenanthrene		4.5	mg/kg	0.60	0.24	EPA-8270C-SIM	ND	A01,S05	1	
Pyrene		5.0	mg/kg	0.60	0.30	EPA-8270C-SIM	ND	A01,S05	1	
Nitrobenzene-d5 (Surrog	gate)	92.5	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM		A01,S05	1	
2-Fluorobiphenyl (Surro	gate)	75.0	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01,S05	1	
p-Terphenyl-d14 (Surrog	ate)	75.0	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01,S05	1	

			Run			QC		
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C-SIM	10/11/17 21:00	10/13/17 23:27	MSB	MS-B7	200	B[J1535	

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Report ID: 1000696157

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID: 1726917-01 Client Sample Name:					Former Northern Landfill, HA-32(1)-1, 9/21/2017 9:00:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	3000	750	EPA-8015B/FFP	ND	A01	1		
TPH - Diesel (FFP)		7400	mg/kg	1500	180	EPA-8015B/FFP	ND	A01,A52	1		
TPH - Motor Oil		11000	mg/kg	3000	980	EPA-8015B/FFP	ND	A01,A57	1		
Tetracosane (Surrogat	te)	88.7	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP		A01	1		

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/28/17 20:25	10/03/17 02:52	AS1	GC-13	150	B[I2745	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Chemical Analysis

BCL Sample ID:	1726917-01	Client Samp	le Name:	Former N	0:00:00AM				
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
Total Cyanide		3.3	mg/kg	0.50	0.15	EPA-9012	ND	S05	1
pH		3.35	pH Units	0.05	0.05	EPA-9045D	ND	pH1:1	2
pH Measurement Tem	perature	23.1	С	0.1	0.1	EPA-9045D	ND		2

			Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-9012	10/11/17 09:40	10/11/17 16:23	RCC	KONE-1	1	B[J1166	
2	EPA-9045D	10/24/17 13:30	10/24/17 13:30	DIW	PH10	1	B[J2498	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Total Concentrations (TTLC)

BCL Sample ID:	1726917-01	Client Sampl	e Name:	Former N	orthern Lar	ndfill, HA-32(1)-1	, 9/21/2017 9	:00:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	ND	Quuio	1
Arsenic		1.1	mg/kg	1.0	0.40	EPA-6010B	ND		1
Barium		51	mg/kg	0.50	0.18	EPA-6010B	ND		1
Beryllium		0.064	mg/kg	0.50	0.047	EPA-6010B	ND	J	1
Cadmium		0.23	mg/kg	0.50	0.052	EPA-6010B	ND	J	1
Chromium		24	mg/kg	0.50	0.050	EPA-6010B	ND		1
Total Hexavalent Chro	mium	0.67	mg/kg	1.0	0.30	EPA-7199	ND	J	2
Cobalt		0.90	mg/kg	2.5	0.098	EPA-6010B	ND	J	1
Copper		6.8	mg/kg	1.0	0.050	EPA-6010B	ND		1
Lead		41	mg/kg	2.5	0.28	EPA-6010B	ND		1
Mercury		ND	mg/kg	0.16	0.019	EPA-7471A	ND	S05	3
Molybdenum		23	mg/kg	2.5	0.050	EPA-6010B	ND		1
Nickel		38	mg/kg	0.50	0.15	EPA-6010B	ND		1
Selenium		4.7	mg/kg	1.0	0.98	EPA-6010B	ND		1
Silver		ND	mg/kg	0.50	0.067	EPA-6010B	ND		1
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	ND		1
Vanadium		71	mg/kg	0.50	0.11	EPA-6010B	ND		1
Zinc		11	mg/kg	2.5	0.087	EPA-6010B	0.36		1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-6010B	10/24/17 09:30	10/24/17 16:01	JCC	PE-OP3	0.980	B[J2427	
2	EPA-7199	10/11/17 13:00	10/12/17 22:43	OLH	IC-4	1	B[J1201	
3	EPA-7471A	10/24/17 09:50	10/24/17 16:30	JP1	CETAC2	0.962	B[J2441	

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Stantec - SLO 3437 Empresa Drive, Suite A

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

BCL Sample ID:	1726917-02	Client Sampl	e Name:	Former N	orthern Laı	9:30:00AM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	1000	250	EPA-8015B/FFP	ND	A01	1
TPH - Diesel (FFP)		ND	mg/kg	500	60	EPA-8015B/FFP	ND	A01	1
TPH - Motor Oil		6000	mg/kg	1000	320	EPA-8015B/FFP	ND	A01	1
Tetracosane (Surrogat	e)	0	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP		A01,A17	1

			Run				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	09/28/17 20:25	10/04/17 15:23	AS1	GC-13	49.342	B[I2745			

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3437 Empresa Drive, Suite A

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1726917-03	Client Sampl	e Name:	Former N	orthern La	1:00:00AM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	1200	300	EPA-8015B/FFP	ND	A01	1
TPH - Diesel (FFP)		3600	mg/kg	600	72	EPA-8015B/FFP	ND	A01,A52	1
TPH - Motor Oil		9800	mg/kg	1200	390	EPA-8015B/FFP	ND	A01	1
Tetracosane (Surrogat	e)	73.2	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP		A01	1

			Run				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	09/28/17 20:25	10/04/17 10:50	AS1	GC-13	60	B[I2745			

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Stantec - SLO Reported: 01/17/2018 8:51 3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1726917-04	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-33-1, 9/21/2017 11:10:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		69	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	67.7	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	09/28/17 20:25	10/03/17 00:35	AS1	GC-13	1.003	B[I2745			

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1726917-05	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-33-3, 9/21/2017 11:15:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	te)	94.4	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	09/28/17 20:25	10/02/17 20:47	AS1	GC-13	1.010	B[I2745			

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Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1726917-06	Client Sampl	e Name:	Former No	Former Northern Landfill, HA-33-5, 9/21/2017 11:20:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogat	e)	94.3	%	20 - 145 (LCL	UCL)	EPA-8015B/FFP			1			

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/28/17 20:25	10/02/17 21:09	AS1	GC-13	1.003	B[I2745	

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San Luis Obispo, CA 93401

3437 Empresa Drive, Suite A Project: Former Northern Landfill Suite A Project Number: 185850429

Project Number: 185850429 Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1354						
Aldrin	B[J1354-BLK1	ND	mg/kg	0.00050	0.000034	
alpha-BHC	B[J1354-BLK1	ND	mg/kg	0.00050	0.00013	
beta-BHC	B[J1354-BLK1	ND	mg/kg	0.00050	0.00015	
delta-BHC	B[J1354-BLK1	ND	mg/kg	0.00050	0.000047	
gamma-BHC (Lindane)	B[J1354-BLK1	ND	mg/kg	0.00050	0.000082	
Chlordane (Technical)	B[J1354-BLK1	ND	mg/kg	0.050	0.0017	
4,4'-DDD	B[J1354-BLK1	ND	mg/kg	0.00050	0.00021	
4,4'-DDE	B[J1354-BLK1	ND	mg/kg	0.00050	0.000020	
4,4'-DDT	B[J1354-BLK1	ND	mg/kg	0.00050	0.000093	
Dieldrin	B[J1354-BLK1	ND	mg/kg	0.00050	0.000079	
Endosulfan I	B[J1354-BLK1	ND	mg/kg	0.00050	0.000022	
Endosulfan II	B[J1354-BLK1	ND	mg/kg	0.00050	0.00014	
Endosulfan sulfate	B[J1354-BLK1	ND	mg/kg	0.00050	0.00034	
Endrin	B[J1354-BLK1	ND	mg/kg	0.00050	0.000091	
Endrin aldehyde	B[J1354-BLK1	ND	mg/kg	0.00050	0.00023	
Heptachlor	B[J1354-BLK1	ND	mg/kg	0.00050	0.000036	
Heptachlor epoxide	B[J1354-BLK1	ND	mg/kg	0.00050	0.000017	
Methoxychlor	B[J1354-BLK1	ND	mg/kg	0.00050	0.00021	
Toxaphene	B[J1354-BLK1	ND	mg/kg	0.050	0.0094	
PCB-1016	B[J1354-BLK1	ND	mg/kg	0.010	0.0039	
PCB-1221	B[J1354-BLK1	ND	mg/kg	0.010	0.0072	
PCB-1232	B[J1354-BLK1	ND	mg/kg	0.010	0.0074	
PCB-1242	B[J1354-BLK1	ND	mg/kg	0.010	0.0042	
PCB-1248	B[J1354-BLK1	ND	mg/kg	0.010	0.0070	
PCB-1254	B[J1354-BLK1	ND	mg/kg	0.010	0.0032	
PCB-1260	B[J1354-BLK1	ND	mg/kg	0.010	0.0029	
Total PCB's (Summation)	B[J1354-BLK1	ND	mg/kg	0.010	0.0050	
TCMX (Surrogate)	B[J1354-BLK1	77.2	%	20 - 13		
Decachlorobiphenyl (Surrogate)	B[J1354-BLK1	88.1	%	40 - 13		

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 26 of 54

3437 Empresa Drive, Suite A

Stantec - SLO **Reported**: 01/17/2018 8:51

Project: Former Northern Landfill

Suite A Project Number: 185850429
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Laboratory Control Sample

							Control L	imits	
OC Samula ID	Tuna	Dagult	Spike	lluita	Percent	DDD	Percent	DDD	Lab
QC Sample ID	туре	Result	Levei	Units	Recovery	RPD	Recovery	ארט	Quals
B[J1354-BS1	LCS	0.0038475	0.0049180	mg/kg	78.2		70 - 130		
B[J1354-BS1	LCS	0.0045141	0.0049180	mg/kg	91.8		60 - 140		
B[J1354-BS1	LCS	0.0049633	0.0049180	mg/kg	101		60 - 140		
B[J1354-BS1	LCS	0.0040702	0.0049180	mg/kg	82.8		70 - 130		
B[J1354-BS1	LCS	0.0041059	0.0049180	mg/kg	83.5		60 - 140		
B[J1354-BS1	LCS	0.0044223	0.0049180	mg/kg	89.9		60 - 140		
B[J1354-BS1	LCS	0.0073305	0.0098361	mg/kg	74.5		20 - 130		
B[J1354-BS1	LCS	0.015064	0.019672	mg/kg	76.6		40 - 130		
	B[J1354-BS1 B[J1354-BS1 B[J1354-BS1 B[J1354-BS1 B[J1354-BS1 B[J1354-BS1	B[J1354-BS1 LCS	B[J1354-BS1 LCS 0.0038475 B[J1354-BS1 LCS 0.0045141 B[J1354-BS1 LCS 0.0049633 B[J1354-BS1 LCS 0.0040702 B[J1354-BS1 LCS 0.0041059 B[J1354-BS1 LCS 0.0044223 B[J1354-BS1 LCS 0.0073305	QC Sample ID Type Result Level B[J1354-BS1 LCS 0.0038475 0.0049180 B[J1354-BS1 LCS 0.0045141 0.0049180 B[J1354-BS1 LCS 0.0049633 0.0049180 B[J1354-BS1 LCS 0.0040702 0.0049180 B[J1354-BS1 LCS 0.0041059 0.0049180 B[J1354-BS1 LCS 0.0044223 0.0049180 B[J1354-BS1 LCS 0.0073305 0.0098361	QC Sample ID Type Result Level Units B[J1354-BS1 LCS 0.0038475 0.0049180 mg/kg B[J1354-BS1 LCS 0.0045141 0.0049180 mg/kg B[J1354-BS1 LCS 0.0049633 0.0049180 mg/kg B[J1354-BS1 LCS 0.0040702 0.0049180 mg/kg B[J1354-BS1 LCS 0.0041059 0.0049180 mg/kg B[J1354-BS1 LCS 0.0044223 0.0049180 mg/kg B[J1354-BS1 LCS 0.0073305 0.0098361 mg/kg	QC Sample ID Type Result Level Units Recovery B[J1354-BS1 LCS 0.0038475 0.0049180 mg/kg 78.2 B[J1354-BS1 LCS 0.0045141 0.0049180 mg/kg 91.8 B[J1354-BS1 LCS 0.0049633 0.0049180 mg/kg 101 B[J1354-BS1 LCS 0.0040702 0.0049180 mg/kg 82.8 B[J1354-BS1 LCS 0.0041059 0.0049180 mg/kg 83.5 B[J1354-BS1 LCS 0.0044223 0.0049180 mg/kg 89.9 B[J1354-BS1 LCS 0.0073305 0.0098361 mg/kg 74.5	QC Sample ID Type Result Level Units Recovery RPD B[J1354-BS1 LCS 0.0038475 0.0049180 mg/kg 78.2 B[J1354-BS1 LCS 0.0045141 0.0049180 mg/kg 91.8 B[J1354-BS1 LCS 0.0049633 0.0049180 mg/kg 101 B[J1354-BS1 LCS 0.0040702 0.0049180 mg/kg 82.8 B[J1354-BS1 LCS 0.0041059 0.0049180 mg/kg 83.5 B[J1354-BS1 LCS 0.0044223 0.0049180 mg/kg 89.9 B[J1354-BS1 LCS 0.0073305 0.0098361 mg/kg 74.5	QC Sample ID Type Result Spike Level Percent Recovery Percent Recovery Percent Recovery B[J1354-BS1 LCS 0.0038475 0.0049180 mg/kg 78.2 70 - 130 B[J1354-BS1 LCS 0.0045141 0.0049180 mg/kg 91.8 60 - 140 B[J1354-BS1 LCS 0.0049633 0.0049180 mg/kg 101 60 - 140 B[J1354-BS1 LCS 0.0040702 0.0049180 mg/kg 82.8 70 - 130 B[J1354-BS1 LCS 0.0041059 0.0049180 mg/kg 83.5 60 - 140 B[J1354-BS1 LCS 0.0044223 0.0049180 mg/kg 89.9 60 - 140 B[J1354-BS1 LCS 0.0073305 0.0098361 mg/kg 74.5 20 - 130	QC Sample ID Type Result Level Units Recovery RPD Recovery RPD B[J1354-BS1 LCS 0.0038475 0.0049180 mg/kg 78.2 70 - 130 B[J1354-BS1 LCS 0.0045141 0.0049180 mg/kg 91.8 60 - 140 B[J1354-BS1 LCS 0.0049633 0.0049180 mg/kg 101 60 - 140 B[J1354-BS1 LCS 0.0040702 0.0049180 mg/kg 82.8 70 - 130 B[J1354-BS1 LCS 0.0041059 0.0049180 mg/kg 83.5 60 - 140 B[J1354-BS1 LCS 0.0044223 0.0049180 mg/kg 89.9 60 - 140 B[J1354-BS1 LCS 0.0073305 0.0098361 mg/kg 74.5 20 - 130

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Precision & Accuracy

									Cont	Control Limits				
		Source	Source		Spike			Percent		Percent	Lab			
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals			
QC Batch ID: B[J1354	Use	d client samp	ole: N											
Aldrin	MS	1724840-12	ND	0.0037960	0.0049834	mg/kg		76.2		50 - 140				
	MSD	1724840-12	ND	0.0038729	0.0050847	mg/kg	2.0	76.2	30	50 - 140				
gamma-BHC (Lindane)	MS	1724840-12	ND	0.0044987	0.0049834	mg/kg		90.3		50 - 140				
	MSD	1724840-12	ND	0.0044827	0.0050847	mg/kg	0.4	88.2	30	50 - 140				
4,4'-DDT	MS	1724840-12	ND	0.0049425	0.0049834	mg/kg		99.2		50 - 140				
	MSD	1724840-12	ND	0.0048339	0.0050847	mg/kg	2.2	95.1	30	50 - 140				
Dieldrin	MS	1724840-12	ND	0.0040259	0.0049834	mg/kg		80.8		40 - 140				
	MSD	1724840-12	ND	0.0040336	0.0050847	mg/kg	0.2	79.3	30	40 - 140				
Endrin	MS	1724840-12	ND	0.0040664	0.0049834	mg/kg		81.6		50 - 150				
	MSD	1724840-12	ND	0.0039898	0.0050847	mg/kg	1.9	78.5	30	50 - 150				
Heptachlor	MS	1724840-12	ND	0.0044482	0.0049834	mg/kg		89.3		60 - 140				
	MSD	1724840-12	ND	0.0043773	0.0050847	mg/kg	1.6	86.1	30	60 - 140				
TCMX (Surrogate)	MS	1724840-12	ND	0.0071365	0.0099668	mg/kg		71.6		20 - 130				
	MSD	1724840-12	ND	0.0073780	0.010169	mg/kg	3.3	72.6		20 - 130				
Decachlorobiphenyl (Surrogate)	MS	1724840-12	ND	0.015988	0.019934	mg/kg		80.2		40 - 130				
. , , , , ,	MSD	1724840-12	ND	0.014750	0.020339	mg/kg	8.1	72.5		40 - 130				

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Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1652						
Azinphos methyl	B[J1652-BLK1	ND	mg/kg	0.010	0.0073	
Bolstar	B[J1652-BLK1	ND	mg/kg	0.010	0.0022	
Chlorpyrifos	B[J1652-BLK1	ND	mg/kg	0.010	0.0014	
Coumaphos	B[J1652-BLK1	ND	mg/kg	0.010	0.0081	
Demeton O/S	B[J1652-BLK1	ND	mg/kg	0.010	0.0034	
Diazinon	B[J1652-BLK1	ND	mg/kg	0.010	0.0024	
Dichlorvos	B[J1652-BLK1	ND	mg/kg	0.010	0.00091	
Disulfoton	B[J1652-BLK1	ND	mg/kg	0.010	0.0019	
Ethoprop	B[J1652-BLK1	ND	mg/kg	0.010	0.0012	
Fensulfothion	B[J1652-BLK1	ND	mg/kg	0.010	0.0056	
Fenthion	B[J1652-BLK1	ND	mg/kg	0.010	0.0021	
Merphos	B[J1652-BLK1	ND	mg/kg	0.010	0.0019	
Methyl parathion	B[J1652-BLK1	ND	mg/kg	0.010	0.0025	
Mevinphos	B[J1652-BLK1	ND	mg/kg	0.010	0.0024	
- Naled	B[J1652-BLK1	ND	mg/kg	0.010	0.0043	
Phorate	B[J1652-BLK1	ND	mg/kg	0.010	0.0026	
Ronnel (Fenchlorphos)	B[J1652-BLK1	ND	mg/kg	0.010	0.0014	
Stirophos (Tetrachlorvinphos)	B[J1652-BLK1	ND	mg/kg	0.010	0.0020	
Tokuthion (Prothiofos)	B[J1652-BLK1	ND	mg/kg	0.010	0.0017	
Trichloronate	B[J1652-BLK1	ND	mg/kg	0.010	0.0013	
Triphenylphosphate (Surrogate)	B[J1652-BLK1	96.6	%	40 - 12	(LCL - UCL)	

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3437 Empresa Drive, Suite A

Stantec - SLO Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

Quality Control Report - Laboratory Control Sample

			•		•		•				
								Control I	imits		
				Spike		Percent		Percent		Lab	
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals	
QC Batch ID: B[J1652											
Bolstar	B[J1652-BS1	LCS	0.065500	0.066667	mg/kg	98.2		50 - 130			
Chlorpyrifos	B[J1652-BS1	LCS	0.071833	0.066667	mg/kg	108		60 - 140			
Diazinon	B[J1652-BS1	LCS	0.069667	0.066667	mg/kg	104		40 - 120			
Methyl parathion	B[J1652-BS1	LCS	0.070333	0.066667	mg/kg	106		60 - 120			
Mevinphos	B[J1652-BS1	LCS	0.086500	0.066667	mg/kg	130		50 - 120		L07	
Ronnel (Fenchlorphos)	B[J1652-BS1	LCS	0.071000	0.066667	mg/kg	106		50 - 120			
Stirophos (Tetrachlorvinphos)	B[J1652-BS1	LCS	0.074000	0.066667	mg/kg	111		60 - 140			
Triphenylphosphate (Surrogate)	B[J1652-BS1	LCS	0.090333	0.083333	mg/kg	108		40 - 120			

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

Quality Control Report - Precision & Accuracy

									Control Limits				
		Source	Source		Spike			Percent		Percent	Lab		
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals		
QC Batch ID: B[J1652	Use	d client samp	ole: N										
Bolstar	— MS	1724840-57	ND	0.071186	0.067797	mg/kg		105		40 - 140			
	MSD	1724840-57	ND	0.068605	0.066445	mg/kg	3.7	103	30	40 - 140			
Chlorpyrifos	MS	1724840-57	ND	0.073051	0.067797	mg/kg		108		40 - 130			
	MSD	1724840-57	ND	0.072093	0.066445	mg/kg	1.3	108	30	40 - 130			
Diazinon	MS	1724840-57	ND	0.078305	0.067797	mg/kg		116		40 - 120			
	MSD	1724840-57	ND	0.071761	0.066445	mg/kg	8.7	108	30	40 - 120			
Methyl parathion	MS	1724840-57	ND	0.076102	0.067797	mg/kg		112		40 - 125			
	MSD	1724840-57	ND	0.074086	0.066445	mg/kg	2.7	112	30	40 - 125			
Mevinphos	MS	1724840-57	ND	0.099492	0.067797	mg/kg		147		40 - 140	Q03		
	MSD	1724840-57	ND	0.095847	0.066445	mg/kg	3.7	144	30	40 - 140	Q03		
Ronnel (Fenchlorphos)	MS	1724840-57	ND	0.073729	0.067797	mg/kg		109		40 - 120			
	MSD	1724840-57	ND	0.075415	0.066445	mg/kg	2.3	114	30	40 - 120			
Stirophos (Tetrachlorvinphos)	MS	1724840-57	ND	0.075593	0.067797	mg/kg		112		40 - 140			
	MSD	1724840-57	ND	0.072924	0.066445	mg/kg	3.6	110	30	40 - 140			
Triphenylphosphate (Surrogate)	MS	1724840-57	ND	0.090678	0.084746	mg/kg		107		40 - 120			
	MSD	1724840-57	ND	0.088372	0.083056	mg/kg	2.6	106		40 - 120			

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3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1645						
2,4-D	B[J1645-BLK1	ND	mg/kg	0.020	0.0058	
2,4-DB	B[J1645-BLK1	ND	mg/kg	0.040	0.017	
Dalapon	B[J1645-BLK1	ND	mg/kg	0.050	0.034	
Dicamba	B[J1645-BLK1	ND	mg/kg	0.0020	0.0016	
Dichloroprop	B[J1645-BLK1	ND	mg/kg	0.020	0.0055	
Dinoseb	B[J1645-BLK1	ND	mg/kg	0.0070	0.0024	
2,4,5-T	B[J1645-BLK1	ND	mg/kg	0.0030	0.0013	
2,4,5-TP (Silvex)	B[J1645-BLK1	ND	mg/kg	0.0030	0.0012	
2,4-Dichlorophenylacetic acid (Surrogate)	B[J1645-BLK1	74.5	%	40 - 12	0 (LCL - UCL)	

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3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Laboratory Control Sample

							Control Limits			
		_		Spike		Percent		Percent		Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: B[J1645										
2,4-D	B[J1645-BS1	LCS	0.054967	0.079470	mg/kg	69.2		50 - 120		
2,4-DB	B[J1645-BS1	LCS	0.13477	0.17881	mg/kg	75.4		50 - 120		
Dicamba	B[J1645-BS1	LCS	0.016225	0.019868	mg/kg	81.7		50 - 120		
Dichloroprop	B[J1645-BS1	LCS	0.056291	0.079470	mg/kg	70.8		50 - 120		
Dinoseb	B[J1645-BS1	LCS	0.032781	0.039735	mg/kg	82.5		50 - 120		
2,4,5-T	B[J1645-BS1	LCS	0.013907	0.019868	mg/kg	70.0		30 - 120		
2,4,5-TP (Silvex)	B[J1645-BS1	LCS	0.015232	0.019868	mg/kg	76.7		50 - 120		
2,4-Dichlorophenylacetic acid (Surroga	te) B[J1645-BS1	LCS	0.10132	0.13245	mg/kg	76.5		40 - 120		

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Precision & Accuracy

								Control Limits			
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1645	Use	ed client samp	le: N								
2,4-D	— MS	1724840-82	ND	0.049153	0.081356	mg/kg		60.4		40 - 120	
	MSD	1724840-82	ND	0.061873	0.080268	mg/kg	22.9	77.1	30	40 - 120	
2,4-DB	MS	1724840-82	ND	0.12441	0.18305	mg/kg		68.0		50 - 120	
	MSD	1724840-82	ND	0.15284	0.18060	mg/kg	20.5	84.6	30	50 - 120	
Dicamba	MS	1724840-82	ND	0.014915	0.020339	mg/kg		73.3		50 - 120	
	MSD	1724840-82	ND	0.016722	0.020067	mg/kg	11.4	83.3	30	50 - 120	
Dichloroprop	MS	1724840-82	ND	0.053559	0.081356	mg/kg		65.8		40 - 120	
	MSD	1724840-82	ND	0.067224	0.080268	mg/kg	22.6	83.8	30	40 - 120	
Dinoseb	MS	1724840-82	ND	0.031525	0.040678	mg/kg		77.5		40 - 130	
	MSD	1724840-82	ND	0.037458	0.040134	mg/kg	17.2	93.3	30	40 - 130	
2,4,5-T	MS	1724840-82	ND	0.012881	0.020339	mg/kg		63.3		30 - 120	
	MSD	1724840-82	ND	0.014716	0.020067	mg/kg	13.3	73.3	30	30 - 120	
2,4,5-TP (Silvex)	MS	1724840-82	ND	0.013559	0.020339	mg/kg		66.7		40 - 120	
	MSD	1724840-82	ND	0.017057	0.020067	mg/kg	22.8	85.0	30	40 - 120	
	ate MS	1724840-82	ND	0.10305	0.13559	mg/kg		76.0		40 - 120	
	MSD	1724840-82	ND	0.10535	0.13378	mg/kg	2.2	78.7		40 - 120	

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Stantec - SLO 3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

QC Batch ID: B[J1973						
Renzene						
Delizerie	B[J1973-BLK1	ND	mg/kg	0.0050	0.0013	
Bromobenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0013	
Bromochloromethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.00092	
Bromodichloromethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.00084	
Bromoform	B[J1973-BLK1	ND	mg/kg	0.0050	0.0015	
Bromomethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0016	
n-Butylbenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0015	
sec-Butylbenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0012	
tert-Butylbenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0012	
Carbon tetrachloride	B[J1973-BLK1	ND	mg/kg	0.0050	0.0011	
Chlorobenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0013	
Chloroethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0014	
Chloroform	B[J1973-BLK1	ND	mg/kg	0.0050	0.00063	
Chloromethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0014	
2-Chlorotoluene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0018	
4-Chlorotoluene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0014	
Dibromochloromethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.00099	
1,2-Dibromo-3-chloropropane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0017	
1,2-Dibromoethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0010	
Dibromomethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0018	
1,2-Dichlorobenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.00081	
1,3-Dichlorobenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0014	
1,4-Dichlorobenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0015	
Dichlorodifluoromethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0013	
1,1-Dichloroethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0014	
1,2-Dichloroethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.00085	
1,1-Dichloroethene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0012	
cis-1,2-Dichloroethene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0013	
trans-1,2-Dichloroethene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0014	
1,2-Dichloropropane	B[J1973-BLK1	ND	mg/kg	0.0050	0.00081	
1,3-Dichloropropane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0011	
2,2-Dichloropropane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0013	
1,1-Dichloropropene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0012	
cis-1,3-Dichloropropene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0011	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1973						
trans-1,3-Dichloropropene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0012	
- Ethylbenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0015	
Hexachlorobutadiene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0017	
Isopropylbenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0013	
p-Isopropyltoluene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0013	
Methylene chloride	B[J1973-BLK1	ND	mg/kg	0.010	0.0024	
Methyl t-butyl ether	B[J1973-BLK1	ND	mg/kg	0.0050	0.00050	
- Naphthalene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0014	
n-Propylbenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0013	
Styrene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0014	
1,1,1,2-Tetrachloroethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2,2-Tetrachloroethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0011	
Tetrachloroethene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0013	
Toluene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0012	
1,2,3-Trichlorobenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0021	
1,2,4-Trichlorobenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0020	
1,1,1-Trichloroethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2-Trichloroethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.00077	
Trichloroethene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0011	
Trichlorofluoromethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0011	
1,2,3-Trichloropropane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0016	
1,1,2-Trichloro-1,2,2-trifluoroethane	B[J1973-BLK1	ND	mg/kg	0.0050	0.0013	
1,2,4-Trimethylbenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0013	
1,3,5-Trimethylbenzene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0015	
Vinyl chloride	B[J1973-BLK1	ND	mg/kg	0.0050	0.0016	
Total Xylenes	B[J1973-BLK1	ND	mg/kg	0.010	0.0034	
p- & m-Xylenes	B[J1973-BLK1	ND	mg/kg	0.0050	0.0022	
o-Xylene	B[J1973-BLK1	ND	mg/kg	0.0050	0.0012	
1,2-Dichloroethane-d4 (Surrogate)	B[J1973-BLK1	96.0	%	70 - 12 ⁻		
Toluene-d8 (Surrogate)	B[J1973-BLK1	96.1	%	81 - 11		
4-Bromofluorobenzene (Surrogate)	B[J1973-BLK1	104	%	74 - 12	1 (LCL - UCL)	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

								Control I	imits	
Constituent	OC Sample ID	Tuna	Popult	Spike	Unito	Percent	BBD	Percent	DDD	Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: B[J1973										
Benzene	B[J1973-BS1	LCS	0.11429	0.12500	mg/kg	91.4		70 - 130		
Bromodichloromethane	B[J1973-BS1	LCS	0.13068	0.12500	mg/kg	105		70 - 130		
Chlorobenzene	B[J1973-BS1	LCS	0.14654	0.12500	mg/kg	117		70 - 130		
Chloroethane	B[J1973-BS1	LCS	0.14428	0.12500	mg/kg	115		70 - 130		
1,4-Dichlorobenzene	B[J1973-BS1	LCS	0.14886	0.12500	mg/kg	119		70 - 130		
1,1-Dichloroethane	B[J1973-BS1	LCS	0.11958	0.12500	mg/kg	95.7		70 - 130		
1,1-Dichloroethene	B[J1973-BS1	LCS	0.13061	0.12500	mg/kg	104		70 - 130		
Toluene	B[J1973-BS1	LCS	0.12354	0.12500	mg/kg	98.8		70 - 130		
Trichloroethene	B[J1973-BS1	LCS	0.13003	0.12500	mg/kg	104		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B[J1973-BS1	LCS	0.050700	0.050000	mg/kg	101		70 - 121		
Toluene-d8 (Surrogate)	B[J1973-BS1	LCS	0.049740	0.050000	mg/kg	99.5		81 - 117		
4-Bromofluorobenzene (Surrogate)	B[J1973-BS1	LCS	0.054580	0.050000	mg/kg	109		74 - 121		

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Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

									Cont	trol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1973	Use	d client samp	ole: N								
Benzene	− MS	1728746-09	ND	0.11307	0.12500	mg/kg		90.5		70 - 130	
	MSD	1728746-09	ND	0.097600	0.12500	mg/kg	14.7	78.1	20	70 - 130	
Bromodichloromethane	MS	1728746-09	ND	0.13116	0.12500	mg/kg		105		70 - 130	
	MSD	1728746-09	ND	0.13864	0.12500	mg/kg	5.5	111	20	70 - 130	
Chlorobenzene	MS	1728746-09	ND	0.13093	0.12500	mg/kg		105		70 - 130	
	MSD	1728746-09	ND	0.14285	0.12500	mg/kg	8.7	114	20	70 - 130	
Chloroethane	MS	1728746-09	ND	0.14660	0.12500	mg/kg		117		70 - 130	
	MSD	1728746-09	ND	0.14907	0.12500	mg/kg	1.7	119	20	70 - 130	
1,4-Dichlorobenzene	MS	1728746-09	ND	0.13714	0.12500	mg/kg		110		70 - 130	
	MSD	1728746-09	ND	0.15481	0.12500	mg/kg	12.1	124	20	70 - 130	
1,1-Dichloroethane	MS	1728746-09	ND	0.11808	0.12500	mg/kg		94.5		70 - 130	
	MSD	1728746-09	ND	0.10658	0.12500	mg/kg	10.2	85.3	20	70 - 130	
1,1-Dichloroethene	MS	1728746-09	ND	0.12795	0.12500	mg/kg		102		70 - 130	
	MSD	1728746-09	ND	0.12176	0.12500	mg/kg	5.0	97.4	20	70 - 130	
Toluene	MS	1728746-09	ND	0.12669	0.12500	mg/kg		101		70 - 130	
	MSD	1728746-09	ND	0.13006	0.12500	mg/kg	2.6	104	20	70 - 130	
Trichloroethene	MS	1728746-09	ND	0.12515	0.12500	mg/kg		100		70 - 130	
	MSD	1728746-09	ND	0.13260	0.12500	mg/kg	5.8	106	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1728746-09	ND	0.049350	0.050000	mg/kg		98.7		70 - 121	
	MSD	1728746-09	ND	0.044560	0.050000	mg/kg	10.2	89.1		70 - 121	
Toluene-d8 (Surrogate)	MS	1728746-09	ND	0.049050	0.050000	mg/kg		98.1		81 - 117	
	MSD	1728746-09	ND	0.052070	0.050000	mg/kg	6.0	104		81 - 117	
4-Bromofluorobenzene (Surrogate)	MS	1728746-09	ND	0.050010	0.050000	mg/kg		100		74 - 121	
	MSD	1728746-09	ND	0.050310	0.050000	mg/kg	0.6	101		74 - 121	

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Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1535						
Acenaphthene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0012	
Acenaphthylene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0011	
Anthracene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0012	
Benzo[a]anthracene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0011	
Benzo[b]fluoranthene	B[J1535-BLK1	ND	mg/kg	0.0030	0.00095	
Benzo[k]fluoranthene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0011	
Benzo[a]pyrene	B[J1535-BLK1	ND	mg/kg	0.0030	0.00095	
Benzo[g,h,i]perylene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0011	
Chrysene	B[J1535-BLK1	ND	mg/kg	0.0030	0.00097	
Dibenzo[a,h]anthracene	B[J1535-BLK1	ND	mg/kg	0.0030	0.00099	
Fluoranthene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0014	
Fluorene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0011	
Indeno[1,2,3-cd]pyrene	B[J1535-BLK1	ND	mg/kg	0.0030	0.00092	
Naphthalene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0011	
Phenanthrene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0012	
Pyrene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0015	
Nitrobenzene-d5 (Surrogate)	B[J1535-BLK1	58.3	%	30 - 11	0 (LCL - UCL)	
2-Fluorobiphenyl (Surrogate)	B[J1535-BLK1	58.8	%	40 - 12	0 (LCL - UCL)	
p-Terphenyl-d14 (Surrogate)	B[J1535-BLK1	63.6	%	30 - 12	0 (LCL - UCL)	

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San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Laboratory Control Sample

			•		•		•			
								Control L	<u>imits</u>	
				Spike		Percent		Percent		Lab
Constituent	QC Sample ID	Type	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: B[J1535										
Acenaphthene	B[J1535-BS1	LCS	0.022953	0.033557	mg/kg	68.4		60 - 130		
Acenaphthylene	B[J1535-BS1	LCS	0.022953	0.033557	mg/kg	68.4		60 - 130		
Anthracene	B[J1535-BS1	LCS	0.025185	0.033557	mg/kg	75.0		60 - 130		
Benzo[a]anthracene	B[J1535-BS1	LCS	0.026779	0.033557	mg/kg	79.8		60 - 130		
Benzo[b]fluoranthene	B[J1535-BS1	LCS	0.029966	0.033557	mg/kg	89.3		50 - 130		
Benzo[k]fluoranthene	B[J1535-BS1	LCS	0.023909	0.033557	mg/kg	71.3		60 - 130		
Benzo[a]pyrene	B[J1535-BS1	LCS	0.022953	0.033557	mg/kg	68.4		60 - 130		
Benzo[g,h,i]perylene	B[J1535-BS1	LCS	0.024866	0.033557	mg/kg	74.1		50 - 130		
Chrysene	B[J1535-BS1	LCS	0.023909	0.033557	mg/kg	71.3		50 - 130		
Dibenzo[a,h]anthracene	B[J1535-BS1	LCS	0.026141	0.033557	mg/kg	77.9		50 - 130		
Fluoranthene	B[J1535-BS1	LCS	0.026141	0.033557	mg/kg	77.9		60 - 130		
Fluorene	B[J1535-BS1	LCS	0.026779	0.033557	mg/kg	79.8		50 - 130		
Indeno[1,2,3-cd]pyrene	B[J1535-BS1	LCS	0.025185	0.033557	mg/kg	75.0		50 - 130		
Naphthalene	B[J1535-BS1	LCS	0.022315	0.033557	mg/kg	66.5		50 - 130		
Phenanthrene	B[J1535-BS1	LCS	0.024866	0.033557	mg/kg	74.1		50 - 130		
Pyrene	B[J1535-BS1	LCS	0.024228	0.033557	mg/kg	72.2		50 - 130		
Nitrobenzene-d5 (Surrogate)	B[J1535-BS1	LCS	0.070453	0.13423	mg/kg	52.5		30 - 110		
2-Fluorobiphenyl (Surrogate)	B[J1535-BS1	LCS	0.067584	0.13423	mg/kg	50.3		40 - 120		
p-Terphenyl-d14 (Surrogate)	B[J1535-BS1	LCS	0.067265	0.13423	mg/kg	50.1		30 - 120		

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3437 Empresa Drive, Suite A

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San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1535	Use	ed client samp	ole: N								
Acenaphthene	─ MS	1724840-19	ND	0.025654	0.033223	mg/kg		77.2		50 - 130	
	MSD	1724840-19	ND	0.021557	0.033841	mg/kg	17.4	63.7	30	50 - 130	
Acenaphthylene	MS	1724840-19	ND	0.025654	0.033223	mg/kg		77.2		50 - 130	
,	MSD	1724840-19	ND	0.021888	0.033841	mg/kg	15.8	64.7	30	50 - 130	
Anthracene	MS	1724840-19	ND	0.027299	0.033223	mg/kg		82.2		50 - 130	
	MSD	1724840-19	ND	0.024210	0.033841	mg/kg	12.0	71.5	30	50 - 130	
Benzo[a]anthracene	MS	1724840-19	ND	0.028944	0.033223	mg/kg		87.1		50 - 130	
	MSD	1724840-19	ND	0.025205	0.033841	mg/kg	13.8	74.5	30	50 - 130	
Benzo[b]fluoranthene	MS	1724840-19	ND	0.032890	0.033223	mg/kg		99.0		40 - 130	
2020[0]	MSD	1724840-19	ND	0.029848	0.033841	mg/kg	9.7	88.2	30	40 - 130	
Benzo[k]fluoranthene	MS	1724840-19	ND	0.026312	0.033223	mg/kg		79.2		40 - 130	
261126[K]IIIGFGTITIONE	MSD	1724840-19	ND	0.023878	0.033841	mg/kg	9.7	70.6	30	40 - 130	
Benzo[a]pyrene	MS	1724840-19	ND	0.023023	0.033223	mg/kg		69.3		40 - 130	
Denzo[a]pyrene	MSD	1724840-19	ND	0.023023	0.033223	mg/kg	2.1	66.6	30	40 - 130	
Benzo[q,h,i]perylene		1724840-19	ND	0.026312	0.033223			79.2		40 - 130	
Berizo[g,ii,i]peryiene	MS MSD	1724840-19	ND	0.020312	0.033223	mg/kg mg/kg	9.7	79.2	30	40 - 130	
Chrysons				0.025983			0.1				
Chrysene	MS MSD	1724840-19 1724840-19	ND ND	0.025963	0.033223 0.033841	mg/kg mg/kg	14.1	78.2 66.6	30	40 - 130 40 - 130	
Dibaaaala blaathaaaaa							17.1				
Dibenzo[a,h]anthracene	MS	1724840-19 1724840-19	ND ND	0.027299 0.025536	0.033223 0.033841	mg/kg mg/kg	6.7	82.2 75.5	30	40 - 130 40 - 130	
	MSD						0.1				
Fluoranthene	MS	1724840-19	ND	0.027957	0.033223	mg/kg	15.7	84.2	20	40 - 130	
	MSD	1724840-19	ND	0.023878	0.033841	mg/kg	15.7	70.6	30	40 - 130	
Fluorene	MS	1724840-19	ND	0.028944	0.033223	mg/kg	44.0	87.1		40 - 130	
	MSD	1724840-19	ND	0.025868	0.033841	mg/kg	11.2	76.4	30	40 - 130	
Indeno[1,2,3-cd]pyrene	MS	1724840-19	ND	0.026641	0.033223	mg/kg		80.2		30 - 130	
	MSD	1724840-19	ND	0.024210	0.033841	mg/kg	9.6	71.5	30	30 - 130	
Naphthalene	MS	1724840-19	ND	0.024010	0.033223	mg/kg		72.3		50 - 130	
	MSD	1724840-19	ND	0.021225	0.033841	mg/kg	12.3	62.7	30	50 - 130	
Phenanthrene	MS	1724840-19	ND	0.027299	0.033223	mg/kg		82.2		40 - 130	
	MSD	1724840-19	ND	0.023215	0.033841	mg/kg	16.2	68.6	30	40 - 130	
Pyrene	MS	1724840-19	ND	0.026970	0.033223	mg/kg		81.2		40 - 130	
	MSD	1724840-19	ND	0.022552	0.033841	mg/kg	17.8	66.6	30	40 - 130	
Nitrobenzene-d5 (Surrogate)	MS	1724840-19	ND	0.073017	0.13289	mg/kg		54.9		30 - 110	
	MSD	1724840-19	ND	0.060359	0.13536	mg/kg	19.0	44.6		30 - 110	
2-Fluorobiphenyl (Surrogate)	MS	1724840-19	ND	0.074990	0.13289	mg/kg		56.4		40 - 120	
· · · · · · · · · · · · · · · · · · ·	MSD	1724840-19	ND	0.063012	0.13536	mg/kg	17.4	46.6		40 - 120	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Precision & Accuracy

									<u>s</u>	
		Source	Source		Spike			Percent	Percen	t Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD Recove	ry Quals
QC Batch ID: B[J1535	Use	d client samp	ole: N							
p-Terphenyl-d14 (Surrogate)	」 MS	1724840-19	ND	0.075977	0.13289	mg/kg		57.2	30 - 120	
	MSD	1724840-19	ND	0.063675	0.13536	mg/kg	17.6	47.0	30 - 120	

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 42 of 54



3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[I2745						
TPH - Gasoline	B[I2745-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[I2745-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[I2745-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[I2745-BLK1	108	%	20 - 14	5 (LCL - UCL)	

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 43 of 54



3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

							Control Limits				
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals	
QC Batch ID: B[I2745											
TPH - Diesel (FFP)	B[I2745-BS1	LCS	60.175	82.237	mg/kg	73.2		64 - 124			
Tetracosane (Surrogate)	B[I2745-BS1	LCS	2.7281	3.2908	mg/kg	82.9		20 - 145			

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 44 of 54



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

									Control Limits		
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[I2745	Use	d client samp	ıle: Y - Des	crintion: HA	-33-5 09/21	/2017 11:3	20				
<u> </u>		•		'	,		-0				
TPH - Diesel (FFP)	MS	1726917-06	ND	72.071	83.333	mg/kg		86.5		52 - 131	
	MSD	1726917-06	ND	52.526	84.746	mg/kg	31.4	62.0	30	52 - 131	Q02
Tetracosane (Surrogate)	MS	1726917-06	ND	3.2913	3.3347	mg/kg		98.7		20 - 145	
	MSD	1726917-06	ND	2.3600	3.3912	mg/kg	33.0	69.6		20 - 145	

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 45 of 54



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Chemical Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1166						
Total Cyanide	B[J1166-BLK1	ND	mg/kg	0.50	0.15	
QC Batch ID: B[J2498						
рН	B[J2498-BLK1	ND	pH Units	0.05	0.05	
pH Measurement Temperature	B[J2498-BLK1	ND	С	0.1	0.1	

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 46 of 54



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Chemical Analysis

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Control L Percent Recovery	<u>imits</u> RPD	Lab Quals
QC Batch ID: B[J1166										
Total Cyanide	B[J1166-BS1	LCS	12.560	13.889	mg/kg	90.4		80 - 120		
QC Batch ID: B[J2498										
рН	B[J2498-BS1	LCS	1.9720	2.0000	pH Units	98.6		95 - 105		

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 47 of 54



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Chemical Analysis

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1166	Use	d client samp	ole: N								
Total Cyanide	DUP	1728472-05	845.46	806.59		mg/kg	4.7		20		
	MS	1728472-05	845.46	800.10	10.000	mg/kg		-454		80 - 120	Q03
	MSD	1728472-05	845.46	894.89	9.0909	mg/kg	11.2	544	20	80 - 120	Q03
QC Batch ID: B[J2498	Use	d client samp	le: Y - Des	cription: HA	-32(1)-1, 09	/21/2017 0	9:00				
рН	DUP	1726917-01	3.3480	3.3520		pH Units	0.1		20		

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 48 of 54

Stantec - SLO 3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1201						
Total Hexavalent Chromium	B[J1201-BLK1	ND	mg/kg	1.0	0.30	
QC Batch ID: B[J2427						
Antimony	B[J2427-BLK1	ND	mg/kg	5.0	0.33	
Arsenic	B[J2427-BLK1	ND	mg/kg	1.0	0.40	
Barium	B[J2427-BLK1	ND	mg/kg	0.50	0.18	
Beryllium	B[J2427-BLK1	ND	mg/kg	0.50	0.047	
Cadmium	B[J2427-BLK1	ND	mg/kg	0.50	0.052	
Chromium	B[J2427-BLK1	ND	mg/kg	0.50	0.050	
Cobalt	B[J2427-BLK1	ND	mg/kg	2.5	0.098	
Copper	B[J2427-BLK1	ND	mg/kg	1.0	0.050	
Lead	B[J2427-BLK1	ND	mg/kg	2.5	0.28	
Molybdenum	B[J2427-BLK1	ND	mg/kg	2.5	0.050	
Nickel	B[J2427-BLK1	ND	mg/kg	0.50	0.15	
Selenium	B[J2427-BLK1	ND	mg/kg	1.0	0.98	
Silver	B[J2427-BLK1	ND	mg/kg	0.50	0.067	
Thallium	B[J2427-BLK1	ND	mg/kg	5.0	0.64	
Vanadium	B[J2427-BLK1	ND	mg/kg	0.50	0.11	
Zinc	B[J2427-BLK1	0.36636	mg/kg	2.5	0.087	J
QC Batch ID: B[J2441						
Mercury	B[J2441-BLK1	ND	mg/kg	0.16	0.019	

Report ID: 1000696157 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 49 of 54

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Laboratory Control Sample

								Control L	imits	
0	00.0	-	D	Spike	11-24-	Percent	DDD	Percent	DDD	Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: B[J1201										
Total Hexavalent Chromium	B[J1201-BS1	LCS	41.856	40.000	mg/kg	105		80 - 120		
QC Batch ID: B[J2427										
Antimony	B[J2427-BS1	LCS	97.772	100.00	mg/kg	97.8		75 - 125		
Arsenic	B[J2427-BS1	LCS	9.1043	10.000	mg/kg	91.0		75 - 125		
Barium	B[J2427-BS1	LCS	98.725	100.00	mg/kg	98.7		75 - 125		
Beryllium	B[J2427-BS1	LCS	9.5504	10.000	mg/kg	95.5		75 - 125		
Cadmium	B[J2427-BS1	LCS	9.4828	10.000	mg/kg	94.8		75 - 125		
Chromium	B[J2427-BS1	LCS	101.22	100.00	mg/kg	101		75 - 125		
Cobalt	B[J2427-BS1	LCS	97.552	100.00	mg/kg	97.6		75 - 125		
Copper	B[J2427-BS1	LCS	95.936	100.00	mg/kg	95.9		75 - 125		
Lead	B[J2427-BS1	LCS	96.429	100.00	mg/kg	96.4		75 - 125		
Molybdenum	B[J2427-BS1	LCS	98.094	100.00	mg/kg	98.1		75 - 125		
Nickel	B[J2427-BS1	LCS	104.40	100.00	mg/kg	104		75 - 125		
Selenium	B[J2427-BS1	LCS	9.1234	10.000	mg/kg	91.2		75 - 125		
Silver	B[J2427-BS1	LCS	9.2680	10.000	mg/kg	92.7		75 - 125		
Thallium	B[J2427-BS1	LCS	106.29	100.00	mg/kg	106		75 - 125		
Vanadium	B[J2427-BS1	LCS	104.48	100.00	mg/kg	104		75 - 125		
Zinc	B[J2427-BS1	LCS	96.071	100.00	mg/kg	96.1		75 - 125		
QC Batch ID: B[J2441										
Mercury	B[J2441-BS1	LCS	0.76672	0.80000	mg/kg	95.8		80 - 120		

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1201	Use	d client samp	ole: N								
Total Hexavalent Chromium	□ DUP	1728353-57	3.3800	3.4000		mg/kg	0.6		20		J
	MS	1728353-57	3.3800	42.220	40.000	mg/kg		97.1		75 - 125	
	MSD	1728353-57	3.3800	42.462	40.000	mg/kg	0.6	97.7	20	75 - 125	
QC Batch ID: B[J2427	Use	d client samp	ole: N								
Antimony	→ DUP	1729643-11	ND	ND		mg/kg			20		
,	MS	1729643-11	ND	16.503	100.00	mg/kg		16.5		16 - 119	
	MSD	1729643-11	ND	20.137	100.00	mg/kg	19.8	20.1	20	16 - 119	
Arsenic	DUP	1729643-11	5.5014	5.8321		mg/kg	5.8		20		
	MS	1729643-11	5.5014	14.604	10.000	mg/kg		91.0		75 - 125	
	MSD	1729643-11	5.5014	15.314	10.000	mg/kg	4.7	98.1	20	75 - 125	
Barium	DUP	1729643-11	142.18	147.99		mg/kg	4.0		20		
	MS	1729643-11	142.18	225.00	100.00	mg/kg		82.8		75 - 125	
	MSD	1729643-11	142.18	227.57	100.00	mg/kg	1.1	85.4	20	75 - 125	
Beryllium	DUP	1729643-11	0.85335	0.79603		mg/kg	7.0		20		J
	MS	1729643-11	0.85335	9.8503	10.000	mg/kg		90.0		75 - 125	
	MSD	1729643-11	0.85335	10.324	10.000	mg/kg	4.7	94.7	20	75 - 125	
Cadmium	DUP	1729643-11	2.1026	2.0022		mg/kg	4.9		20		
	MS	1729643-11	2.1026	11.471	10.000	mg/kg		93.7		75 - 125	
	MSD	1729643-11	2.1026	11.401	10.000	mg/kg	0.6	93.0	20	75 - 125	
Chromium	DUP	1729643-11	61.147	56.824		mg/kg	7.3		20		
	MS	1729643-11	61.147	149.77	100.00	mg/kg		88.6		75 - 125	
	MSD	1729643-11	61.147	156.46	100.00	mg/kg	4.4	95.3	20	75 - 125	
Cobalt	DUP	1729643-11	9.8664	9.4001		mg/kg	4.8		20		
	MS	1729643-11	9.8664	105.05	100.00	mg/kg		95.2		75 - 125	
	MSD	1729643-11	9.8664	105.32	100.00	mg/kg	0.3	95.5	20	75 - 125	
Copper	DUP	1729643-11	35.912	34.026		mg/kg	5.4		20		
	MS	1729643-11	35.912	125.91	100.00	mg/kg		90.0		75 - 125	
	MSD	1729643-11	35.912	132.82	100.00	mg/kg	5.3	96.9	20	75 - 125	
Lead	DUP	1729643-11	9.2834	8.6225		mg/kg	7.4		20		
	MS	1729643-11	9.2834	103.83	100.00	mg/kg		94.5		75 - 125	
	MSD	1729643-11	9.2834	104.40	100.00	mg/kg	0.6	95.1	20	75 - 125	
Molybdenum	DUP	1729643-11	2.6968	2.5436		mg/kg	5.8		20		J
	MS	1729643-11	2.6968	85.194	100.00	mg/kg		82.5		75 - 125	
	MSD	1729643-11	2.6968	87.530	100.00	mg/kg	2.7	84.8	20	75 - 125	
Nickel	DUP	1729643-11	57.983	55.490		mg/kg	4.4		20		
	MS	1729643-11	57.983	144.87	100.00	mg/kg		86.9		75 - 125	
	MSD	1729643-11	57.983	150.57	100.00	mg/kg	3.9	92.6	20	75 - 125	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
	Llas	d aliant same	No. N								
QC Batch ID: B[J2427		ed client samp									
Selenium	DUP	1729643-11	3.7462	3.8168		mg/kg	1.9		20		
	MS	1729643-11	3.7462	11.380	10.000	mg/kg		76.3		75 - 125	
	MSD	1729643-11	3.7462	11.485	10.000	mg/kg	0.9	77.4	20	75 - 125	
Silver	DUP	1729643-11	ND	ND		mg/kg			20		
	MS	1729643-11	ND	9.5102	10.000	mg/kg		95.1		75 - 125	
	MSD	1729643-11	ND	9.5773	10.000	mg/kg	0.7	95.8	20	75 - 125	
Thallium	DUP	1729643-11	ND	ND		mg/kg			20		
	MS	1729643-11	ND	96.771	100.00	mg/kg		96.8		75 - 125	
	MSD	1729643-11	ND	95.901	100.00	mg/kg	0.9	95.9	20	75 - 125	
Vanadium	DUP	1729643-11	105.39	96.617		mg/kg	8.7		20		
	MS	1729643-11	105.39	188.30	100.00	mg/kg		82.9		75 - 125	
	MSD	1729643-11	105.39	198.61	100.00	mg/kg	5.3	93.2	20	75 - 125	
Zinc	DUP	1729643-11	105.68	102.26		mg/kg	3.3		20		
	MS	1729643-11	105.68	182.59	100.00	mg/kg		76.9		75 - 125	
	MSD	1729643-11	105.68	191.56	100.00	mg/kg	4.8	85.9	20	75 - 125	
QC Batch ID: B[J2441	Use	ed client samp	ole: N								
Mercury	→ DUP	1729813-01	ND	ND		mg/kg			20		
•	MS	1729813-01	ND	0.80516	0.78125	mg/kg		103		80 - 120	
	MSD	1729813-01	ND	0.85062	0.78125	mg/kg	5.5	109	20	80 - 120	

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Report ID: 1000696157



Subcontract Report for 1726917 PDF File Name: wo_1726917_sub_EMSLA.pdf Page 1 of 1



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com/sanleandrolab@emsl.com

EMSL Order: 091719208 Customer ID: BCLA50 Customer PO: 1726917 Project ID:

Attention: Molly Meyers (661) 327-4911 Phone: BC Laboratories, Inc. Fax: (661) 327-1918

4100 Atlas Court Received Date: 10/04/2017 10:15 AM Bakersfield, CA 93308 Analysis Date: 10/05/2017

Collected Date: 09/21/2017 Project: 1726917

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbes	tos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1726917-01		Brown	2% Wollastonite	50% Quartz	None Detected
		Non-Fibrous		48% Non-fibrous (Other)	
G91719208-0001		Homogeneous			
Soil is a problem matr	ix. Other analytical options are rec	commended such as EPA 6	00 PLM/TEM with milling prep		
1726917-02		Brown/Black		50% Quartz	<1% Chrysotile
		Non-Fibrous		10% Matrix	
091719208-0002		Homogeneous		40% Non-fibrous (Other)	
Soil is a problem matr	ix. Other analytical options are rec	ommended such as EPA 6	00 PLM/TEM with milling prep		
1726917-04		Tan		60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
091719208-0003		Homogeneous			
Soil is a problem matr	ix. Other analytical options are rec	commended such as EPA 6	00 PLM/TEM with milling prep		
1726917-05		Tan		60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
091719208-0004		Homogeneous			
Soil is a problem matr	ir. Other analytical options are rec	ommended such as EPA 6	00 PLM/TEM with milling prep		

Analyst(s)
ecilia Yu (4)

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 10/05/2017 14:19:29

ASB_PLM_0008_0001 - 1.78 Printed: 10/5/2017 2:19 PM

Page 1 of 1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Subcontract Report for 1726917 PDF File Name: wo_1726917_sub_FRNTL.pdf Page 1 of 8





October 30, 2017

FAL Project: 10991

Ms. Molly Meyers **BC** Laboratories 4100 Atlas Court Bakersfield, CA 93308

Dear Ms. Meyers,

The following results are associated with Frontier Analytical Laboratory project 10991. This corresponds to your subcontract order number 1726917. One solid sample was received on 10/12/2017. This sample was extracted and analyzed by EPA Method 8290 for tetra through octa chlorinated dibenzo dioxins and furans. The Toxic Equivalency (TEQ) for your sample has been calculated using the 2005 World Health Organization's (WHO's) toxic equivalency factors (TEFs). BC Laboratories requested a turnaround time of fifteen business days for project 10991.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains our sample tracking log and the analytical results. The Sample Receipt section contains your chain of custody, our sample login form and a sample photo. The attached results are specifically for the sample referenced in this report only. These results meet all National Environmental Laboratory Accreditation Program (NELAP) requirements and shall not be reproduced except in full. Frontier Analytical Laboratory's State of Oregon NELAP certificate number is 4041 and our State of California ELAP certificate number is 2934. This report has been emailed to you as a portable document format (PDF) file. A hardcopy will not be sent to you unless specifically requested.

If you have any questions regarding project 10991, please contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Daniel P. vickers

Daniel P. Vickers Vice President

FRONTIER ANALYTICAL LABORATORY

5172 Hillsdale Circle * El Dorado Hills, CA 95762 Tel (916) 934-0900 * Fax (916) 934-0999 www.frontieranalytical.com

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Report ID: 1000666527 Page 53 of 61



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Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: **10991**

Received on: <u>10/12/2017</u> Project Due: <u>11/03/2017</u> Storage: <u>R3</u>

FAL Sample ID Dup Project ID Client Sample ID Requested Method Matrix Sampling Date Time Due Date 10991-001-SA 0 1726917 1726917-01 EPA 8290 D/F Solid 09/21/2017 09:00 am 10/21/2017

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Subcontract Report for 1726917 PDF File Name: wo_1726917_sub_FRNTL.pdf Page 3 of 8

EPA Method 8290 PCDD/F



FAL ID: 10991-001-MB Client ID: Method Blank Matrix: Solid Batch No: X4276	Date	Extracted: 10- Received: NA unt: 5.00 g			fal4-9-18-17 nn: DB5MS 3	20	cquired: 10-: 005 WHO TI asis: Dry We	EQ: 0.0	
Compound	Cor	nc DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD	2 2 2 2 2 2 2	D 0.258 D 0.342 D 0.445 D 0.364 D 0.310		- - - - -	0.0273 0.0570 0.0793 0.0940 0.0823 0.0842 0.172	Total TCDD Total PeCDD Total HxCDD Total HpCDD	ND ND ND ND	0.118 0.258 0.445 0.310	
2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	N N N N N N N N N N N N N N N N N N N	D 0.164 D 0.150 D 0.206 D 0.219 D 0.230 D 0.270 D 0.364 D 0.381		- - - - - - - - -	0.0269 0.0449 0.0468 0.0437 0.0417 0.0574 0.0657 0.0747 0.0883 0.170	Total TCDF Total PeCDF Total HxCDF Total HyCDF	ND ND ND ND	0.113 0.164 0.270 0.381	
13C-2,3,7,8-TCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,6,7,8-HpCDD 13C-0,2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-1,2,3,4,7,8-PeCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8,9-HpCDF 13C-1,2,3,4,7,8,9-HpCDF 13C-1,2,3,4,7,8,9-HpCDF	% Rec 84.7 99.9 84.6 80.3 96.4 92.9 86.1 97.9 102 86.3 80.0 86.6 91.0 92.7 101 95.4	QC Limits 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135	Qual		B Ar C CI D Pr DNQ Ar F Ar J Ar M MN ND Ar NP Nc P Pr S Sa X M	otopic Labeled Sta gnal to noise ratio i nalyte is present in nemical Interference esence of Dipheny nalyte concentratio nalyte concentratio nalyte concentratio aximum possible concentratio eximum possible concentratio aximum possible concentratio aximum possible concentratio aximum possible concentration aximum possible concentration aximum possible concentration aximum possible concentration aximum possible concentration	s > 10:1 Method Bla ie Il Ethers In is below on In is above on Is second In is below on In second In is below on In is below on In is below on In is below on In it is below	ealibration recalibration recalibration recalibration recall recal	range range range vel
Cleanup Surrogate 37Cl-2,3,7,8-TCDD	86.4	50.0 - 150							

10/27/2017

Reviewed By: 8 10/27/2017

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Subcontract Report for 1726917 PDF File Name: wo_1726917_sub_FRNTL.pdf Page 4 of 8

EPA Method 8290 PCDD/F



FAL ID: 10991-001-OPR Client ID: OPR Matrix: Solid Batch No: X4276

Date Extracted: 10-17-2017 Date Received: NA Amount: 5.00 g

ICal: pcddfal4-9-18-17 GC Column: DB5MS Units: ng/ml

Acquired: 10-25-2017 2005 WHO TEQ: NA

Conc	QC Limits	Qual
12.2 61.1 62.7 61.1 60.2 60.6 118	7.00 - 13.0 35.0 - 65.0 35.0 - 65.0 35.0 - 65.0 35.0 - 65.0 35.0 - 65.0 70.0 - 130	
11.2 60.5 61.2 60.5 61.7 61.4 60.8 61.9 61.5	7.00 - 13.0 35.0 - 65.0 35.0 - 65.0 35.0 - 65.0 35.0 - 65.0 35.0 - 65.0 35.0 - 65.0 35.0 - 65.0 70.0 - 130	
% Rec	QC Limits	Qual
90.7 112 89.7 83.3 98.5 103	40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135	
89.7 104 111 92.3 84.5 90.0 96.4 96.8 106 102	40.0 - 135 40.0 - 135	
	12.2 61.1 62.7 61.1 60.2 60.6 118 11.2 60.5 61.2 60.5 61.7 61.4 60.8 61.9 61.5 121 % Rec 90.7 112 89.7 7 103 89.7 104 111 92.3 84.5 90.0 96.4 96.8	12.2 7.00 - 13.0 61.1 35.0 - 65.0 62.7 35.0 - 65.0 61.1 35.0 - 65.0 60.2 35.0 - 65.0 60.6 35.0 - 65.0 118 70.0 - 130 11.2 7.00 - 13.0 60.5 35.0 - 65.0 61.2 35.0 - 65.0 61.2 35.0 - 65.0 61.3 35.0 - 65.0 61.3 35.0 - 65.0 61.7 35.0 - 65.0 61.8 35.0 - 65.0 61.9 35.0 - 65.0 61.9 35.0 - 65.0 61.9 35.0 - 65.0 61.9 35.0 - 65.0 61.9 35.0 - 65.0 121 70.0 - 130 % Rec QC Limits 90.7 40.0 - 135 112 40.0 - 135 138.3 40.0 - 135 98.5 40.0 - 135 104 40.0 - 135 114 40.0 - 135 115 40.0 - 135 98.5 40.0 - 135 98.5 40.0 - 135 98.5 40.0 - 135 98.5 40.0 - 135 98.5 40.0 - 135 98.5 40.0 - 135 98.5 40.0 - 135 98.5 40.0 - 135 98.5 40.0 - 135

Α	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
В	Analyte is present in Method Blank
С	Chemical Interference
D	Presence of Diphenyl Ethers
DNQ	Analyte concentration is below calibration range
Ε	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J	Analyte concentration is below calibration range
М	Maximum possible concentration
ND	Analyte Not Detected at Detection Limit Level
NP	Not Provided
Р	Pre-filtered through a Whatman 0.7um GF/F filter
S	Sample acceptance criteria not met
Х	Matrix interferences
*	Result taken from dilution or reinjection

10/27/2017

37CI-2,3,7,8-TCDD

Reviewed By:_ &PV 10/27/2017

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91.3 50.0 - 150



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EPA Method 8290 PCDD/F



FAL ID: 10991-001-SA Client ID: 1726917-01 Matrix: Solid Batch No: X4276	Date Amo	Extracted: 10- Received: 10- unt: 5.04 g blids: 89.14			DFAL4-9-18- nn: DB5MS g	2	cquired: 10-2 005 WHO TE asis: Dry Wei	Q: 179	
Compound	Con	ic DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD	10. 23. 17. 14 59. 723 10400	3 - 7 - 0 - 1 - 0 -		10.3 23.3 1.77 14.0 5.91 72.3 31.2	0.0273 0.0570 0.0793 0.0940 0.0823 0.0842 0.172	Total TCDD Total PeCDD Total HxCDD Total HpCDD	57.4 128 696 14000	- - - -	М
2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	3.0 2.1 3.3 21. 13. 25. 4.4 95 57. 719	1 - 3 - 5 - 9 - 8 - 4 - 6 - 6 - 6	J J	0.307 0.0633 0.999 2.15 1.39 2.58 0.444 9.56 0.576 2.16	0.0269 0.0449 0.0468 0.0437 0.0417 0.0574 0.0657 0.0747 0.0883 0.170	Total TCDF Total PeCDF Total HxCDF Total HyCDF	36.4 117 841 4910	- - - -	D,M D,M D,M
13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,6,7,8-HxCDD 13C-1,2,3,6,7,8-HxCDD 13C-1,2,3,6,7,8-HyCDD 13C-2,3,7,8-TCDF 13C-1,2,3,4,7,8-PeCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-2,3,4,6,7,8-HxCDF 13C-1,2,3,6,7,8-HxCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF	% Rec 90.5 112 94.9 81.7 101 111 83.1 102 105 84.9 72.8 81.4 89.3 90.6 107 111	QC Limits 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135	Qual		B An C Ch D Pre DNQ An E An J An Ma ND An NP No P Pre S Sa X Ma	topic Labeled Stanal to noise ratio alyte is present in emical Interference sence of Diphenalyte concentrationalyte concentrationalyte concentrationalyte concentrationalyte concentrationalyte concentrationalyte Not Detected the Provided enfiltered through mple acceptance trix interferences sult taken from designational	is >10:1 n Method Blar ce yl Ethers on is below ca n on secondal on is below ca concentration d at Detection a Whatman 0 criteria not m	nk alibration r y column alibration r Limit Le 7.7um GF	range range range vel
Cleanup Surrogate 37Cl-2,3,7,8-TCDD	92.2	50.0 - 150							

10/27/2017

Reviewed By: 8 10/27/2017

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Subcontract Report for 1726917 PDF File Name: wo_1726917_sub_FRNTL.pdf Page 6 of 8

SUBCONTRACT ORDER

BC Laboratories 1726917

RECEIVING LABORATORY:

Frontier Analytical Laboratory \$FRNTL-EINV

5172 Hillsdale Circle El Dorado Hills, CA 95762 Phone: (916) 934-0900 Fax: (916) 934-0999

Phone: 661-327-4911 Fax: 661-327-1918

Bakersfield, CA 93308

BC Laboratories

4100 Atlas Ct

SENDING LABORATORY:

Project Manager: Molly Meyers

Analysis

Due

Expires

Laboratory ID

Comments

Sample ID: 1726917-01

Solids

Sampled:09/21/17 09:00

analyses added per Kirk Henning. mm 10/10/17

og8290s Full Scan FRNTL

10/24/17 17:00

10/21/17 09:00

Containers Supplied:

Released By

Date

Received By

Date

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Page 1 of 1

Subcontract Report for 1726917 PDF File Name: wo_1726917_sub_FRNTL.pdf Page 7 of 8



Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: 10991

Client:	BC Laboratories, Inc
Client Project ID:	1726917
Date Received:	10/12/2017
Time Received:	11:10 am
Received By:	KZ
Logged In By:	KZ
# of Samples Received:	1
Duplicates:	0
Storage Location:	R3

California Overnight				
C11235900270709				
Yes				
No				
No				
0				
Ice				
Yes				
Yes				
No				
No				
Yes				
No				
N/A				

Anomalies or additional comments:

Please note that the sample was received in a clear glass jar. NELAP requires samples be received in amber glass bottles or jars. Although this anomaly will not affect your results, we are required by NELAP to make a note of it. We will proceed with analysis unless directed otherwise by you.

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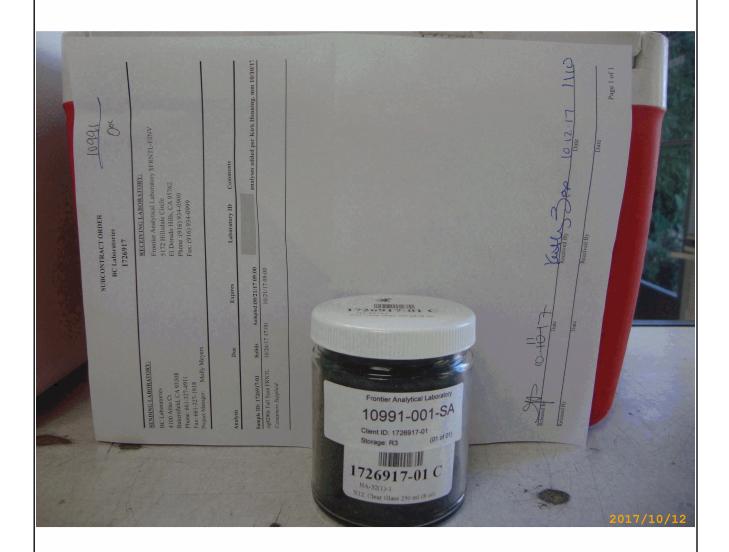
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Stantec - SLO Reported: 01/17/2018 8:51

Project: Former Northern Landfill

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Notes And Definitions

PQL

3437 Empresa Drive, Suite A

Estimated Value (CLP Flag) MDL Method Detection Limit ND Analyte Not Detected Practical Quantitation Limit

Detection and quantitation limits are raised due to sample dilution. A01

A17 Surrogate not reportable due to sample dilution.

A26 Sample received past holding time. A52 Chromatogram not typical of diesel. A57 Chromatogram not typical of motor oil.

L07 The Laboratory Control Sample (LCS) recovery is not within laboratory established control limits.

pH1:1 pH result reported on a 1:1 dilution of sample

Matrix spike precision is not within the control limits. Q02

Q03 Matrix spike recovery(s) is(are) not within the control limits.

S05 The sample holding time was exceeded.

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Report ID: 1000696157 Page 54 of 54



Date of Report: 01/04/2018

Kirk Henning

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Client Project:

185850429

BCL Project:

Former Northern Landfill

BCL Work Order:

1726918

Invoice ID:

B283147

Enclosed are the results of analyses for samples received by the laboratory on 9/20/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000663169

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Stuart Buttram

Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101



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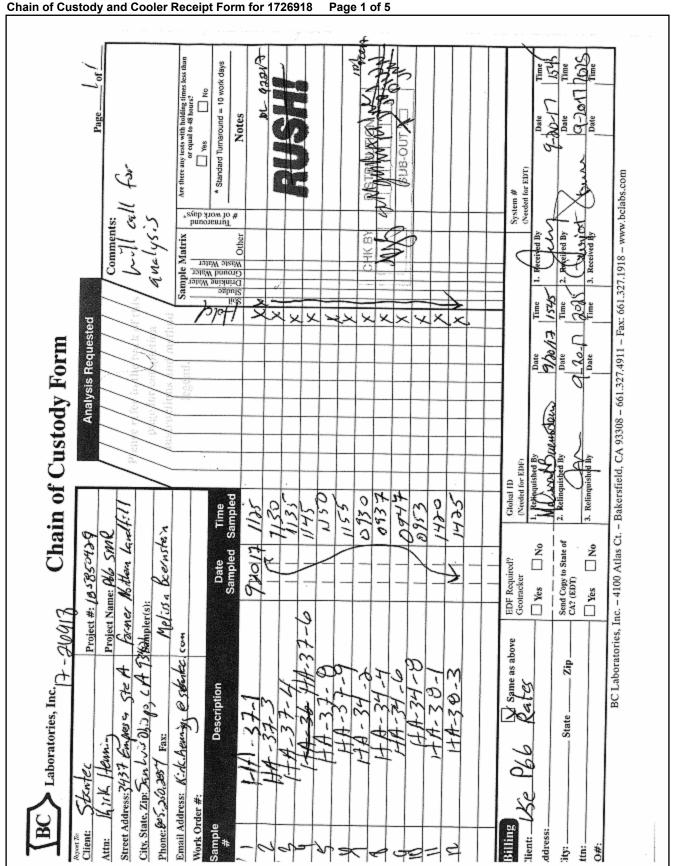
Sample Information	
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Sample Results	
1726918-01 - HA-37-1	
Total Petroleum Hydrocarbons	13
1726918-02 - HA-37-3	
Total Petroleum Hydrocarbons	14
1726918-03 - HA-37-4	
Total Petroleum Hydrocarbons	1.5
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Total Petroleum Hydrocarbons	16
1726918-05 - HA-37-8	
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Volatile Organic Analysis (EPA Method 8260B)	
Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)	
Total Petroleum Hydrocarbons	
Chemical Analysis	
Total Concentrations (TTLC)	
1726918-06 - HA-37-9	0-
Total Petroleum Hydrocarbons	27
1726918-07 - HA-34-2	0.0
Total Petroleum Hydrocarbons	28
1726918-08 - HA-34-4	•
Total Petroleum Hydrocarbons	29
1726918-09 - HA-34-6	
Total Petroleum Hydrocarbons	30
1726918-10 - HA-34-8	
Total Petroleum Hydrocarbons	31
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Total Petroleum Hydrocarbons	32
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Precision and Accuracy	
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	Method Blank Analysis	. 57
	Laboratory Control Sample	
	Precision and Accuracy	
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Chain of Custody and Cooler Receipt Form for 1726918 Page 2 of 5 * Standard Turnargund == 10 work days ž Ę Notes Date * Per Kirk BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661,327,4911 - Fax: 661,327,1918 - www.belabs.com Needed for EDT System # , sinp spow jo 4 puncueung Comments: Sample Matrix Drinking Water Ground Water Waste Water **Analysis Requested** Chain of Custody Form S18,0418,0808 1772 SE 347 WIS HAD 0/8/2 HAT Needed for EBF Global 3D Send Copy to State of CA2 (EDT) ž ž EDF Required? Geomeker Project Name: 227. ies [] Yes Sampler(s): Project #: Same as above Zip Laboratories, Inc. Fax Street Address: City, State, Zip: Email Address: Work Order #: Address Client: City: Attn:

Report ID: 1000691076 Page 5 of 71



Chain of Custody and Cooler Receipt Form for 1726918 Page 3 of 5 * Standard Turnsround = 10 work days 2 Notes <u>ş</u> BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.belabs.com Sample Matrix Drinking Water Ground Water Waste Water Analysis Requested Chain of Custody Form Date C જે છે છે. જ્ઞાન કે શક્ત गिर्मिश्य एट Project #: 10.5785.243 9 Send Cupy to State of CA2 (EDT) ž Š EDF Required? Geofracker Project Name: (2/,) Ves □ yes Sampler(s): Same as above Zip Laboratories, Inc. City, State, Zip: Email Address: Work Order #: Billing Client: Address 40 City Attn: ī

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 6 of 71



Chain of Custody and Cooler Receipt Form for 1726918 Page 4 of 5

BC LABORATORIES INC. Submission #: 7-269	12		COOLE	R RECEI	PT FORM			P	age/	Of Z
	The state of the s									
SHIPPING INFOR Fed Ex UPS Ontrac BC Lab Field Service Other		and Deliv	ery 🗆	_ lce (SHIPPING thest 🗹 (S	None	AINER Box	0	FREE LO	NO 🗆
Refrigerant: Ice 🗹 Blue Ice D) No	ne 🗆	Other [□ Cor	nments:					
Custody Seals Ice Chest I		ners □	Nor	ne, Z Co	mments:					-
All samples received? Yes [7 No []	All sample	es contain	ers intact?	Yes Z	No 🗆	Desc	ription(s) m	atch COC	Yest No	
D'VEC DNO	issivity:	0-96	Containe	,	Therm	ometer ID:	208	Date/	Time 9 20	17 200
	T	. (A)	(*)	/		1-1	°C	Analy	st Init_V	NC _
SAMPLE CONTAINERS	1	1 2	3	7	7000	LE NUMBER	-			
QT PE UNPRES	Ì	1	3	4	5	1 6	7	8	9	10
foz/8oz/16oz PE UNPRES				_		-	-	+		-
Rea Cr ¹⁶				1	_		-	-	-	-
OT INORGANIC CHEMICAL METALS						+	-	-		-
NORGANIC CHEMICAL METALS 402 / 802 / 1602				1	1	-	-	-		-
T CYANIDE		1		1	-	-		+	-	-
T NITROGEN FORMS	1		_		-	-	-	-		
T TOTAL SULFIDE	1		+	_	+	-	-			
oz. NITRATE / NITRITE	—	1		+			-	-	-	
T TOTAL ORGANIC CARBON .	-	_	_	-	-	-		-		
T CHEMICAL OXYGEN DEMAND		+		-	-	-		-	-	
A PHENOLICS	-		+	-	-	-	-	-		
Oml VOA VIAL TRAVEL BLANK			-	-	-		-	-		
imi VOA VIAL		-	-	-	-		-			
T EPA 1664	_	_	-	-	-	-	-			
T ODOR		+	_	-	·					
ADIOLOGICAL		-	+	-	-	-				
ACTERIOLOGICAL		-	-	-	-		-			
		+	-	-						
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F EPA 525										
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ml EPA 547										-
ml EPA 531.1										
EPA 548	-									
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Chain of Custody and Cooler Receipt Form for 1726918 Page 5 of 5

BC LABORATORIES INC.	, ,	-	COOLE	RECEIPT	FORM			Pa	ige <u>Z</u>	Of
Submission #: 17-26918										
SHIPPING INFOR				5	HIPPING	CONTA	INFR		FREE LI	JUID
Fed Ex □ UPS □ Ontrac	□ Ha	nd Deliv	ery 🗆	Ice Ch	est 🗹	None □	Box 🗆	- 1	YES □	
BC Lab Field Service O Other	□ (Spec	ify)		. Oth	er ☐ (Spe	ecify)		_	W /	
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T INORGANIC CHEMICAL METALS	1	-	-	-				-	-	
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T CYANIDE		1		-	·		 		-	-
T NITROGEN FORMS			-		-					-
T TOTAL SULFIDE			1						-	
n. NITRATE/NITRITE							-	<u> </u>	-	-
T TOTAL ORGANIC CARBON .	1		-						1	-
CHEMICAL OXYGEN DEMAND								<u> </u>	100	
A PHENOLICS										
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ml VOA VIAL										
T EPA 1664										
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mi VOA VIAL-504	├	-	-							
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EPA 525			-							
EPA 525 TRAVEL BLANK		-								
nl EPA 547		1	-							
nt EPA 531.1		1	1						-	
EPA 548										
EPA 549										
EPA 8015M		1	1.		-					
EPA 8270		1								
/160z/320z\AMBER		1								
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Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1726918-01 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-37-1 Sampled By: SISL **Receive Date:** 09/20/2017 20:25 **Sampling Date:** 09/20/2017 11:25

Sample Depth:---Lab Matrix:SolidsSample Type:Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-37-1

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1726918-02 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-37-3 Sampled By: SISL **Receive Date:** 09/20/2017 20:25 **Sampling Date:** 09/20/2017 11:30

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-37-3

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1726918-03 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-37-4
Sampled By: SISL

Receive Date: 09/20/2017 20:25 **Sampling Date:** 09/20/2017 11:35

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-37-4

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000691076

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Stantec - SLO Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Suite A Project Number: 185850429
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

3437 Empresa Drive, Suite A

1726918-04 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-37-6 Sampled By: SISL **Receive Date:** 09/20/2017 20:25 **Sampling Date:** 09/20/2017 11:45

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-37-6

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1726918-05 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-37-8 Sampled By: SISL **Receive Date:** 09/20/2017 20:25 **Sampling Date:** 09/20/2017 11:50

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-37-8

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1726918-06 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-37-9
Sampled By: SISL

Receive Date: 09/20/2017 20:25

Sampling Date: 09/20/2017 11:55 **Sample Depth:** ---

Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-37-9

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Stantec - SLO Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Suite A Project Number: 185850429
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

3437 Empresa Drive, Suite A

1726918-07 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-34-2 Sampled By: SISL **Receive Date:** 09/20/2017 20:25 **Sampling Date:** 09/20/2017 09:30

Sample Depth: --Lab Matrix: Solids

Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-34-2

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1726918-08 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-34-4
Sampled By: SISL

Receive Date: 09/20/2017 20:25 **Sampling Date:** 09/20/2017 09:37

Sample Depth:---Lab Matrix:SolidsSample Type:SoilDelivery Work Order:

Global ID:

Location ID (FieldPoint): HA-34-4

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1726918-09 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-34-6
Sampled By: SISL

Receive Date: 09/20/2017 20:25

Sampling Date: 09/20/2017 09:47

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-34-6

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1726918-10 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-34-8 Sampled By: SISL

09/20/2017 20:25 Receive Date: Sampling Date: 09/20/2017 09:53

Sample Depth: Lab Matrix: Solids Soil Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-34-8

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1726918-11 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location: HA-38-1 Sampling Point: SISL Sampled By:

09/20/2017 20:25 Receive Date: 09/20/2017 14:20 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-38-1

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1726918-12 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location: HA-38-3 Sampling Point: SISL Sampled By:

Receive Date: 09/20/2017 20:25 09/20/2017 14:25 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-38-3

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Project: Former Northern Landfill

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1726918-01	Client Sampl	e Name:	Former No	Former Northern Landfill, HA-37-1, 9/20/2017 11:25:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	600	150	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	300	36	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		4100	mg/kg	600	200	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	98.1	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

		Run QC						
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/28/17 20:25	10/04/17 11:12	AS1	GC-13	30	B[I2745	

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Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1726918-02	Client Sampl	Former N	Former Northern Landfill, HA-37-3, 9/20/2017 11:30:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	400	100	EPA-8015B/FFP	ND	A01	1	
TPH - Diesel (FFP)		ND	mg/kg	200	24	EPA-8015B/FFP	ND	A01	1	
TPH - Motor Oil		1900	mg/kg	400	130	EPA-8015B/FFP	ND	A01	1	
Tetracosane (Surrogat	re)	42.6	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP		A01	1	

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/28/17 20:25	10/03/17 03:38	AS1	GC-13	20.270	B[I2745	

Page 14 of 71 Report ID: 1000691076

Stantec - SLO Reported: 01/04/2018 14:11 3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1726918-03	Client Sampl	e Name:	Former Northern Landfill, HA-37-4, 9/20/2017 11:35:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	600	150	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	300	36	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		5800	mg/kg	600	200	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	95.5	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

			Run			QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	09/28/17 20:25	10/03/17 00:58	AS1	GC-13	30	B[I2745			

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Report ID: 1000691076

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3437 Empresa Drive, Suite A

Stantec - SLO Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1726918-04	Client Sampl	Former N	Former Northern Landfill, HA-37-6, 9/20/2017 11:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	600	150	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	300	36	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		5300	mg/kg	600	200	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	te)	99.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run		QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/28/17 20:25	10/03/17 01:43	AS1	GC-13	30	B[I2745	

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Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

BCL Sample ID:	1726918-05	Client Sampl	e Name:	Former N	orthern Lar	ndfill, HA-37-8, 9	/20/2017 11:50	0:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Aldrin		ND	mg/kg	0.062	0.0042	EPA-8080	ND	A10	1
alpha-BHC		ND	mg/kg	0.062	0.016	EPA-8080	ND	A10	1
beta-BHC		ND	mg/kg	0.062	0.019	EPA-8080	ND	A10	1
delta-BHC		ND	mg/kg	0.062	0.0059	EPA-8080	ND	A10	1
gamma-BHC (Lindane)		ND	mg/kg	0.062	0.010	EPA-8080	ND	A10	1
Chlordane (Technical)		ND	mg/kg	6.2	0.21	EPA-8080	ND	A10	1
4,4'-DDD		ND	mg/kg	0.062	0.026	EPA-8080	ND	A10	1
4,4'-DDE		ND	mg/kg	0.062	0.0025	EPA-8080	ND	A10	1
4,4'-DDT		ND	mg/kg	0.062	0.012	EPA-8080	ND	A10	1
Dieldrin		ND	mg/kg	0.062	0.0099	EPA-8080	ND	A10	1
Endosulfan I		ND	mg/kg	0.062	0.0028	EPA-8080	ND	A10	1
Endosulfan II		ND	mg/kg	0.062	0.018	EPA-8080	ND	A10	1
Endosulfan sulfate		ND	mg/kg	0.062	0.042	EPA-8080	ND	A10	1
Endrin		ND	mg/kg	0.062	0.011	EPA-8080	ND	A10	1
Endrin aldehyde		ND	mg/kg	0.062	0.029	EPA-8080	ND	A10	1
Heptachlor		ND	mg/kg	0.062	0.0045	EPA-8080	ND	A10	1
Heptachlor epoxide		ND	mg/kg	0.062	0.0021	EPA-8080	ND	A10	1
Methoxychlor		ND	mg/kg	0.062	0.026	EPA-8080	ND	A10	1
Toxaphene		ND	mg/kg	6.2	1.2	EPA-8080	ND	A10	1
PCB-1016		ND	mg/kg	1.2	0.49	EPA-8080	ND	A10	1
PCB-1221		ND	mg/kg	1.2	0.90	EPA-8080	ND	A10	1
PCB-1232		ND	mg/kg	1.2	0.92	EPA-8080	ND	A10	1
PCB-1242		ND	mg/kg	1.2	0.52	EPA-8080	ND	A10	1
PCB-1248		ND	mg/kg	1.2	0.88	EPA-8080	ND	A10	1
PCB-1254		ND	mg/kg	1.2	0.40	EPA-8080	ND	A10	1
PCB-1260		ND	mg/kg	1.2	0.36	EPA-8080	ND	A10	1
Total PCB's (Summation)		ND	mg/kg	1.2	0.62	EPA-8080	ND	A10	1
TCMX (Surrogate)		48.6	%	20 - 130 (LC	CL - UCL)	EPA-8080		A10	1
Decachlorobiphenyl (Surro	ogate)	94.9	%	40 - 130 (LC	CL - UCL)	EPA-8080		A10	1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8080	09/29/17 10:30	09/29/17 18:31	HKS	GC-17	125	B[I2784	

Page 17 of 71 Report ID: 1000691076

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

BCL Sample ID:	1726918-05	Client Sampl	e Name:	Former N	orthern Lar	ndfill, HA-37-8, 9/	20/2017 11:5	0:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Azinphos methyl		ND	mg/kg	0.20	0.15	EPA-8141A	ND		1
Bolstar		ND	mg/kg	0.20	0.044	EPA-8141A	ND		1
Chlorpyrifos		ND	mg/kg	0.20	0.028	EPA-8141A	ND		1
Coumaphos		ND	mg/kg	0.20	0.16	EPA-8141A	ND		1
Demeton O/S		ND	mg/kg	0.20	0.068	EPA-8141A	ND		1
Diazinon		ND	mg/kg	0.20	0.048	EPA-8141A	ND		1
Dichlorvos		ND	mg/kg	0.20	0.018	EPA-8141A	ND		1
Disulfoton		ND	mg/kg	0.20	0.038	EPA-8141A	ND		1
Ethoprop		ND	mg/kg	0.20	0.024	EPA-8141A	ND		1
Fensulfothion		ND	mg/kg	0.20	0.11	EPA-8141A	ND		1
Fenthion		ND	mg/kg	0.20	0.042	EPA-8141A	ND		1
Merphos		ND	mg/kg	0.20	0.038	EPA-8141A	ND		1
Methyl parathion		ND	mg/kg	0.20	0.050	EPA-8141A	ND		1
Mevinphos		ND	mg/kg	0.20	0.048	EPA-8141A	ND		1
Naled		ND	mg/kg	0.20	0.086	EPA-8141A	ND		1
Phorate		ND	mg/kg	0.20	0.052	EPA-8141A	ND		1
Ronnel (Fenchlorphos)	ND	mg/kg	0.20	0.028	EPA-8141A	ND		1
Stirophos (Tetrachlorvi	inphos)	ND	mg/kg	0.20	0.040	EPA-8141A	ND		1
Tokuthion (Prothiofos)		ND	mg/kg	0.20	0.034	EPA-8141A	ND		1
Trichloronate		ND	mg/kg	0.20	0.026	EPA-8141A	ND		1
Triphenylphosphate (S	Surrogate)	52.8	%	40 - 120 (LC	CL - UCL)	EPA-8141A			1

				QC				
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8141A	09/28/17 08:00	09/29/17 13:46	RSM	GC-18	20	B[I2698	

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MU

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

BCL Sample ID:	1726918-05	Client Sampl	e Name:	Former No	Former Northern Landfill, HA-37-8, 9/20/2017 11:50:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #			
2,4-D		ND	mg/kg	0.60	0.17	EPA-8151A	ND		1			
2,4-DB		ND	mg/kg	1.2	0.51	EPA-8151A	ND		1			
Dalapon		ND	mg/kg	1.5	1.0	EPA-8151A	ND		1			
Dicamba		ND	mg/kg	0.060	0.048	EPA-8151A	ND		1			
Dichloroprop		ND	mg/kg	0.60	0.16	EPA-8151A	ND		1			
Dinoseb		ND	mg/kg	0.21	0.072	EPA-8151A	ND		1			
2,4,5-T		ND	mg/kg	0.090	0.039	EPA-8151A	ND		1			
2,4,5-TP (Silvex)		ND	mg/kg	0.090	0.036	EPA-8151A	ND		1			
2,4-Dichlorophenylace (Surrogate)	etic acid	87.8	%	40 - 120 (LC	L - UCL)	EPA-8151A			1			

Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8151A	09/28/17 08:30	09/29/17 13:33	MSB	GC-8	30	B[I2744	

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Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1726918-05	Client Sampl	e Name:	Former No	orthern Lan	dfill, HA-37-8, 9/	20/2017 11:5	0:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene		0.0025	mg/kg	0.0050	0.0013	EPA-8260B	ND	J	1
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B	ND		1
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B	ND		1
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
sec-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
ert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B	ND		1
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
2-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
4-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B	ND		1
1,2-Dibromo-3-chloropropa	ne	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
1,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B	ND		1
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1
1,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B	ND		1
1,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
cis-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
rans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1
1,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 20 of 71

Suite A

San Luis Obispo, CA 93401

Stantec - SLO Reported: 01/04/2018 14:11

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

> Project Number: 185850429 Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1726	6918-05 Client Sam	ple Name:	Former N	orthern Lan	ndfill, HA-37-8, 9)/20/2017 11:50	D:00AM	
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1
Ethylbenzene	0.0022	mg/kg	0.0050	0.0015	EPA-8260B	ND	J	1
Hexachlorobutadiene	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1
Isopropylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
p-Isopropyltoluene	0.0018	mg/kg	0.0050	0.0013	EPA-8260B	ND	J	1
Methylene chloride	ND	mg/kg	0.010	0.0024	EPA-8260B	ND		1
Methyl t-butyl ether	ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1
Naphthalene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
n-Propylbenzene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Styrene	ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Tetrachloroethene	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
Toluene	0.0045	mg/kg	0.0050	0.0012	EPA-8260B	ND	J	1
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	0.0021	EPA-8260B	ND		1
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	0.0020	EPA-8260B	ND		1
1,1,1-Trichloroethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,1,2-Trichloroethane	ND	mg/kg	0.0050	0.00077	EPA-8260B	ND		1
Trichloroethene	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
Trichlorofluoromethane	ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1
1,2,3-Trichloropropane	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
1,1,2-Trichloro-1,2,2-trifluoroeth	nane ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,2,4-Trimethylbenzene	0.0072	mg/kg	0.0050	0.0013	EPA-8260B	ND		1
1,3,5-Trimethylbenzene	0.0030	mg/kg	0.0050	0.0015	EPA-8260B	ND	J	1
Vinyl chloride	ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1
Total Xylenes	0.0077	mg/kg	0.010	0.0034	EPA-8260B	ND	J	1
p- & m-Xylenes	0.0043	mg/kg	0.0050	0.0022	EPA-8260B	ND	J	1
o-Xylene	0.0034	mg/kg	0.0050	0.0012	EPA-8260B	ND	J	1
1,2-Dichloroethane-d4 (Surroga	ate) 99.7	%	70 - 121 (LC	L - UCL)	EPA-8260B			1
Toluene-d8 (Surrogate)	96.4	%	81 - 117 (LC	L - UCL)	EPA-8260B			1
4-Bromofluorobenzene (Surroga	ate) 98.4	%	74 - 121 (LC	L - UCL)	EPA-8260B			1

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3437 Empresa Drive, Suite A

Stantec - SLO Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Suite A Project Number: 185850429
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID): 1726918-05	Client San	nple Name:	Former Northe	ern Landfill, HA-	37-8, 9/20/20	17 11:50:00AM	
Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	
1	EPA-8260B	10/03/17 06:00	10/03/17 14:02	2 ADC	MS-V2	1	B[I2809	

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 22 of 71

3437 Empresa Drive, Suite A Suite A

Stantec - SLO

Project: Former Northern Landfill Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Reported:

01/04/2018 14:11

BCL Sample ID:	1726918-05	Client Sampl	Former Northern Landfill, HA-37-8, 9/20/2017 11:50:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
Acenaphthene		ND	mg/kg	0.59	0.24	EPA-8270C-SIM	ND	A01	1
Acenaphthylene		ND	mg/kg	0.59	0.22	EPA-8270C-SIM	ND	A01	1
Anthracene		ND	mg/kg	0.59	0.24	EPA-8270C-SIM	ND	A01	1
Benzo[a]anthracene		0.46	mg/kg	0.59	0.22	EPA-8270C-SIM	ND	J,A01	1
Benzo[b]fluoranthene		ND	mg/kg	0.59	0.19	EPA-8270C-SIM	ND	A01	1
Benzo[k]fluoranthene		ND	mg/kg	0.59	0.22	EPA-8270C-SIM	ND	A01	1
Benzo[a]pyrene		ND	mg/kg	0.59	0.19	EPA-8270C-SIM	ND	A01	1
Benzo[g,h,i]perylene		0.40	mg/kg	0.59	0.22	EPA-8270C-SIM	ND	J,A01	1
Chrysene		0.86	mg/kg	0.59	0.19	EPA-8270C-SIM	ND	A01	1
Dibenzo[a,h]anthracene		ND	mg/kg	0.59	0.20	EPA-8270C-SIM	ND	A01	1
Fluoranthene		ND	mg/kg	0.59	0.28	EPA-8270C-SIM	ND	A01	1
Fluorene		ND	mg/kg	0.59	0.22	EPA-8270C-SIM	ND	A01	1
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.59	0.18	EPA-8270C-SIM	ND	A01	1
Naphthalene		ND	mg/kg	0.59	0.22	EPA-8270C-SIM	ND	A01	1
Phenanthrene		ND	mg/kg	0.59	0.24	EPA-8270C-SIM	ND	A01	1
Pyrene		ND	mg/kg	0.59	0.30	EPA-8270C-SIM	ND	A01	1
Nitrobenzene-d5 (Surrog	gate)	32.2	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM		A01	1
2-Fluorobiphenyl (Surro	gate)	37.1	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01,S09	1
p-Terphenyl-d14 (Surrog	ate)	42.1	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01	1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8270C-SIM	09/29/17 11:00	10/03/17 13:49	MSB	MS-B7	198	B[J0320

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Stantec - SLO 3437 Empresa Drive, Suite A

Suite A

Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Reported:

01/04/2018 14:11 Project: Former Northern Landfill

BCL Sample ID:	1726918-05	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-37-8, 9/20/2017 11:50:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	1000	250	EPA-8015B/FFP	ND	A01	1		
TPH - Diesel (FFP)		ND	mg/kg	500	60	EPA-8015B/FFP	ND	A01	1		
TPH - Motor Oil		11000	mg/kg	1000	320	EPA-8015B/FFP	ND	A01	1		
Tetracosane (Surrogat	te)	0	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP		A01,A17	1		

			Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/28/17 20:25	10/04/17 11:58	AS1	GC-13	50.505	B[I2745	

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3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Chemical Analysis

BCL Sample ID:	le Name:	Former Northern Landfill, HA-37-8, 9/20/2017 11:50:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Total Cyanide		ND	mg/kg	0.50	0.15	EPA-9012	ND		1
pH		7.60	pH Units	0.05	0.05	EPA-9045D		pH1:1	2
pH Measurement Tem	perature	19.4	С	0.1	0.1	EPA-9045D			2

			Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-9012	10/02/17 09:48	10/04/17 09:04	RCC	KONE-1	0.980	B[J0027	
2	EPA-9045D	10/03/17 10:30	10/03/17 10:30	DIW	PH10	1	B[J0223	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Total Concentrations (TTLC)

BCL Sample ID:	1726918-05	Client Sampl	e Name:	Former N	orthern Lar	ndfill, HA-37-8, 9/	/20/2017 11:5	D:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	ND	Quais	1
Arsenic		1.3	mg/kg	1.0	0.40	EPA-6010B	ND		1
Barium		14	mg/kg	0.50	0.18	EPA-6010B	ND		1
Beryllium		0.12	mg/kg	0.50	0.047	EPA-6010B	ND	J	1
Cadmium		0.15	mg/kg	0.50	0.052	EPA-6010B	ND	J	1
Chromium		15	mg/kg	0.50	0.050	EPA-6010B	0.052		1
Total Hexavalent Chro	mium	1.0	mg/kg	1.0	0.30	EPA-7199	ND		2
Cobalt		1.4	mg/kg	2.5	0.098	EPA-6010B	ND	J	1
Copper		2.7	mg/kg	1.0	0.050	EPA-6010B	ND		1
Lead		3.6	mg/kg	2.5	0.28	EPA-6010B	ND		1
Mercury		0.052	mg/kg	0.16	0.019	EPA-7471A	ND	J	3
Molybdenum		1.7	mg/kg	2.5	0.050	EPA-6010B	0.055	J	1
Nickel		13	mg/kg	0.50	0.15	EPA-6010B	ND		1
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	ND		1
Silver		ND	mg/kg	0.50	0.067	EPA-6010B	ND		1
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	ND		1
Vanadium		26	mg/kg	0.50	0.11	EPA-6010B	ND		1
Zinc		15	mg/kg	2.5	0.087	EPA-6010B	0.33		1

			Run				QC
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-6010B	10/04/17 12:15	10/04/17 17:26	JCC	PE-OP3	0.935	B[J0385
2	EPA-7199	10/04/17 08:55	10/05/17 16:42	EMW	IC-4	1	B[J0037
3	EPA-7471A	09/28/17 12:00	09/28/17 14:09	MEV	CETAC2	0.962	B[I2606

Stantec - SLO Reported: 01/04/2018 14:11 3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1726918-06	Client Sampl	e Name:	Former No	Former Northern Landfill, HA-37-9, 9/20/2017 11:55:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	12000	3000	EPA-8015B/FFP	ND	A01	1		
TPH - Diesel (FFP)		ND	mg/kg	6000	720	EPA-8015B/FFP	ND	A01	1		
TPH - Motor Oil		82000	mg/kg	12000	3900	EPA-8015B/FFP	ND	A01	1		
Tetracosane (Surrogat	te)	121	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP		A01	1		

		Run						
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/28/17 20:25	10/03/17 03:15	AS1	GC-13	600	B[I2745	

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Stantec - SLO Reported: 01/04/2018 14:11 3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1726918-07	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-34-2, 9/20/2017 9:30:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		12	mg/kg	20	6.5	EPA-8015B/FFP	ND	J	1		
Tetracosane (Surrogat	e)	88.8	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

			QC					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/28/17 20:25	10/02/17 21:32	AS1	GC-13	0.987	B[I2745	

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3437 Empresa Drive, Suite A Suite A

Stantec - SLO

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1726918-08	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-34-4, 9/20/2017 9:37:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	83.2	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/28/17 20:25	10/02/17 21:55	AS1	GC-13	1	B[I2745	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Report ID: 1000691076

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1726918-09	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-34-6, 9/20/2017 9:47:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		17	mg/kg	20	6.5	EPA-8015B/FFP	ND	J	1		
Tetracosane (Surrogat	e)	76.5	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

	_	_	Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/28/17 20:25	10/02/17 22:17	AS1	GC-13	0.990	B[I2745	

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Stantec - SLO Reported: 01/04/2018 14:11

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1726918-10	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-34-8, 9/20/2017 9:53:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		10	mg/kg	20	6.5	EPA-8015B/FFP	ND	J	1		
Tetracosane (Surrogat	e)	84.0	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

		QC					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	09/28/17 20:25	10/02/17 22:40	AS1	GC-13	1.017	B[I2745

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Report ID: 1000691076

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1726918-11	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-38-1, 9/20/2017 2:20:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#			
TPH - Gasoline		ND	mg/kg	40	10	EPA-8015B/FFP	ND	A01	1			
TPH - Diesel (FFP)		ND	mg/kg	20	2.4	EPA-8015B/FFP	ND	A01	1			
TPH - Motor Oil		340	mg/kg	40	13	EPA-8015B/FFP	ND	A01	1			
Tetracosane (Surrogat	te)	88.6	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP		A01	1			

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/28/17 20:25	10/04/17 11:36	AS1	GC-13	2.020	B[I2745	

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Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1726918-12	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-38-3, 9/20/2017 2:25:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		42	mg/kg	20	6.5	EPA-8015B/FFP	ND	A57	1			
Tetracosane (Surrogat	re)	95.3	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1			

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/28/17 20:25	10/02/17 23:03	AS1	GC-13	1.014	B[I2745	

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3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[I2784						
Aldrin	B[I2784-BLK1	ND	mg/kg	0.00050	0.000034	
alpha-BHC	B[I2784-BLK1	ND	mg/kg	0.00050	0.00013	
beta-BHC	B[I2784-BLK1	ND	mg/kg	0.00050	0.00015	
delta-BHC	B[I2784-BLK1	ND	mg/kg	0.00050	0.000047	
gamma-BHC (Lindane)	B[I2784-BLK1	ND	mg/kg	0.00050	0.000082	
Chlordane (Technical)	B[I2784-BLK1	ND	mg/kg	0.050	0.0017	
4,4'-DDD	B[I2784-BLK1	ND	mg/kg	0.00050	0.00021	
4,4'-DDE	B[I2784-BLK1	ND	mg/kg	0.00050	0.000020	
4,4'-DDT	B[I2784-BLK1	ND	mg/kg	0.00050	0.000093	
Dieldrin	B[I2784-BLK1	ND	mg/kg	0.00050	0.000079	
Endosulfan I	B[I2784-BLK1	ND	mg/kg	0.00050	0.000022	
Endosulfan II	B[I2784-BLK1	ND	mg/kg	0.00050	0.00014	
Endosulfan sulfate	B[I2784-BLK1	ND	mg/kg	0.00050	0.00034	
Endrin	B[I2784-BLK1	ND	mg/kg	0.00050	0.000091	
Endrin aldehyde	B[I2784-BLK1	ND	mg/kg	0.00050	0.00023	
Heptachlor	B[I2784-BLK1	ND	mg/kg	0.00050	0.000036	
Heptachlor epoxide	B[I2784-BLK1	ND	mg/kg	0.00050	0.000017	
Methoxychlor	B[I2784-BLK1	ND	mg/kg	0.00050	0.00021	
Toxaphene	B[I2784-BLK1	ND	mg/kg	0.050	0.0094	
PCB-1016	B[I2784-BLK1	ND	mg/kg	0.010	0.0039	
PCB-1221	B[I2784-BLK1	ND	mg/kg	0.010	0.0072	
PCB-1232	B[I2784-BLK1	ND	mg/kg	0.010	0.0074	
PCB-1242	B[I2784-BLK1	ND	mg/kg	0.010	0.0042	
PCB-1248	B[I2784-BLK1	ND	mg/kg	0.010	0.0070	
PCB-1254	B[I2784-BLK1	ND	mg/kg	0.010	0.0032	
PCB-1260	B[I2784-BLK1	ND	mg/kg	0.010	0.0029	
Total PCB's (Summation)	B[I2784-BLK1	ND	mg/kg	0.010	0.0050	
TCMX (Surrogate)	B[I2784-BLK1	91.0	%	20 - 13	0 (LCL - UCL)	
Decachlorobiphenyl (Surrogate)	B[I2784-BLK1	130	%	40 - 13	0 (LCL - UCL)	

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Stantec - SLO Reported: 01/04/2018 14:11 3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Laboratory Control Sample

QC Sample ID	Туре	Decult	Spike		Doroont		Control L	<u>imits</u>	Lab
QC Sample ID	Туре	Decult	Spike		Doroont				Lah
QC Sample ID	Type	D = = - 14			Percent		Percent		Lab
		Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
B[I2784-BS1	LCS	0.0048824	0.0049834	mg/kg	98.0		70 - 130		
B[I2784-BS1	LCS	0.0050904	0.0049834	mg/kg	102		60 - 140		
B[I2784-BS1	LCS	0.0064053	0.0049834	mg/kg	129		60 - 140		
B[I2784-BS1	LCS	0.0051864	0.0049834	mg/kg	104		70 - 130		
B[I2784-BS1	LCS	0.0045379	0.0049834	mg/kg	91.1		60 - 140		
B[I2784-BS1	LCS	0.0049306	0.0049834	mg/kg	98.9		60 - 140		
B[I2784-BS1	LCS	0.010147	0.0099668	mg/kg	102		20 - 130		
B[I2784-BS1	LCS	0.025402	0.019934	mg/kg	127		40 - 130		
	B[I2784-BS1 B[I2784-BS1 B[I2784-BS1 B[I2784-BS1 B[I2784-BS1 B[I2784-BS1	B[I2784-BS1 LCS	B[I2784-BS1 LCS 0.0048824 B[I2784-BS1 LCS 0.0050904 B[I2784-BS1 LCS 0.0064053 B[I2784-BS1 LCS 0.0051864 B[I2784-BS1 LCS 0.0045379 B[I2784-BS1 LCS 0.0049306 B[I2784-BS1 LCS 0.0010147	B[I2784-BS1 LCS 0.0048824 0.0049834 B[I2784-BS1 LCS 0.0050904 0.0049834 B[I2784-BS1 LCS 0.0064053 0.0049834 B[I2784-BS1 LCS 0.0051864 0.0049834 B[I2784-BS1 LCS 0.0045379 0.0049834 B[I2784-BS1 LCS 0.0049306 0.0049834 B[I2784-BS1 LCS 0.0049306 0.0049834 B[I2784-BS1 LCS 0.010147 0.0099668	B[I2784-BS1 LCS 0.0048824 0.0049834 mg/kg B[I2784-BS1 LCS 0.0050904 0.0049834 mg/kg B[I2784-BS1 LCS 0.0064053 0.0049834 mg/kg B[I2784-BS1 LCS 0.0051864 0.0049834 mg/kg B[I2784-BS1 LCS 0.0045379 0.0049834 mg/kg B[I2784-BS1 LCS 0.0045379 0.0049834 mg/kg B[I2784-BS1 LCS 0.0049306 0.0049834 mg/kg B[I2784-BS1 LCS 0.010147 0.0099668 mg/kg	B[12784-BS1 LCS 0.0048824 0.0049834 mg/kg 98.0 B[12784-BS1 LCS 0.0050904 0.0049834 mg/kg 102 B[12784-BS1 LCS 0.0064053 0.0049834 mg/kg 129 B[12784-BS1 LCS 0.0051864 0.0049834 mg/kg 104 B[12784-BS1 LCS 0.0045379 0.0049834 mg/kg 91.1 B[12784-BS1 LCS 0.0049306 0.0049834 mg/kg 98.9 B[12784-BS1 LCS 0.0049306 0.0049834 mg/kg 98.9 B[12784-BS1 LCS 0.010147 0.0099668 mg/kg 102	B[I2784-BS1 LCS 0.0048824 0.0049834 mg/kg 98.0 B[I2784-BS1 LCS 0.0050904 0.0049834 mg/kg 102 B[I2784-BS1 LCS 0.0064053 0.0049834 mg/kg 129 B[I2784-BS1 LCS 0.0051864 0.0049834 mg/kg 104 B[I2784-BS1 LCS 0.0045379 0.0049834 mg/kg 91.1 B[I2784-BS1 LCS 0.0049306 0.0049834 mg/kg 98.9 B[I2784-BS1 LCS 0.0049306 0.0049834 mg/kg 98.9 B[I2784-BS1 LCS 0.010147 0.0099668 mg/kg 102	B[12784-BS1 LCS 0.0048824 0.0049834 mg/kg 98.0 70 - 130 B[12784-BS1 LCS 0.0050904 0.0049834 mg/kg 102 60 - 140 B[12784-BS1 LCS 0.0064053 0.0049834 mg/kg 129 60 - 140 B[12784-BS1 LCS 0.0051864 0.0049834 mg/kg 104 70 - 130 B[12784-BS1 LCS 0.0045379 0.0049834 mg/kg 91.1 60 - 140 B[12784-BS1 LCS 0.0049306 0.0049834 mg/kg 98.9 60 - 140 B[12784-BS1 LCS 0.0049306 0.0049834 mg/kg 98.9 60 - 140 B[12784-BS1 LCS 0.010147 0.0099668 mg/kg 102 20 - 130	B[12784-BS1 LCS 0.0048824 0.0049834 mg/kg 98.0 70 - 130 B[12784-BS1 LCS 0.0050904 0.0049834 mg/kg 102 60 - 140 B[12784-BS1 LCS 0.0064053 0.0049834 mg/kg 129 60 - 140 B[12784-BS1 LCS 0.0051864 0.0049834 mg/kg 104 70 - 130 B[12784-BS1 LCS 0.0045379 0.0049834 mg/kg 91.1 60 - 140 B[12784-BS1 LCS 0.0049306 0.0049834 mg/kg 98.9 60 - 140 B[12784-BS1 LCS 0.0049306 0.0049834 mg/kg 98.9 60 - 140 B[12784-BS1 LCS 0.010147 0.0099668 mg/kg 102 20 - 130

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Precision & Accuracy

								Control Limits			
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[I2784	Use	d client samp	ole: N								
Aldrin	MS	1724840-81	ND	0.0048136	0.0049669	mg/kg		96.9		50 - 140	
	MSD	1724840-81	ND	0.0049128	0.0050505	mg/kg	2.0	97.3	30	50 - 140	
gamma-BHC (Lindane)	MS	1724840-81	ND	0.0050825	0.0049669	mg/kg		102		50 - 140	
	MSD	1724840-81	ND	0.0051684	0.0050505	mg/kg	1.7	102	30	50 - 140	
4,4'-DDT	MS	1724840-81	ND	0.0063424	0.0049669	mg/kg		128		50 - 140	
	MSD	1724840-81	ND	0.0060677	0.0050505	mg/kg	4.4	120	30	50 - 140	
Dieldrin	MS	1724840-81	ND	0.0051854	0.0049669	mg/kg		104		40 - 140	
	MSD	1724840-81	ND	0.0052963	0.0050505	mg/kg	2.1	105	30	40 - 140	
Endrin	MS	1724840-81	ND	0.0044066	0.0049669	mg/kg		88.7		50 - 150	
	MSD	1724840-81	ND	0.0044465	0.0050505	mg/kg	0.9	88.0	30	50 - 150	
Heptachlor	MS	1724840-81	ND	0.0048765	0.0049669	mg/kg		98.2		60 - 140	
	MSD	1724840-81	ND	0.0049808	0.0050505	mg/kg	2.1	98.6	30	60 - 140	
TCMX (Surrogate)	MS	1724840-81	ND	0.0098695	0.0099338	mg/kg		99.4		20 - 130	
	MSD	1724840-81	ND	0.010062	0.010101	mg/kg	1.9	99.6		20 - 130	
Decachlorobiphenyl (Surrogate)	MS	1724840-81	ND	0.025393	0.019868	mg/kg		128		40 - 130	
	MSD	1724840-81	ND	0.024887	0.020202	mg/kg	2.0	123		40 - 130	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[I2698						
Azinphos methyl	B[I2698-BLK1	ND	mg/kg	0.010	0.0073	
Bolstar	B[I2698-BLK1	ND	mg/kg	0.010	0.0022	
Chlorpyrifos	B[I2698-BLK1	ND	mg/kg	0.010	0.0014	
Coumaphos	B[I2698-BLK1	ND	mg/kg	0.010	0.0081	
Demeton O/S	B[I2698-BLK1	ND	mg/kg	0.010	0.0034	
Diazinon	B[I2698-BLK1	ND	mg/kg	0.010	0.0024	
Dichlorvos	B[I2698-BLK1	ND	mg/kg	0.010	0.00091	
Disulfoton	B[I2698-BLK1	ND	mg/kg	0.010	0.0019	
Ethoprop	B[I2698-BLK1	ND	mg/kg	0.010	0.0012	
Fensulfothion	B[I2698-BLK1	ND	mg/kg	0.010	0.0056	
Fenthion	B[I2698-BLK1	ND	mg/kg	0.010	0.0021	
Merphos	B[I2698-BLK1	ND	mg/kg	0.010	0.0019	
Methyl parathion	B[I2698-BLK1	ND	mg/kg	0.010	0.0025	
Mevinphos	B[I2698-BLK1	ND	mg/kg	0.010	0.0024	
Naled	B[I2698-BLK1	ND	mg/kg	0.010	0.0043	
Phorate	B[I2698-BLK1	ND	mg/kg	0.010	0.0026	
Ronnel (Fenchlorphos)	B[I2698-BLK1	ND	mg/kg	0.010	0.0014	
Stirophos (Tetrachlorvinphos)	B[I2698-BLK1	ND	mg/kg	0.010	0.0020	
Tokuthion (Prothiofos)	B[I2698-BLK1	ND	mg/kg	0.010	0.0017	
Trichloronate	B[I2698-BLK1	ND	mg/kg	0.010	0.0013	
Triphenylphosphate (Surrogate)	B[I2698-BLK1	50.4	%	40 - 12	0 (LCL - UCL)	<u> </u>

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 37 of 71

Stantec - SLO Reported: 01/04/2018 14:11 3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

Quality Control Report - Laboratory Control Sample

	•		•		•		•				
								Control I	imits		
				Spike		Percent		Percent		Lab	
Constituent	QC Sample ID	Type	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals	
QC Batch ID: B[I2698											
Bolstar	B[I2698-BS1	LCS	0.060984	0.065574	mg/kg	93.0		50 - 130			
Chlorpyrifos	B[I2698-BS1	LCS	0.057049	0.065574	mg/kg	87.0		60 - 140			
Diazinon	B[I2698-BS1	LCS	0.042131	0.065574	mg/kg	64.2		40 - 120			
Methyl parathion	B[I2698-BS1	LCS	0.066393	0.065574	mg/kg	101		60 - 120			
Mevinphos	B[I2698-BS1	LCS	0.068361	0.065574	mg/kg	104		50 - 120			
Ronnel (Fenchlorphos)	B[I2698-BS1	LCS	0.064426	0.065574	mg/kg	98.2		50 - 120			
Stirophos (Tetrachlorvinphos)	B[I2698-BS1	LCS	0.091148	0.065574	mg/kg	139		60 - 140			
Triphenylphosphate (Surrogate)	B[I2698-BS1	LCS	0.075082	0.081967	mg/kg	91.6		40 - 120			

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Report ID: 1000691076

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Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[I2698	Use	d client samp	ole: N								
Bolstar	MS	1727295-01	ND	0.066337	0.066007	mg/kg		100		40 - 140	
	MSD	1727295-01	ND	0.062957	0.066445	mg/kg	5.2	94.7	30	40 - 140	
Chlorpyrifos	MS	1727295-01	ND	0.071617	0.066007	mg/kg		108		40 - 130	
	MSD	1727295-01	ND	0.061960	0.066445	mg/kg	14.5	93.2	30	40 - 130	
Diazinon	MS	1727295-01	ND	0.062046	0.066007	mg/kg		94.0		40 - 120	
	MSD	1727295-01	ND	0.063621	0.066445	mg/kg	2.5	95.8	30	40 - 120	
Methyl parathion	MS	1727295-01	ND	0.074092	0.066007	mg/kg		112		40 - 125	
	MSD	1727295-01	ND	0.072259	0.066445	mg/kg	2.5	109	30	40 - 125	
Mevinphos	MS	1727295-01	ND	0.10083	0.066007	mg/kg		153		40 - 140	Q03
	MSD	1727295-01	ND	0.099834	0.066445	mg/kg	1.0	150	30	40 - 140	Q03
Ronnel (Fenchlorphos)	MS	1727295-01	ND	0.071452	0.066007	mg/kg		108		40 - 120	
	MSD	1727295-01	ND	0.069435	0.066445	mg/kg	2.9	104	30	40 - 120	
Stirophos (Tetrachlorvinphos)	MS	1727295-01	ND	0.11848	0.066007	mg/kg		179		40 - 140	Q03
	MSD	1727295-01	ND	0.11429	0.066445	mg/kg	3.6	172	30	40 - 140	Q03
Triphenylphosphate (Surrogate)	MS	1727295-01	ND	0.080528	0.082508	mg/kg		97.6		40 - 120	
	MSD	1727295-01	ND	0.071927	0.083056	mg/kg	11.3	86.6		40 - 120	

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3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[I2744						
2,4-D	B[I2744-BLK1	ND	mg/kg	0.020	0.0058	
2,4-DB	B[I2744-BLK1	ND	mg/kg	0.040	0.017	
Dalapon	B[I2744-BLK1	ND	mg/kg	0.050	0.034	
Dicamba	B[I2744-BLK1	ND	mg/kg	0.0020	0.0016	
Dichloroprop	B[I2744-BLK1	ND	mg/kg	0.020	0.0055	
Dinoseb	B[I2744-BLK1	ND	mg/kg	0.0070	0.0024	
2,4,5-T	B[I2744-BLK1	ND	mg/kg	0.0030	0.0013	
2,4,5-TP (Silvex)	B[I2744-BLK1	ND	mg/kg	0.0030	0.0012	
2,4-Dichlorophenylacetic acid (Surrogate)	B[I2744-BLK1	87.8	%	40 - 12	0 (LCL - UCL)	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

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Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Laboratory Control Sample

							Control L	<u>imits</u>	
			Spike		Percent		Percent		Lab
QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
B[I2744-BS1	LCS	0.069799	0.080537	mg/kg	86.7		50 - 120		
B[I2744-BS1	LCS	0.17685	0.18121	mg/kg	97.6		50 - 120		
B[I2744-BS1	LCS	0.017785	0.020134	mg/kg	88.3		50 - 120		
B[I2744-BS1	LCS	0.069463	0.080537	mg/kg	86.2		50 - 120		
B[I2744-BS1	LCS	0.036913	0.040268	mg/kg	91.7		50 - 120		
B[I2744-BS1	LCS	0.019463	0.020134	mg/kg	96.7		30 - 120		
B[I2744-BS1	LCS	0.020470	0.020134	mg/kg	102		50 - 120		
gate) B[I2744-BS1	LCS	0.11040	0.13423	mg/kg	82.2		40 - 120		
	B[I2744-BS1 B[I2744-BS1 B[I2744-BS1 B[I2744-BS1 B[I2744-BS1 B[I2744-BS1 B[I2744-BS1	B[I2744-BS1 LCS	B[I2744-BS1 LCS 0.069799 B[I2744-BS1 LCS 0.17685 B[I2744-BS1 LCS 0.017785 B[I2744-BS1 LCS 0.069463 B[I2744-BS1 LCS 0.036913 B[I2744-BS1 LCS 0.019463 B[I2744-BS1 LCS 0.019463	B[I2744-BS1 LCS 0.069799 0.080537 B[I2744-BS1 LCS 0.17685 0.18121 B[I2744-BS1 LCS 0.017785 0.020134 B[I2744-BS1 LCS 0.069463 0.080537 B[I2744-BS1 LCS 0.036913 0.040268 B[I2744-BS1 LCS 0.019463 0.020134 B[I2744-BS1 LCS 0.020470 0.020134	QC Sample ID Type Result Level Units B[I2744-BS1 LCS 0.069799 0.080537 mg/kg B[I2744-BS1 LCS 0.17685 0.18121 mg/kg B[I2744-BS1 LCS 0.017785 0.020134 mg/kg B[I2744-BS1 LCS 0.069463 0.080537 mg/kg B[I2744-BS1 LCS 0.036913 0.040268 mg/kg B[I2744-BS1 LCS 0.019463 0.020134 mg/kg B[I2744-BS1 LCS 0.020470 0.020134 mg/kg	QC Sample ID Type Result Level Units Recovery B[I2744-BS1 LCS 0.069799 0.080537 mg/kg 86.7 B[I2744-BS1 LCS 0.17685 0.18121 mg/kg 97.6 B[I2744-BS1 LCS 0.017785 0.020134 mg/kg 88.3 B[I2744-BS1 LCS 0.069463 0.080537 mg/kg 86.2 B[I2744-BS1 LCS 0.036913 0.040268 mg/kg 91.7 B[I2744-BS1 LCS 0.019463 0.020134 mg/kg 96.7 B[I2744-BS1 LCS 0.020470 0.020134 mg/kg 102	QC Sample ID Type Result Level Units Recovery RPD B[I2744-BS1 LCS 0.069799 0.080537 mg/kg 86.7 B[I2744-BS1 LCS 0.17685 0.18121 mg/kg 97.6 B[I2744-BS1 LCS 0.017785 0.020134 mg/kg 88.3 B[I2744-BS1 LCS 0.069463 0.080537 mg/kg 86.2 B[I2744-BS1 LCS 0.036913 0.040268 mg/kg 91.7 B[I2744-BS1 LCS 0.019463 0.020134 mg/kg 96.7 B[I2744-BS1 LCS 0.020470 0.020134 mg/kg 102	QC Sample ID Type Result Level Units Recovery RPD Recovery B[I2744-BS1 LCS 0.069799 0.080537 mg/kg 86.7 50 - 120 B[I2744-BS1 LCS 0.17685 0.18121 mg/kg 97.6 50 - 120 B[I2744-BS1 LCS 0.017785 0.020134 mg/kg 88.3 50 - 120 B[I2744-BS1 LCS 0.069463 0.080537 mg/kg 86.2 50 - 120 B[I2744-BS1 LCS 0.036913 0.040268 mg/kg 91.7 50 - 120 B[I2744-BS1 LCS 0.019463 0.020134 mg/kg 96.7 30 - 120 B[I2744-BS1 LCS 0.020470 0.020134 mg/kg 102 50 - 120	QC Sample ID Type Result Level Units Recovery RPD Recovery RPD B[I2744-BS1 LCS 0.069799 0.080537 mg/kg 86.7 50 - 120 B[I2744-BS1 LCS 0.17685 0.18121 mg/kg 97.6 50 - 120 B[I2744-BS1 LCS 0.017785 0.020134 mg/kg 88.3 50 - 120 B[I2744-BS1 LCS 0.069463 0.080537 mg/kg 86.2 50 - 120 B[I2744-BS1 LCS 0.036913 0.040268 mg/kg 91.7 50 - 120 B[I2744-BS1 LCS 0.019463 0.020134 mg/kg 96.7 30 - 120 B[I2744-BS1 LCS 0.020470 0.020134 mg/kg 102 50 - 120

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 41 of 71

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[I2744	Use	ed client samp	ole: N								
2,4-D	MS	1727295-01	ND	0.067763	0.078947	mg/kg		85.8		40 - 120	
	MSD	1727295-01	ND	0.055932	0.081356	mg/kg	19.1	68.8	30	40 - 120	
2,4-DB	MS	1727295-01	ND	0.17039	0.17763	mg/kg		95.9		50 - 120	
	MSD	1727295-01	ND	0.14712	0.18305	mg/kg	14.7	80.4	30	50 - 120	
Dicamba	MS	1727295-01	ND	0.017434	0.019737	mg/kg		88.3		50 - 120	
	MSD	1727295-01	ND	0.014237	0.020339	mg/kg	20.2	70.0	30	50 - 120	
Dichloroprop	MS	1727295-01	ND	0.066776	0.078947	mg/kg		84.6		40 - 120	
	MSD	1727295-01	ND	0.052542	0.081356	mg/kg	23.9	64.6	30	40 - 120	
Dinoseb	MS	1727295-01	ND	0.034211	0.039474	mg/kg		86.7		40 - 130	
	MSD	1727295-01	ND	0.029831	0.040678	mg/kg	13.7	73.3	30	40 - 130	
2,4,5-T	MS	1727295-01	ND	0.018421	0.019737	mg/kg		93.3		30 - 120	
	MSD	1727295-01	ND	0.015932	0.020339	mg/kg	14.5	78.3	30	30 - 120	
2,4,5-TP (Silvex)	MS	1727295-01	ND	0.020066	0.019737	mg/kg		102		40 - 120	
	MSD	1727295-01	ND	0.016271	0.020339	mg/kg	20.9	80.0	30	40 - 120	
2,4-Dichlorophenylacetic acid (Surro	gate MS	1727295-01	ND	0.10625	0.13158	mg/kg		80.7		40 - 120	
	MSD	1727295-01	ND	0.10746	0.13559	mg/kg	1.1	79.3		40 - 120	

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Stantec - SLO 3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Benzane	Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Bromodenzene B 2809-BLK1 ND mg/kg 0.0050 0.0013 Bromodichromethane B 2809-BLK1 ND mg/kg 0.0050 0.00092 Bromodichloromethane B 2809-BLK1 ND mg/kg 0.0050 0.00016 Bromodem B 2809-BLK1 ND mg/kg 0.0050 0.0016 Bromomethane B 2809-BLK1 ND mg/kg 0.0050 0.0016 Bromomethane B 2809-BLK1 ND mg/kg 0.0050 0.0015 Bromomethane B 2809-BLK1 ND mg/kg 0.0050 0.0015 Bromomethane B 2809-BLK1 ND mg/kg 0.0050 0.0012 carbon tetradrioride B 2809-BLK1 ND mg/kg 0.0050 0.0011 Chlorocebrane B 2809-BLK1 ND mg/kg 0.0050 0.0014 Chlorocebrane B 2809-BLK1 ND mg/kg 0.0050 0.0014 Chlorocebrane B 2809-BLK1 ND mg/kg 0.0050 0.0014	QC Batch ID: B[I2809						
Bromochloromethane B 2809-BLK1 ND mg/kg 0.0050 0.00092 Bromochloromethane B 2809-BLK1 ND mg/kg 0.0050 0.00084 Bromoform B 2809-BLK1 ND mg/kg 0.0050 0.0016 n-Burlybenzene B 2809-BLK1 ND mg/kg 0.0050 0.0015 n-Burlybenzene B 2809-BLK1 ND mg/kg 0.0050 0.0012 tert-Burlybenzene B 2809-BLK1 ND mg/kg 0.0050 0.0012 cert-Burlybenzene B 2809-BLK1 ND mg/kg 0.0050 0.0012 cert-Burlybenzene B 2809-BLK1 ND mg/kg 0.0050 0.0012 cert-Burlybenzene B 2809-BLK1 ND mg/kg 0.0050 0.0012 Chlorofolore B 2809-BLK1 ND mg/kg 0.0050 0.0013 Chlorofolore B 2809-BLK1 ND mg/kg 0.0050 0.0014 4-Chlorofoluene B 2809-BLK1 ND mg/kg 0.0050	Benzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0013	
Bromodichloromethane B 12809-BLK1 ND mg/kg 0.0050 0.0084 Bromoform B 12809-BLK1 ND mg/kg 0.0050 0.0016 Bromomethane B 12809-BLK1 ND mg/kg 0.0050 0.0016 Bromomethane B 12809-BLK1 ND mg/kg 0.0050 0.0012 sec-Burlybenzene B 12809-BLK1 ND mg/kg 0.0050 0.0012 terl-Burlybenzene B 12809-BLK1 ND mg/kg 0.0050 0.0012 Carbon tetrachloride B 12809-BLK1 ND mg/kg 0.0050 0.0011 Chlorobenzene B 12809-BLK1 ND mg/kg 0.0050 0.0011 Chloroderane B 12809-BLK1 ND mg/kg 0.0050 0.0014 Chloroderane B 12809-BLK1 ND mg/kg 0.0050 0.0003 Chlorodorm B 12809-BLK1 ND mg/kg 0.0050 0.0014 Chlorodoluene B 12809-BLK1 ND mg/kg 0.0050 0.00	Bromobenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0013	
Bromoform BI[2809-BLK1 ND mg/kg 0.0050 0.0015 Bromomethane BI[2809-BLK1 ND mg/kg 0.0050 0.0016 n-Bulybenzene BI[2809-BLK1 ND mg/kg 0.0050 0.0015 see-Bulybenzene BI[2809-BLK1 ND mg/kg 0.0050 0.0012 Carbon tetrachloride BI[2809-BLK1 ND mg/kg 0.0050 0.0011 Chiorobenzene BI[2809-BLK1 ND mg/kg 0.0050 0.0011 Chiorobenzene BI[2809-BLK1 ND mg/kg 0.0050 0.0013 Chiorofolma BI[2809-BLK1 ND mg/kg 0.0050 0.0014 Chiorofolma BI[2809-BLK1 ND mg/kg 0.0050 0.0014 Chiorofolma BI[2809-BLK1 ND mg/kg 0.0050 0.0018 4-Chiorofolme BI[2809-BLK1 ND mg/kg 0.0050 0.0018 4-Chiorofolme BI[2809-BLK1 ND mg/kg 0.0050 0.0014	Bromochloromethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.00092	
Bromomethane B[12809-BLK1 ND	Bromodichloromethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.00084	
n-Butytbenzene B[12809-BLK1 ND mg/kg 0.0050 0.0015 sec-Butytbenzene B[12809-BLK1 ND mg/kg 0.0050 0.0012 tert-Butytbenzene B[12809-BLK1 ND mg/kg 0.0050 0.0012 tert-Butytbenzene B[12809-BLK1 ND mg/kg 0.0050 0.0012 Carbon tetrachloride B[12809-BLK1 ND mg/kg 0.0050 0.0011 Chlorobenzene B[12809-BLK1 ND mg/kg 0.0050 0.0013 Chloroform B[12809-BLK1 ND mg/kg 0.0050 0.0014 Chloroforbane B[12809-BLK1 ND mg/kg 0.0050 0.0014 Chlorofotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0017 Chlorofotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0016 Chlorofotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0014 Chlorofotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0014 Chlorofotoluene B[12809-BLK1 ND m	Bromoform	B[I2809-BLK1	ND	mg/kg	0.0050	0.0015	
sec-Butylbenzene Bij2809-BLK1 ND mg/kg 0.0050 0.0012 tert-Butylbenzene Bij2809-BLK1 ND mg/kg 0.0050 0.0012 Carbon tetrachloride Bij2809-BLK1 ND mg/kg 0.0050 0.0011 Chlorobenzene Bij2809-BLK1 ND mg/kg 0.0050 0.0013 Chlorotelhane Bij2809-BLK1 ND mg/kg 0.0050 0.0014 Chlorotelhane Bij2809-BLK1 ND mg/kg 0.0050 0.0014 Chlorotelhane Bij2809-BLK1 ND mg/kg 0.0050 0.0014 Chlorotelulene Bij2809-BLK1 ND mg/kg 0.0050 0.0014 4-Chlorotelulene Bij2809-BLK1 ND mg/kg 0.0050 0.0014 4-Chlorotelulene Bij2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dibromochane Bij2809-BLK1 ND mg/kg 0.0050 0.0017 1,2-Dichlorotelhane Bij2809-BLK1 ND mg/kg 0.0050 </td <td>Bromomethane</td> <td>B[I2809-BLK1</td> <td>ND</td> <td>mg/kg</td> <td>0.0050</td> <td>0.0016</td> <td></td>	Bromomethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0016	
tert-Butylbenzene Bij2809-BLK1 ND mg/kg 0.0050 0.0012 Carbon tetrachloride Bij2809-BLK1 ND mg/kg 0.0050 0.0011 Chlorosbenzene Bij2809-BLK1 ND mg/kg 0.0050 0.0013 Chlorosbenane Bij2809-BLK1 ND mg/kg 0.0050 0.0014 Chlorostemane Bij2809-BLK1 ND mg/kg 0.0050 0.0014 Chlorosteluene Bij2809-BLK1 ND mg/kg 0.0050 0.0014 4-Chlorotoluene Bij2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dibromo-3-chloropropane Bij2809-BLK1 ND mg/kg 0.0050 0.0017 1,2-Dibromoethane Bij2809-BLK1 ND mg/kg <td< td=""><td>n-Butylbenzene</td><td>B[I2809-BLK1</td><td>ND</td><td>mg/kg</td><td>0.0050</td><td>0.0015</td><td></td></td<>	n-Butylbenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0015	
Carbon tetrachloride B[12809-BLK1 ND mg/kg 0.0550 0.0011 Chlorobenzene B[12809-BLK1 ND mg/kg 0.0050 0.0013 Chloroethane B[12809-BLK1 ND mg/kg 0.0050 0.0014 Chloromethane B[12809-BLK1 ND mg/kg 0.0050 0.0014 Chloroethane B[12809-BLK1 ND mg/kg 0.0050 0.0014 2-Chlorotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0014 4-Chlorotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0018 4-Chlorotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0014 4-Chlorotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0014 1-Chloromochloromethane B[12809-BLK1 ND mg/kg 0.0050 0.0017 1,2-Dibromochlane B[12809-BLK1 ND mg/kg 0.0050 0.0010 Dibromomethane B[12809-BLK1 ND mg/kg 0.0050 <td>sec-Butylbenzene</td> <td>B[I2809-BLK1</td> <td>ND</td> <td>mg/kg</td> <td>0.0050</td> <td>0.0012</td> <td></td>	sec-Butylbenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0012	
Chlorobenzene B[12809-BLK1 ND mg/kg 0.0050 0.0013 Chloroethane B[12809-BLK1 ND mg/kg 0.0050 0.0014 Chloroform B[12809-BLK1 ND mg/kg 0.0050 0.00063 Chloromethane B[12809-BLK1 ND mg/kg 0.0050 0.0014 2-Chlorotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0018 4-Chlorotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0014 Dibromochloromethane B[12809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dibromo-3-chloropropane B[12809-BLK1 ND mg/kg 0.0050 0.0019 1,2-Dibromo-3-chloropropane B[12809-BLK1 ND mg/kg 0.0050 0.0017 1,2-Dibromo-3-chloropropane B[12809-BLK1 ND mg/kg 0.0050 0.0017 1,2-Dibrioroethane B[12809-BLK1 ND mg/kg 0.0050 0.0018 1,3-Dichloroethane B[12809-BLK1 ND m	tert-Butylbenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0012	
Chloroethane B[12809-BLK1 ND mg/kg 0.0050 0.0014 Chloroform B[12809-BLK1 ND mg/kg 0.0050 0.00063 Chloromethane B[12809-BLK1 ND mg/kg 0.0050 0.0014 2-Chlorotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0018 4-Chlorotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0014 4-Chlorotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0014 4-Chlorotoluene B[12809-BLK1 ND mg/kg 0.0050 0.0014 1-2-Dibromoe-3-chloropropane B[12809-BLK1 ND mg/kg 0.0050 0.0017 1-2-Dibromoethane B[12809-BLK1 ND mg/kg 0.0050 0.0018 1-2-Dichlorobenzene B[12809-BLK1 ND mg/kg 0.0050 0.0018 1-3-Dichlorobenzene B[12809-BLK1 ND mg/kg 0.0050 0.0014 1-4-Dichlorobenzene B[12809-BLK1 ND mg/kg	Carbon tetrachloride	B[I2809-BLK1	ND	mg/kg	0.0050	0.0011	
Chloroform B I2809-BLK1 ND mg/kg 0.0050 0.0063 Chloromethane B I2809-BLK1 ND mg/kg 0.0050 0.0014 2-Chlorotoluene B I2809-BLK1 ND mg/kg 0.0050 0.0018 4-Chlorotoluene B I2809-BLK1 ND mg/kg 0.0050 0.0014 4-Chlorotoluene B I2809-BLK1 ND mg/kg 0.0050 0.0014 4-Chlorotoluene B I2809-BLK1 ND mg/kg 0.0050 0.00099 1,2-Dibromo-3-chloropropane B I2809-BLK1 ND mg/kg 0.0050 0.0017 1,2-Dibromoethane B I2809-BLK1 ND mg/kg 0.0050 0.0010 Dibromomethane B I2809-BLK1 ND mg/kg 0.0050 0.0018 1,2-Dichlorobenzene B I2809-BLK1 ND mg/kg 0.0050 0.0081 1,3-Dichlorobenzene B I2809-BLK1 ND mg/kg 0.0050 0.0015 Dichlorodifluoromethane B I2809-BLK1 ND mg/kg	Chlorobenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0013	
Chloromethane	Chloroethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0014	
2-Chlorotoluene B[J2809-BLK1 ND mg/kg 0.0050 0.0018 4-Chlorotoluene B[J2809-BLK1 ND mg/kg 0.0050 0.0014 4-Chlorotoluene B[J2809-BLK1 ND mg/kg 0.0050 0.00099 1,2-Dibromo-3-chloropropane B[J2809-BLK1 ND mg/kg 0.0050 0.0017 1,2-Dibromoethane B[J2809-BLK1 ND mg/kg 0.0050 0.0010 Dibromomethane B[J2809-BLK1 ND mg/kg 0.0050 0.0018 1,2-Dichlorobenzene B[J2809-BLK1 ND mg/kg 0.0050 0.0018 1,3-Dichlorobenzene B[J2809-BLK1 ND mg/kg 0.0050 0.0014 1,4-Dichlorobenzene B[J2809-BLK1 ND mg/kg 0.0050 0.0015 Dichlorodifluoromethane B[J2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloroethane B[J2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloroethene B[J2809-BLK1 ND <	Chloroform	B[I2809-BLK1	ND	mg/kg	0.0050	0.00063	
A-Chlorotoluene B I2809-BLK1 ND mg/kg 0.0050 0.0014	Chloromethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0014	
Dibromochloromethane B 2809-BLK1 ND mg/kg 0.0050 0.00099 1,2-Dibromoc-3-chloropropane B 2809-BLK1 ND mg/kg 0.0050 0.0017 1,2-Dibromoethane B 2809-BLK1 ND mg/kg 0.0050 0.0010 1,2-Dibromoethane B 2809-BLK1 ND mg/kg 0.0050 0.0018 1,2-Dichlorobenzene B 2809-BLK1 ND mg/kg 0.0050 0.00081 1,3-Dichlorobenzene B 2809-BLK1 ND mg/kg 0.0050 0.0014 1,4-Dichlorobenzene B 2809-BLK1 ND mg/kg 0.0050 0.0015 1,1-Dichlorodifluoromethane B 2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloroethane B 2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloroethane B 2809-BLK1 ND mg/kg 0.0050 0.00085 1,1-Dichloroethene B 2809-BLK1 ND mg/kg 0.0050 0.0012 1,2-Dichloroethene B 2809-BLK1 ND mg/kg 0.0050 0.0013 1,3-Dichloropropane B 2809-BLK1 ND mg/kg 0.0050 0.00081 1,3-Dichloropropane B 2809-BLK1 ND mg/kg 0.0050 0.00081 1,1-Dichloropropane B 2809-BLK1 ND mg/kg 0.0050 0.00081 1,1-Dichloropropane B 2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropane B 2809-BLK1 ND mg/kg 0.0050 0.0012	2-Chlorotoluene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0018	
1,2-Dibromo-3-chloropropane B[i2809-BLK1 ND mg/kg 0.0050 0.0017 1,2-Dibromoethane B[i2809-BLK1 ND mg/kg 0.0050 0.0010 Dibromomethane B[i2809-BLK1 ND mg/kg 0.0050 0.0018 1,2-Dichlorobenzene B[i2809-BLK1 ND mg/kg 0.0050 0.00081 1,3-Dichlorobenzene B[i2809-BLK1 ND mg/kg 0.0050 0.0014 1,4-Dichlorobenzene B[i2809-BLK1 ND mg/kg 0.0050 0.0015 Dichlorodifluoromethane B[i2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloroethane B[i2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloroethane B[i2809-BLK1 ND mg/kg 0.0050 0.0012 cis-1,2-Dichloroethene B[i2809-BLK1 ND mg/kg 0.0050 0.0012 cis-1,2-Dichloroethene B[i2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloroethene B[i2809-BLK1	4-Chlorotoluene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0014	
1,2-Dibromoethane	Dibromochloromethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.00099	
Dibromomethane B[J2809-BLK1 ND mg/kg 0.0050 0.0018 1,2-Dichlorobenzene B[J2809-BLK1 ND mg/kg 0.0050 0.00081 1,3-Dichlorobenzene B[J2809-BLK1 ND mg/kg 0.0050 0.0014 1,4-Dichlorobenzene B[J2809-BLK1 ND mg/kg 0.0050 0.0015 Dichlorodifluoromethane B[J2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloroethane B[J2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloroethane B[J2809-BLK1 ND mg/kg 0.0050 0.0085 1,1-Dichloroethene B[J2809-BLK1 ND mg/kg 0.0050 0.0012 cis-1,2-Dichloroethene B[J2809-BLK1 ND mg/kg 0.0050 0.0013 trans-1,2-Dichloropropane B[J2809-BLK1 ND mg/kg 0.0050 0.0014 1,3-Dichloropropane B[J2809-BLK1 ND mg/kg 0.0050 0.0011 2,2-Dichloropropane B[J2809-BLK1 ND<	1,2-Dibromo-3-chloropropane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0017	
1,2-Dichlorobenzene B[I2809-BLK1 ND mg/kg 0.0050 0.00081 1,3-Dichlorobenzene B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,4-Dichlorobenzene B[I2809-BLK1 ND mg/kg 0.0050 0.0015 Dichlorodifluoromethane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,1-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0012 cis-1,2-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0013 trans-1,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0081 1,3-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0011 2,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropane B[I2809-BLK1 <t< td=""><td>1,2-Dibromoethane</td><td>B[I2809-BLK1</td><td>ND</td><td>mg/kg</td><td>0.0050</td><td>0.0010</td><td></td></t<>	1,2-Dibromoethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0010	
1,3-Dichlorobenzene B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,4-Dichlorobenzene B[I2809-BLK1 ND mg/kg 0.0050 0.0015 Dichlorodifluoromethane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0085 1,1-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0012 cis-1,2-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0013 trans-1,2-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0011 2,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropane B[I2809-BLK1	Dibromomethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0018	
1,4-Dichlorobenzene B[I2809-BLK1 ND mg/kg 0.0050 0.0015 Dichlorodifluoromethane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0085 1,1-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0012 cis-1,2-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 trans-1,2-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 trans-1,2-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0011 2,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropane B[I2809-BLK1	1,2-Dichlorobenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.00081	
Dichlorodifluoromethane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.00085 1,1-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0012 cis-1,2-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0013 trans-1,2-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0081 1,3-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0011 2,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013	1,3-Dichlorobenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0014	
1,1-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.00085 1,1-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0012 cis-1,2-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 trans-1,2-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.00081 1,3-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0011 2,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013	1,4-Dichlorobenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0015	
1,2-Dichloroethane B[I2809-BLK1 ND mg/kg 0.0050 0.00085 1,1-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0012 cis-1,2-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0013 trans-1,2-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.00081 1,3-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0011 2,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropene B[I2809-BLK1 ND mg/kg 0.0050 0.0012	Dichlorodifluoromethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0013	
1,1-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0012 cis-1,2-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0013 trans-1,2-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0081 1,3-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0011 2,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropene B[I2809-BLK1 ND mg/kg 0.0050 0.0012	1,1-Dichloroethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0014	
cis-1,2-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0013 trans-1,2-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.00081 1,3-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0011 2,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropene B[I2809-BLK1 ND mg/kg 0.0050 0.0012	1,2-Dichloroethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.00085	
trans-1,2-Dichloroethene B[I2809-BLK1 ND mg/kg 0.0050 0.0014 1,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.00081 1,3-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0011 2,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropene B[I2809-BLK1 ND mg/kg 0.0050 0.0012	1,1-Dichloroethene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0012	
1,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.00081 1,3-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0011 2,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropene B[I2809-BLK1 ND mg/kg 0.0050 0.0012	cis-1,2-Dichloroethene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0013	
1,3-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0011 2,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropene B[I2809-BLK1 ND mg/kg 0.0050 0.0012	trans-1,2-Dichloroethene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0014	
2,2-Dichloropropane B[I2809-BLK1 ND mg/kg 0.0050 0.0013 1,1-Dichloropropene B[I2809-BLK1 ND mg/kg 0.0050 0.0012	1,2-Dichloropropane	B[I2809-BLK1	ND	mg/kg	0.0050	0.00081	
1,1-Dichloropropene B[I2809-BLK1 ND mg/kg 0.0050 0.0012	1,3-Dichloropropane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0011	
	2,2-Dichloropropane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0013	
cis-1,3-Dichloropropene B[I2809-BLK1 ND mg/kg 0.0050 0.0011	1,1-Dichloropropene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0012	
	cis-1,3-Dichloropropene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0011	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[I2809						
trans-1,3-Dichloropropene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0012	
Ethylbenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0015	
Hexachlorobutadiene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0017	
Isopropylbenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0013	
p-Isopropyltoluene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0013	
Methylene chloride	B[I2809-BLK1	ND	mg/kg	0.010	0.0024	
Methyl t-butyl ether	B[I2809-BLK1	ND	mg/kg	0.0050	0.00050	
Naphthalene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0014	
n-Propylbenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0013	
Styrene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0014	
1,1,1,2-Tetrachloroethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2,2-Tetrachloroethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0011	
Tetrachloroethene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0013	
Toluene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0012	
1,2,3-Trichlorobenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0021	
1,2,4-Trichlorobenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0020	
1,1,1-Trichloroethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2-Trichloroethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.00077	
Trichloroethene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0011	
Trichlorofluoromethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0011	
1,2,3-Trichloropropane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0016	
1,1,2-Trichloro-1,2,2-trifluoroethane	B[I2809-BLK1	ND	mg/kg	0.0050	0.0013	
1,2,4-Trimethylbenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0013	
1,3,5-Trimethylbenzene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0015	
Vinyl chloride	B[I2809-BLK1	ND	mg/kg	0.0050	0.0016	
Total Xylenes	B[I2809-BLK1	ND	mg/kg	0.010	0.0034	
p- & m-Xylenes	B[I2809-BLK1	ND	mg/kg	0.0050	0.0022	
o-Xylene	B[I2809-BLK1	ND	mg/kg	0.0050	0.0012	
1,2-Dichloroethane-d4 (Surrogate)	B[i2809-BLK1	94.1	%	70 - 121 (LCL - UCL)		
Toluene-d8 (Surrogate)	B[i2809-BLK1	107	%	% 81 - 117 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	B[I2809-BLK1	103	%	% 74 - 121 (LCL - UCL)		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

								Control I	imits	
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
QC Batch ID: B[I2809		71.								
Benzene	B[I2809-BS1	LCS	0.10161	0.12500	mg/kg	81.3		70 - 130		
Bromodichloromethane	B[I2809-BS1	LCS	0.12298	0.12500	mg/kg	98.4		70 - 130		
Chlorobenzene	B[I2809-BS1	LCS	0.12259	0.12500	mg/kg	98.1		70 - 130		
Chloroethane	B[I2809-BS1	LCS	0.099630	0.12500	mg/kg	79.7		70 - 130		
1,4-Dichlorobenzene	B[I2809-BS1	LCS	0.12381	0.12500	mg/kg	99.0		70 - 130		
1,1-Dichloroethane	B[I2809-BS1	LCS	0.11132	0.12500	mg/kg	89.1		70 - 130		
1,1-Dichloroethene	B[I2809-BS1	LCS	0.11529	0.12500	mg/kg	92.2		70 - 130		
Toluene	B[I2809-BS1	LCS	0.11580	0.12500	mg/kg	92.6		70 - 130		
Trichloroethene	B[I2809-BS1	LCS	0.11778	0.12500	mg/kg	94.2		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B[I2809-BS1	LCS	0.045850	0.050000	mg/kg	91.7		70 - 121		
Toluene-d8 (Surrogate)	B[I2809-BS1	LCS	0.049050	0.050000	mg/kg	98.1		81 - 117		
4-Bromofluorobenzene (Surrogate)	B[I2809-BS1	LCS	0.050450	0.050000	mg/kg	101		74 - 121		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation. 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 45 of 71

Report ID: 1000691076

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[I2809	Use	d client samp	le: N								
Benzene	MS	1724840-82	ND	0.10146	0.12500	mg/kg		81.2		70 - 130	
	MSD	1724840-82	ND	0.10881	0.12500	mg/kg	7.0	87.0	20	70 - 130	
Bromodichloromethane	MS	1724840-82	ND	0.12944	0.12500	mg/kg		104		70 - 130	
	MSD	1724840-82	ND	0.12549	0.12500	mg/kg	3.1	100	20	70 - 130	
Chlorobenzene	MS	1724840-82	ND	0.12478	0.12500	mg/kg		99.8		70 - 130	
	MSD	1724840-82	ND	0.13152	0.12500	mg/kg	5.3	105	20	70 - 130	
Chloroethane	MS	1724840-82	ND	0.098450	0.12500	mg/kg		78.8		70 - 130	
	MSD	1724840-82	ND	0.10119	0.12500	mg/kg	2.7	81.0	20	70 - 130	
1,4-Dichlorobenzene	MS	1724840-82	ND	0.13685	0.12500	mg/kg		109		70 - 130	
	MSD	1724840-82	ND	0.13428	0.12500	mg/kg	1.9	107	20	70 - 130	
1,1-Dichloroethane	MS	1724840-82	ND	0.10498	0.12500	mg/kg		84.0		70 - 130	
	MSD	1724840-82	ND	0.10551	0.12500	mg/kg	0.5	84.4	20	70 - 130	
1,1-Dichloroethene	MS	1724840-82	ND	0.11512	0.12500	mg/kg		92.1		70 - 130	
	MSD	1724840-82	ND	0.11704	0.12500	mg/kg	1.7	93.6	20	70 - 130	
Toluene	MS	1724840-82	ND	0.12717	0.12500	mg/kg		102		70 - 130	
	MSD	1724840-82	ND	0.11872	0.12500	mg/kg	6.9	95.0	20	70 - 130	
Trichloroethene	MS	1724840-82	ND	0.12280	0.12500	mg/kg		98.2		70 - 130	
	MSD	1724840-82	ND	0.12251	0.12500	mg/kg	0.2	98.0	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1724840-82	ND	0.044450	0.050000	mg/kg		88.9		70 - 121	
	MSD	1724840-82	ND	0.046760	0.050000	mg/kg	5.1	93.5		70 - 121	
Toluene-d8 (Surrogate)	MS	1724840-82	ND	0.051910	0.050000	mg/kg		104		81 - 117	
	MSD	1724840-82	ND	0.050520	0.050000	mg/kg	2.7	101		81 - 117	
4-Bromofluorobenzene (Surrogate)	MS	1724840-82	ND	0.052830	0.050000	mg/kg		106		74 - 121	
	MSD	1724840-82	ND	0.055410	0.050000	mg/kg	4.8	111		74 - 121	

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Reported: 01/04/2018 14:11 Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J0320						
Acenaphthene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0012	
Acenaphthylene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0011	
Anthracene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0012	
Benzo[a]anthracene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0011	
Benzo[b]fluoranthene	B[J0320-BLK1	ND	mg/kg	0.0030	0.00095	
Benzo[k]fluoranthene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0011	
Benzo[a]pyrene	B[J0320-BLK1	ND	mg/kg	0.0030	0.00095	
Benzo[g,h,i]perylene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0011	
Chrysene	B[J0320-BLK1	ND	mg/kg	0.0030	0.00097	
Dibenzo[a,h]anthracene	B[J0320-BLK1	ND	mg/kg	0.0030	0.00099	
Fluoranthene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0014	
Fluorene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0011	
Indeno[1,2,3-cd]pyrene	B[J0320-BLK1	ND	mg/kg	0.0030	0.00092	
Naphthalene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0011	
Phenanthrene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0012	
Pyrene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0015	
Nitrobenzene-d5 (Surrogate)	B[J0320-BLK1	75.0	%	30 - 11	0 (LCL - UCL)	
2-Fluorobiphenyl (Surrogate)	B[J0320-BLK1	65.3	%	40 - 120 (LCL - UCL)		
p-Terphenyl-d14 (Surrogate)	B[J0320-BLK1	70.3	%	30 - 12	0 (LCL - UCL)	

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 47 of 71 Report ID: 1000691076

Stantec - SLO Reported: 01/04/2018 14:11 3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Laboratory Control Sample

								Control I	imits	
				Spike		Percent		Percent		Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: B[J0320										
Acenaphthene	B[J0320-BS1	LCS	0.025418	0.033445	mg/kg	76.0		60 - 130		
Acenaphthylene	B[J0320-BS1	LCS	0.026371	0.033445	mg/kg	78.9		60 - 130		
Anthracene	B[J0320-BS1	LCS	0.025418	0.033445	mg/kg	76.0		60 - 130		
Benzo[a]anthracene	B[J0320-BS1	LCS	0.030502	0.033445	mg/kg	91.2		60 - 130		
Benzo[b]fluoranthene	B[J0320-BS1	LCS	0.034950	0.033445	mg/kg	104		50 - 130		
Benzo[k]fluoranthene	B[J0320-BS1	LCS	0.031137	0.033445	mg/kg	93.1		60 - 130		
Benzo[a]pyrene	B[J0320-BS1	LCS	0.027960	0.033445	mg/kg	83.6		60 - 130		
Benzo[g,h,i]perylene	B[J0320-BS1	LCS	0.027324	0.033445	mg/kg	81.7		50 - 130		
Chrysene	B[J0320-BS1	LCS	0.027007	0.033445	mg/kg	80.8		50 - 130		
Dibenzo[a,h]anthracene	B[J0320-BS1	LCS	0.022876	0.033445	mg/kg	68.4		50 - 130		
Fluoranthene	B[J0320-BS1	LCS	0.030184	0.033445	mg/kg	90.2		60 - 130		
Fluorene	B[J0320-BS1	LCS	0.023512	0.033445	mg/kg	70.3		50 - 130		
Indeno[1,2,3-cd]pyrene	B[J0320-BS1	LCS	0.026371	0.033445	mg/kg	78.9		50 - 130		
Naphthalene	B[J0320-BS1	LCS	0.025100	0.033445	mg/kg	75.0		50 - 130		
Phenanthrene	B[J0320-BS1	LCS	0.020652	0.033445	mg/kg	61.8		50 - 130		
Pyrene	B[J0320-BS1	LCS	0.035585	0.033445	mg/kg	106		50 - 130		
Nitrobenzene-d5 (Surrogate)	B[J0320-BS1	LCS	0.078478	0.13378	mg/kg	58.7		30 - 110		
2-Fluorobiphenyl (Surrogate)	B[J0320-BS1	LCS	0.071171	0.13378	mg/kg	53.2		40 - 120		
p-Terphenyl-d14 (Surrogate)	B[J0320-BS1	LCS	0.083880	0.13378	mg/kg	62.7		30 - 120		

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Report ID: 1000691076

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J0320	Use	ed client samp	ole: N								
Acenaphthene	─ MS	1724840-81	ND	0.027997	0.033113	mg/kg		84.6		50 - 130	
•	MSD	1724840-81	ND	0.026316	0.032895	mg/kg	6.2	80.0	30	50 - 130	
Acenaphthylene	MS	1724840-81	ND	0.029255	0.033113	mg/kg		88.3		50 - 130	
. ,	MSD	1724840-81	ND	0.028289	0.032895	mg/kg	3.4	86.0	30	50 - 130	
Anthracene	MS	1724840-81	ND	0.029884	0.033113	mg/kg		90.2		50 - 130	
	MSD	1724840-81	ND	0.028618	0.032895	mg/kg	4.3	87.0	30	50 - 130	
Benzo[a]anthracene	MS	1724840-81	ND	0.032715	0.033113	mg/kg		98.8		50 - 130	
Den Ze (a janum acente	MSD	1724840-81	ND	0.036842	0.032895	mg/kg	11.9	112	30	50 - 130	
Benzo[b]fluoranthene	MS	1724840-81	ND	0.036490	0.033113	mg/kg		110		40 - 130	
Denzo[S]moranthene	MSD	1724840-81	ND	0.051316	0.032895	mg/kg	33.8	156	30	40 - 130	Q02,Q
											03
Benzo[k]fluoranthene	MS	1724840-81	ND	0.036490	0.033113	mg/kg		110		40 - 130	
	MSD	1724840-81	ND	0.039145	0.032895	mg/kg	7.0	119	30	40 - 130	
Benzo[a]pyrene	MS	1724840-81	ND	0.029884	0.033113	mg/kg		90.2		40 - 130	
	MSD	1724840-81	ND	0.030263	0.032895	mg/kg	1.3	92.0	30	40 - 130	
Benzo[g,h,i]perylene	MS	1724840-81	ND	0.030513	0.033113	mg/kg		92.1		40 - 130	
	MSD	1724840-81	ND	0.027632	0.032895	mg/kg	9.9	84.0	30	40 - 130	
Chrysene	MS	1724840-81	ND	0.029570	0.033113	mg/kg		89.3		40 - 130	
	MSD	1724840-81	ND	0.028618	0.032895	mg/kg	3.3	87.0	30	40 - 130	
Dibenzo[a,h]anthracene	MS	1724840-81	ND	0.025166	0.033113	mg/kg		76.0		40 - 130	
	MSD	1724840-81	ND	0.023026	0.032895	mg/kg	8.9	70.0	30	40 - 130	
Fluoranthene	MS	1724840-81	ND	0.032715	0.033113	mg/kg		98.8		40 - 130	
	MSD	1724840-81	ND	0.032237	0.032895	mg/kg	1.5	98.0	30	40 - 130	
Fluorene	MS	1724840-81	ND	0.028940	0.033113	mg/kg		87.4		40 - 130	
	MSD	1724840-81	ND	0.028289	0.032895	mg/kg	2.3	86.0	30	40 - 130	
Indeno[1,2,3-cd]pyrene	MS	1724840-81	ND	0.029255	0.033113	mg/kg		88.3		30 - 130	
	MSD	1724840-81	ND	0.026316	0.032895	mg/kg	10.6	80.0	30	30 - 130	
Naphthalene	MS	1724840-81	ND	0.027368	0.033113	mg/kg		82.6		50 - 130	
Hapitalene	MSD	1724840-81	ND	0.027632	0.032895	mg/kg	1.0	84.0	30	50 - 130	
Phenanthrene	MS	1724840-81	ND	0.022964	0.033113			69.3		40 - 130	
1 Honditurono	MSD	1724840-81	ND	0.022368	0.033113	mg/kg mg/kg	2.6	68.0	30	40 - 130	
Dyrono		1724840-81	ND	0.038377	0.033113					40 - 130	
Pyrene	MS MSD	1724840-81	ND	0.038816	0.033113	mg/kg mg/kg	1.1	116 118	30	40 - 130	
Nitrohanzana dE (Comercia)											
Nitrobenzene-d5 (Surrogate)	MS	1724840-81 1724840-81	ND ND	0.10444 0.10691	0.13245 0.13158	mg/kg mg/kg	2.3	78.9 81.3		30 - 110 30 - 110	
O.F	MSD					mg/kg	۷.۵				
2-Fluorobiphenyl (Surrogate)	MS	1724840-81	ND	0.090281	0.13245	mg/kg	4.0	68.2		40 - 120	
	MSD	1724840-81	ND	0.089145	0.13158	mg/kg	1.3	67.7		40 - 120	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429 Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Precision & Accuracy

						Control Limits					
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J0320	Use	d client samp	ole: N								
p-Terphenyl-d14 (Surrogate)	MS	1724840-81	ND	0.090596	0.13245	mg/kg		68.4		30 - 120	
	MSD	1724840-81	ND	0.091776	0.13158	mg/kg	1.3	69.7		30 - 120	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[I2745						
TPH - Gasoline	B[I2745-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[I2745-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[I2745-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[I2745-BLK1	108	%	20 - 14	5 (LCL - UCL)	

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3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

								Control L	imits		
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals	
QC Batch ID: B[I2745											
TPH - Diesel (FFP)	B[I2745-BS1	LCS	60.175	82.237	mg/kg	73.2		64 - 124			
Tetracosane (Surrogate)	B[I2745-BS1	LCS	2.7281	3.2908	mg/kg	82.9		20 - 145			

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[I2745	Use	d client samp	le: Y - Des	cription: HA	-33-5, 09/21	/2017 11:2	20				
TPH - Diesel (FFP)	MS	1726917-06	ND	72.071	83.333	mg/kg		86.5		52 - 131	
	MSD	1726917-06	ND	52.526	84.746	mg/kg	31.4	62.0	30	52 - 131	Q02
Tetracosane (Surrogate)	MS	1726917-06	ND	3.2913	3.3347	mg/kg		98.7		20 - 145	
	MSD	1726917-06	ND	2.3600	3.3912	mg/kg	33.0	69.6		20 - 145	

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 53 of 71



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Chemical Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J0027						
Total Cyanide	B[J0027-BLK1	ND	mg/kg	0.50	0.15	

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 54 of 71



Stantec - SLO

Reported: 01/04/2018 14:11

3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Suite A Project Number: 185850429
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Chemical Analysis

Quality Control Report - Laboratory Control Sample

				Spike		Percent		Control L Percent	imits	Lab	
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals	
QC Batch ID: B[J0027											
Total Cyanide	B[J0027-BS1	LCS	14.296	14.423	mg/kg	99.1		80 - 120			
QC Batch ID: B[J0223											
рН	B[J0223-BS1	LCS	6.9600	7.0000	pH Units	99.4		95 - 105			

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 55 of 71



3437 Empresa Drive, Suite A

Stantec - SLO Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Suite A Project Number: 185850429
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Chemical Analysis

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J0027	Use	d client samp	le: Y - Des	cription: HA	-37-8, 09/20)/2017 11:5	0				
Total Cyanide	DUP	1726918-05	ND	ND		mg/kg			20		
	MS	1726918-05	ND	9.3974	9.6154	mg/kg		97.7		80 - 120	
	MSD	1726918-05	ND	9.5980	9.8039	mg/kg	2.1	97.9	20	80 - 120	
QC Batch ID: B[J0223	Use	d client samp	le: Y - Des	cription: HA	-37-8, 09/20)/2017 11:5	0				
рН	DUP	1726918-05	7.5950	7.6190		pH Units	0.3		20		

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 56 of 71

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[I2606						
Mercury	B[I2606-BLK1	ND	mg/kg	0.16	0.019	
QC Batch ID: B[J0037						
Total Hexavalent Chromium	B[J0037-BLK1	ND	mg/kg	1.0	0.30	
QC Batch ID: B[J0385						
Antimony	B[J0385-BLK1	ND	mg/kg	5.0	0.33	
Arsenic	B[J0385-BLK1	ND	mg/kg	1.0	0.40	
Barium	B[J0385-BLK1	ND	mg/kg	0.50	0.18	
Beryllium	B[J0385-BLK1	ND	mg/kg	0.50	0.047	
Cadmium	B[J0385-BLK1	ND	mg/kg	0.50	0.052	
Chromium	B[J0385-BLK1	0.055396	mg/kg	0.50	0.050	J
Cobalt	B[J0385-BLK1	ND	mg/kg	2.5	0.098	
Copper	B[J0385-BLK1	ND	mg/kg	1.0	0.050	
Lead	B[J0385-BLK1	ND	mg/kg	2.5	0.28	
Molybdenum	B[J0385-BLK1	0.058533	mg/kg	2.5	0.050	J
Nickel	B[J0385-BLK1	ND	mg/kg	0.50	0.15	
Selenium	B[J0385-BLK1	ND	mg/kg	1.0	0.98	
Silver	B[J0385-BLK1	ND	mg/kg	0.50	0.067	
Thallium	B[J0385-BLK1	ND	mg/kg	5.0	0.64	
Vanadium	B[J0385-BLK1	ND	mg/kg	0.50	0.11	
Zinc	B[J0385-BLK1	0.35735	mg/kg	2.5	0.087	J

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 57 of 71

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Total Concentrations (TTLC)

Quality Control Report - Laboratory Control Sample

								Control L	imits	
Comptituent	OC Comple ID	Time	Decult	Spike	Unita	Percent	BBB	Percent	DDD	Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: B[I2606										
Mercury	B[I2606-BS1	LCS	0.84448	0.80000	mg/kg	106		80 - 120		
QC Batch ID: B[J0037										
Total Hexavalent Chromium	B[J0037-BS1	LCS	42.234	40.000	mg/kg	106		80 - 120		
QC Batch ID: B[J0385										
Antimony	B[J0385-BS1	LCS	112.08	100.00	mg/kg	112		75 - 125		
Arsenic	B[J0385-BS1	LCS	10.204	10.000	mg/kg	102		75 - 125		
Barium	B[J0385-BS1	LCS	95.872	100.00	mg/kg	95.9		75 - 125		
Beryllium	B[J0385-BS1	LCS	10.527	10.000	mg/kg	105		75 - 125		
Cadmium	B[J0385-BS1	LCS	10.671	10.000	mg/kg	107		75 - 125		
Chromium	B[J0385-BS1	LCS	113.24	100.00	mg/kg	113		75 - 125		
Cobalt	B[J0385-BS1	LCS	108.93	100.00	mg/kg	109		75 - 125		
Copper	B[J0385-BS1	LCS	100.81	100.00	mg/kg	101		75 - 125		
Lead	B[J0385-BS1	LCS	109.46	100.00	mg/kg	109		75 - 125		
Molybdenum	B[J0385-BS1	LCS	107.37	100.00	mg/kg	107		75 - 125		
Nickel	B[J0385-BS1	LCS	117.10	100.00	mg/kg	117		75 - 125		
Selenium	B[J0385-BS1	LCS	10.091	10.000	mg/kg	101		75 - 125		
Silver	B[J0385-BS1	LCS	10.101	10.000	mg/kg	101		75 - 125		
Thallium	B[J0385-BS1	LCS	120.66	100.00	mg/kg	121		75 - 125		
Vanadium	B[J0385-BS1	LCS	108.16	100.00	mg/kg	108		75 - 125		
Zinc	B[J0385-BS1	LCS	107.40	100.00	mg/kg	107		75 - 125		

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 58 of 71

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
OO D-4-1- ID: DIIO000	Llee	d client samp	olo: N								
QC Batch ID: B[I2606		1727058-13	ND	ND		mg/kg			20		
Mercury	MS	1727058-13	ND	0.85270	0.79365	mg/kg		107	20	80 - 120	
	MSD	1727058-13	ND	0.82381	0.79365	mg/kg	3.4	107	20	80 - 120	
	_			0.0200.		99					
QC Batch ID: B[J0037		d client samp				_					
Total Hexavalent Chromium	DUP	1727341-20	1.2560	1.2600		mg/kg	0.3		20		
	MS	1727341-20	1.2560	42.298	40.000	mg/kg	4.0	103	20	75 - 125	
	MSD	1727341-20	1.2560	42.794	40.000	mg/kg	1.2	104	20	75 - 125	
QC Batch ID: B[J0385	Use	d client samp	ole: N								
Antimony	DUP	1727060-13	0.37664	ND		mg/kg			20		
	MS	1727060-13	0.37664	97.321	100.00	mg/kg		96.9		16 - 119	
	MSD	1727060-13	0.37664	97.284	100.00	mg/kg	0.0	96.9	20	16 - 119	
Arsenic	DUP	1727060-13	ND	ND		mg/kg			20		
	MS	1727060-13	ND	8.7395	10.000	mg/kg		87.4		75 - 125	
	MSD	1727060-13	ND	8.4271	10.000	mg/kg	3.6	84.3	20	75 - 125	
Barium	DUP	1727060-13	ND	ND		mg/kg			20		
	MS	1727060-13	ND	62.165	100.00	mg/kg		62.2		75 - 125	Q03
	MSD	1727060-13	ND	68.911	100.00	mg/kg	10.3	68.9	20	75 - 125	Q03
Beryllium	DUP	1727060-13	ND	ND		mg/kg			20		
	MS	1727060-13	ND	9.6619	10.000	mg/kg		96.6		75 - 125	
	MSD	1727060-13	ND	9.6781	10.000	mg/kg	0.2	96.8	20	75 - 125	
Cadmium	DUP	1727060-13	ND	ND		mg/kg			20		
	MS	1727060-13	ND	9.4581	10.000	mg/kg		94.6		75 - 125	
	MSD	1727060-13	ND	9.4045	10.000	mg/kg	0.6	94.0	20	75 - 125	
Chromium	DUP	1727060-13	1.0488	1.0040		mg/kg	4.4		20		
	MS	1727060-13	1.0488	98.758	100.00	mg/kg		97.7		75 - 125	
	MSD	1727060-13	1.0488	99.329	100.00	mg/kg	0.6	98.3	20	75 - 125	
Cobalt	DUP	1727060-13	ND	ND		mg/kg			20		
	MS	1727060-13	ND	96.737	100.00	mg/kg		96.7		75 - 125	
	MSD	1727060-13	ND	96.569	100.00	mg/kg	0.2	96.6	20	75 - 125	
Copper	DUP	1727060-13	0.56486	0.56427		mg/kg	0.1		20		J
	MS	1727060-13	0.56486	94.548	100.00	mg/kg		94.0		75 - 125	
	MSD	1727060-13	0.56486	94.626	100.00	mg/kg	0.1	94.1	20	75 - 125	
Lead	DUP	1727060-13	0.50296	ND		mg/kg			20		
	MS	1727060-13	0.50296	97.567	100.00	mg/kg		97.1		75 - 125	
	MSD	1727060-13	0.50296	97.900	100.00	mg/kg	0.3	97.4	20	75 - 125	
Molybdenum	DUP	1727060-13	0.61414	0.28358		mg/kg	73.6		20		J,A02
	MS	1727060-13	0.61414	92.092	100.00	mg/kg		91.5		75 - 125	
	MSD	1727060-13	0.61414	93.088	100.00	mg/kg	1.1	92.5	20	75 - 125	

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 59 of 71

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 14:11

Project: Former Northern Landfill

Project Number: 185850429
Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

									Control Limits		
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J0385	Use	d client samp	ole: N								
Nickel	DUP	1727060-13	0.26023	0.24977		mg/kg	4.1		20		J
	MS	1727060-13	0.26023	103.67	100.00	mg/kg		103		75 - 125	
	MSD	1727060-13	0.26023	103.63	100.00	mg/kg	0.0	103	20	75 - 125	
Selenium	DUP	1727060-13	ND	ND		mg/kg			20		
	MS	1727060-13	ND	9.9696	10.000	mg/kg		99.7		75 - 125	
	MSD	1727060-13	3 ND 10.324 10.000 mg/kg 3.5 103 20 75	75 - 125							
Silver	DUP	1727060-13	ND	ND		mg/kg			20		
	MS	1727060-13	ND	8.9564	10.000	mg/kg		89.6		75 - 125	
	MSD	1727060-13	ND	8.9524	10.000	mg/kg	0.0	89.5	20	75 - 125	
Thallium	DUP	1727060-13	ND	ND		mg/kg			20		
	MS	1727060-13	ND	107.26	100.00	mg/kg		107		75 - 125	
	MSD 1727060-13 ND 106.97 100.00 mg/kg 0.3 107	107	20	75 - 125							
Vanadium	DUP	1727060-13	30.077	30.515		mg/kg	1.4		20		
	MS	1727060-13	30.077	127.33	100.00	mg/kg		97.3		75 - 125	
	MSD	1727060-13	30.077	128.22	100.00	mg/kg	0.7	98.1	20	75 - 125	
Zinc	DUP	1727060-13	6.2507	6.0521		mg/kg	3.2		20		
	MS	1727060-13	6.2507	106.98	100.00	mg/kg		101		75 - 125	
	MSD	1727060-13	6.2507	106.38	100.00	mg/kg	0.6	100	20	75 - 125	

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 60 of 71



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EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order: 091719157
Customer ID: BCLA50
Customer PO: 1726918
Project ID:

Attention: Molly Meyers
BC Laboratories, Inc.

4100 Atlas Court Bakersfield, CA 93308

Received Date: 10/02/2017 10:15 AM Analysis Date: 10/04/2017 Collected Date: 09/20/2017

Phone: (661) 327-4911

Fax: (661) 327-1918

Asbestos

Project: 1726918

Initial report from: 10/04/2017 12:01:31

ASB_PLM_0008_0001 - 1.78 Printed: 10/4/2017 12:01 PM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Non-Asbestos

Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1726918-01-Soil		Brown Non-Fibrous		45% Quartz 55% Non-fibrous (Other)	None Detected
091719157-0001		Homogeneous			
Soil is a problem matrix	. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1726918-01-Insulation Gray		Gray Fibrous		10% Quartz 20% Matrix	50% Chrysotile
091719157-0001A		Homogeneous		20% Non-fibrous (Other)	
1726918-02		Tan		60% Quartz	None Detected
1120010-02		Non-Fibrous		40% Non-fibrous (Other)	110110 20100100
091719157-0002		Homogeneous		` '	
Soil is a problem matrix	. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1726918-03		Brown/Black		50% Quartz	None Detected
		Non-Fibrous		50% Non-fibrous (Other)	
091719157-0003		Homogeneous			
Soil is a problem matrix	. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1726918-04		Brown/Black		50% Quartz	None Detected
		Non-Fibrous		50% Non-fibrous (Other)	
091719157-0004		Homogeneous			
Soil is a problem matrix	. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1726918-05		Black		40% Quartz	None Detected
		Non-Fibrous		30% Matrix	
091719157-0005		Homogeneous		30% Non-fibrous (Other)	
1726918-06		Black		15% Quartz	2% Amosite
		Non-Fibrous		50% Matrix	
091719157-0006		Homogeneous		33% Non-fibrous (Other)	
1726918-07		Tan		60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
091719157-0007		Homogeneous			
Soil is a problem matrix	. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1726918-08		Tan		60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
091719157-0008		Homogeneous			
Soil is a problem matrix	. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1726918-09		Tan		60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
091719157-0009		Homogeneous			
Soil is a problem matrix	. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1726918-10		Tan		60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
091719157-0010		Homogeneous			
Soil is a problem matrix	. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1726918-11		Brown		50% Quartz	None Detected
		Non-Fibrous		50% Non-fibrous (Other)	
091719157-0011		Homogeneous			
Soil is a problem matrix	. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1726918-12		Brown		50% Quartz	None Detected
		Non-Fibrous		50% Non-fibrous (Other)	
		TABLET IDIOUS			
091719157-0012		Homogeneous			

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Subcontract Report for 1726918 PDF File Name: wo_1726918_sub_EMSLA.pdf Page 2 of 2



EMSL Order: 091719157 Customer ID: BCLA50 Customer PO: 1726918 Project ID:

Analyst(s) Cecilia Yu (13)

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The limit of detection, as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method. limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 10/04/2017 12:01:31

ASB_PLM_0008_0001 - 1.78 Printed: 10/4/2017 12:01 PM

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October 16, 2017

FAL Project ID: 10976

Ms. Molly Meyers BC Laboratories 4100 Atlas Court Bakersfield, CA 93308

Dear Ms. Meyers,

The following results are associated with Frontier Analytical Laboratory project 10976. This corresponds to your subcontract order number 1726918. One solid sample was received on 10/6/2017. This sample was extracted and analyzed by EPA Method 8290 for tetra through octa chlorinated dibenzo dioxins and furans. The Toxic Equivalency (TEQ) for your sample has been calculated using the 2005 World Health Organization's (WHO's) toxic equivalency factors (TEFs). BC Laboratories requested a turnaround time of fifteen business days for project 10976.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains our sample tracking log, and the analytical results. The Sample Receipt section contains your chain of custody, our sample login form and a sample photo. The attached results are specifically for the sample referenced in this report only. These results meet all National Environmental Laboratory Accreditation Program (NELAP) requirements and shall not be reproduced except in full. Frontier Analytical Laboratory's State of Oregon NELAP certificate number is 4041 and our State of California ELAP certificate number is 2934. This report has been emailed to you as a portable document format (PDF) file. A hardcopy of this report will not be sent to you unless specifically requested.

If you have any questions regarding project 10976, please contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Daniel. P. vickers

Daniel P. Vickers Vice President

FRONTIER ANALYTICAL LABORATORY

5172 Hillsdale Circle * El Dorado Hills, CA 95762 Tel (916) 934-0900 * Fax (916) 934-0999 www.frontieranalytical.com

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Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 10976

Received on: 10/06/2017 Project Due: 10/30/2017

Hold Time Due Date 10976-001-SA 1726918 1726918-05 EPA 8290 D/F Solid 09/20/2017 11:50 am 10/20/2017

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Report ID: 1000691076



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EPA Method 8290 PCDD/F



FAL ID: 10976-001-MB Client ID: Method Blank Matrix: Solid Batch No: X4265	Date	Extracted: 10- Received: NA unt: 5.00 g		ICal: PCDI GC Colum Units: pg/g		20	oquired: 10- 05 WHO TI ssis: Dry Wi	EQ: 0.0	
Compound	Con	nc DL	Qual	2005 WHO Tox	MDL.	Compound	Conc	DL	Qual
2.3.7,8-TCDD 1,2.3.7,8-PsCDD 1,2.3.4,7.8-HsCDD 1,2.3.6,7.8-HsCDD 1,2.3.7,8.9-HsCDD 0CDD 2,3.7,8-TCDF 1,2.3.7,8-PsCDF 2,3.4,7.8-PsCDF 1,2.3.4,7.8-HsCDF 1,2.3,6,7.8-HsCDF 1,2.3,6,7.8-HsCDF 1,2.3,4,6,7.8-HsCDF 1,2.3,4,6,7.8-HsCDF 1,2.3,4,6,7.8-HsCDF 1,2.3,4,6,7.8-HsCDF 1,2.3,4,6,7.8-HsCDF 1,2.3,4,6,7.8-HsCDF	N N N N N N N N N N N N N N N N N N N	D 0.459 D 0.636 D 0.654 D 0.595 D 0.691 D 0.445 D 0.333 D 0.335 D 0.456 D 0.4456 D 0.456 D 0.4456 D 0.4456			0.0273 0.0570 0.0793 0.0940 0.0823 0.0842 0.172 0.0259 0.0449 0.0458 0.0437 0.0417 0.0574 0.0557 0.0747 0.0883 0.170	Total TCDD Total PeCDD Total HxCDD Total HpCDD Total TCDF Total PeCDF Total HxCDF Total HxCDF Total HyCDF	ND ND ND ND ND	0.193 0.459 0.654 0.691 0.169 0.445 0.456 0.443	
Internal Standards 13C-2,3,7,8-PeCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,6,7,8-HyCDD 13C-1,2,3,7,8-PeCDF 13C-1,2,3,7,8-PeCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8,9-HyCDF 13C-1,2,3,4,7,8,9-HyCDF	89.2 95.9 96.0 91.1 102 89.9 85.0 84.1 88.0 103 95.6 101 107 110 123 109	QC Limits 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135	Qual		B Ans C Che D Pre DNQ Ans F Ans J Ans M Ma ND Ans NP Not S Sar X Ma'	topic Labeled Star nal to noise ratio is alyte is present is emical Interference sence of Dipheny alyte concentration alyte concentration alyte concentration ximum possible con alyte Not Detected is Provided -filtered through a mple acceptance of trix interferences sult taken from dili-	s > 10:1 Method Bla e I Ethers in is below o no seconda n is below o concentration at Detectio Whatman criteria not r	nik alibration ra salibration ra say column alibration ra n on Limit Lev	inge ange inge
37CI-2,3,7,8-TCDD	106	50.0 - 150						A	

Date: 10/13/2017

Reviewed By:__&W Date: 10/13/2017

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EPA Method 8290 PCDD/F



FAI, ID: 10976-001-OPR Client ID: OPR Matrix: Solid Batch No: X4265	Date Extracted: 10-09-201 Date Received: NA Amount: 5.00 g	7	ICal: PCDDFAL4-9-18-17 GC Column: DB5MS Units: ng/ml	Acquired: 10-10-2017 2005 WHO TEQ: NA
Compound	Conc QC Limits	Qual		
2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD	11.6 7.00 - 13.0 59.0 35.0 - 65.0 58.1 35.0 - 65.0 56.4 35.0 - 65.0 54.2 35.0 - 65.0 58.3 35.0 - 65.0 116 70.0 - 13.0			
12.3.7.8-PeCDF 2.3.4.7.8-PeCDF 12.3.4.7.8-HxCDF 12.3.6.7.8-HxCDF 2.3.4.6.7.8-HxCDF 12.3.7.8.9-HxCDF 1.2.3.4.6.7.8-HpCDF 1.2.3.4.7.8.9-HpCDF OCDF	59.6 35.0 - 65.0 56.9 35.0 - 65.0 56.8 35.0 - 65.0 57.6 35.0 - 65.0 57.6 35.0 - 65.0 57.5 35.0 - 65.0 57.6 35.0 - 65.0 57.6 35.0 - 65.0			
Internal Standards	% Rec QC Limits	Qual		
13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,6,7,8-HxCDD 13C-1,2,3,4,6,7,8-HpCDD 13C-0CDD	71.9 40.0 - 135 70.6 40.0 - 135 74.7 40.0 - 135 75.2 40.0 - 135 69.6 40.0 - 135 63.0 40.0 - 135		A signal to no B Analyte is C Chemical I D Presence of	beled Standard outside QC range but olse ratio is >10:1 present in Method Blank nterference of Diphenyl Ethers ncentration is below calibration range
13C-2,3.7,8-TCDF 13C-1,2,3.7,8-PeCDF 13C-2,3.4,7.8-PeCDF 13C-1,2,3.6.7,8-HxCDF 13C-1,2,3.6.7,8-HxCDF 13C-1,2,3.7,8,9-HxCDF 13C-1,2,3.4.6.7,8-HpCDF 13C-1,2,3.4.6.7,8-HpCDF 13C-1,2,3.4.6.7,8-HpCDF 13C-1,2,3.4.6.7,8-HpCDF	70.6 40.0 - 135 70.1 40.0 - 135 69.9 40.0 - 135 87.0 40.0 - 135 84.1 40.0 - 135 80.9 40.0 - 135 80.2 40.0 - 135 74.9 40.0 - 135 85.5 40.0 - 135 75.7 40.0 - 135		E Analyte co F Analyte co J Analyte co M Maximum ND Analyte No NP Not Provid P Pre-filtered	ncentration is above calibration range infirmation on secondary column incentration is below calibration range possible concentration of Detected at Detection Limit Level ed if through a Whatman 0.7um GF/F filter
Cleanup Surrogate			X Matrix inter	ceptance criteria not met rferences en from dilution or reinjection
37CI-2,3,7,8-TCDD	85.6 50.0 - 150		- Result take	ar iron dilution or reinjection

Reviewed By: &PV
Date: 10/13/2017

000004 of 000008

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Subcontract Report for 1726918 PDF File Name: wo_1726918_sub_FRNTL.pdf Page 5 of 8

EPA Method 8290 PCDD/F



FAL ID: 10976-001-SA Client ID: 1728918-05 Matrix: Solid Batch No: X4265	Date Amou	Extracted: 10-0 Received: 10-0 unt: 5.02 g lids: 93.65			DFAL4-9-18 yn: DB5MS	20	oquired: 10- 105 WHO T asis: Dry W	EQ: 11.3
Compound	Con	c DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL Qual
2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8-HxCDD 1,2,3,7,8-PhCDD 0CDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF	1.0 1.7 1.7 7.1 4.2 40 667 NE NE 0.55 1.2 0.91 1.5 NE 49.9 3.9 3.3	3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.07 1.73 0.173 0.716 0.423 4.05 2.00 	0.0273 0.0570 0.0793 0.0940 0.0842 0.172 0.0269 0.0449 0.0468 0.0437 0.0417 0.0574 0.0657 0.0747 0.0883 0.170	Total TCDD Total PcCDD Total HxCDD Total HpCDD Total TCDF Total PcCDF Total HxCDF Total HxCDF Total HyCDF	2.64 9.68 43.9 820 1.29 5.71 37.8 237	:
Internal Standards 13C-2,3,7,8-TCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,6,7,8-HyCDD 13C-1,2,3,4,6,7,8-HyCDD 13C-2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,6,7,8-HyCDF 13C-1,2,3,4,6,7,8-HyCDF 13C-1,2,3,4,6,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8-HyCDF Cleanup Surrogate 37CH-2,3,7,8-TCDD	98.3 96.8 98.8 98.8 88.0 102 93.5 78.0 79.5 79.6 87.4 81.2 88.2 97.3 90.7 105	QC Limits 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135	Qual		B AV C CI D P DNQ AV F AV M M ND AV NP P S Sc X M	otopic Labeled Star gnal to noise ratio is nalyte is present in hemicial Interference resence of Dipheny nalyte concentration nalyte concentration nalyte concentration aximum possible or nalyte Not Detected of Provided re-filtered through a marple acceptance of atrix interferences esult taken from dill	s > 10:1 Method Bla e I Ethers in is below on in is above in on secondi in is below on concentratio if at Detecti Whatman criteria not	calibration range calibration range any column calibration range n on Limit Level 0.7um GF/F filter met

Reviewed By: &PV
Date: 10/13/2017

000005 of 000008

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Subcontract Report for 1726918 PDF File Name: wo_1726918_sub_FRNTL.pdf Page 6 of 8

SUBCONTRACT ORDER

BC Laboratories 1726918 10976

SENDING LABORATORY:

BC Laboratories 4100 Atlas Ct Bakersfield, CA 93308 Phone: 661-327-4911 Fax: 661-327-1918

Project Manager: Molly Meyers

RECEIVING LABORATORY:

Frontier Analytical Laboratory SFRNTL-EINV

5172 Hillsdale Circle El Dorado Hills, CA 95762 Phone :(916) 934-0900 Fax: (916) 934-0999

Analysis Due Expires Laboratory ID Comments

Sample ID: 1726918-05 Solids Sampled:09/20/17 11:50

og8290s Full Scan FRNTL 10/04/17 17:00 10/20/17 11:50

Containers Supplied:

Released By Date Received By Date 10-16-17 1100

Released By

Date

Received By

Date

000006 of 000008

Page 1 of 1

Report ID: 1000691076

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Subcontract Report for 1726918 PDF File Name: wo_1726918_sub_FRNTL.pdf Page 7 of 8



Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: 10976

Client:	BC Laboratories, Inc
Client Project ID:	
Date Received:	10/06/2017
Time Received:	11:00 am
Received By:	KZ
Logged In By:	KZ
# of Samples Received:	1
Duplicates:	0
Storage Location:	R3

Method of Delivery:	California Overnight
Tracking Number:	C11235900269629
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	0
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test aqueous sample for residual Chlorine	No
Sodium Thiosulfate Added	No
Adequate Sample Volume	Yes
Appropriate Sample Container	No
pH Range of Aqueous Sample	N/A

Anomalies or additional comments:

Please note that the sample was received in a clear glass jar. NELAP requires samples be received in amber glass bottles or jars. Although this anomaly will not affect your results, we are required by NELAP to make a note of it. We will proceed with analysis unless directed otherwise by you.

000007 of 000008

5172 Hillsdale Circle * El Dorado Hills, CA 95762 * Tel (916) 934-0900 * Fax (916) 934-0999 * www.frontieranalytical.com

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

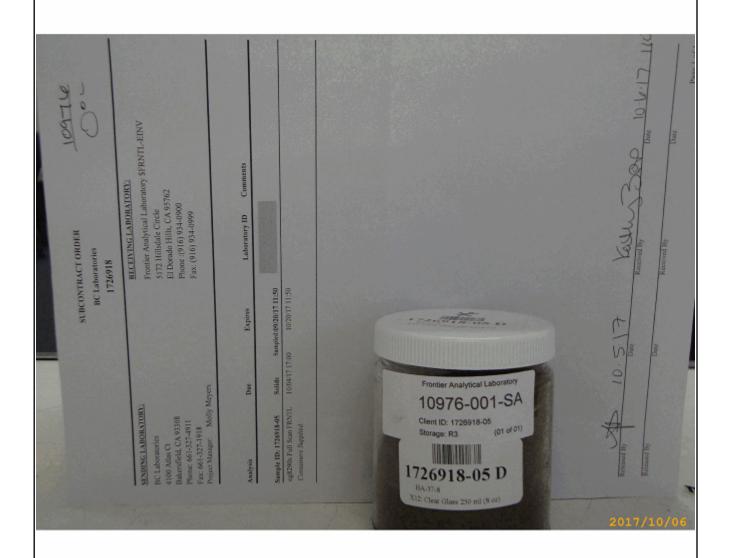
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 69 of 71



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Report ID: 1000691076 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 70 of 71

Stantec - SLO Reported: 01/04/2018 14:11 3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Suite A Project Number: 185850429 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Notes And Definitions

Estimated Value (CLP Flag) MDL Method Detection Limit ND Analyte Not Detected Practical Quantitation Limit PQL

Detection and quantitation limits are raised due to sample dilution. A01

A02 The difference between duplicate readings is less than the quantitation limit. A10 Detection and quantitation limits were raised due to matrix interference.

A17 Surrogate not reportable due to sample dilution.

A57 Chromatogram not typical of motor oil.

pH1:1 pH result reported on a 1:1 dilution of sample

Q02 Matrix spike precision is not within the control limits.

Q03 Matrix spike recovery(s) is(are) not within the control limits.

S09 The surrogate recovery on the sample for this compound was not within the control limits.

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Report ID: 1000691076 Page 71 of 71



Date of Report: 04/02/2018

Kirk Henning

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Client Project: 185850429.300.0006

BCL Project: Former Northern Landfill

BCL Work Order: 1727086

Invoice ID: B283181, B297102

Enclosed are the results of analyses for samples received by the laboratory on 9/25/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000719075

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Stuart Buttram
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101



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Total Concentrations (TTLC)	
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Report ID: 1000726004



Chain of Custody and Cooler Receipt Form for 1727086 Page 1 of 5 Chain of Custody Form STD 5 Day" 2 Day" 1 Day Result Request "Surcharge Notes System # (Needed for EDT) BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661,327,4911 - Fax: 661,327,1918 - www.bclabs.com Sample Matrix JajeM atseW Drinking Water Ground Waster Soil Analysis Requested PAS-O 101,00 08:25 33.60 55:50 24:45 Project Name: Plo Fornec Northern 00:80 Project #:185850429 200.0006 58:20 08:50 11:50 Sampled 05:19 11:45 08:40 09160 Sampler(s): Usa Remey Send Copy to State of CA? (EDT) EDF Required? **ջ** □ □ Yes □ No 2517 Geotracker ABORATORIES, INC. □ Yes SuiteA Same as above Street Address: 3437 Embresa Drive. City, State, Zipchul Luis Obispo, CA93401 Zip Email: Mickellenning@3tanter.com Description Attn: Kirk Henning HA-25-3 Phone: (805) 250-2854 Fax: JA-26-8 14-26-5 HA-26-3 44-27-8 HA-28-5 HA-27-3 3-12-4F 44-28-8 HA-200-HA-28-3 44-27-Client: Starte Ú Nork Order #: Address Client: P.O. #: Attn: ë.

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 4 of 91



Chain of Custody and Cooler Receipt Form for 1727086 Page 2 of 5 Chain of Custody Form STD [5 Day" [2 Day" [1 Day] Result Request **Surcharge Notes HOLL BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Other Sample Matrix Waste Water Ground Waster Drinking Water Sindge Analysis Requested 13:30 12:55 Sampled 3.25 Project Name: Pde forms North Project #: 185850429 300,006 Send Copy to State of CA? (EDT) Sampler(s): Am Ranes EDF Required? Geotracker 8 | □ Yes □ No 09 25 17 Sampled ABORATORIES, INC. Date □ Yes Street Address: \$427 Echarson Investige Same as above City, State, ZipiSanLuis Obispo, CA 93401 Email: Kirck, Herming Ostanter Com ğ Description State. Phone: \$05)250-2854 Fax: Attn: Kirk Hevning Work Order #: Sample Billing Address Client: -15 P.O. #: Attn: ö

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 5 of 91



Chain of Custody and Cooler Receipt Form for 1727086

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Refrigerant: Ice Blue Ic	e 🗆	No	ne 🗆	0	ther 🗆	Con	nments:	-			_		
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All samples received? Yes No D													
	A	Il sample	s contai	ners i	stact? \	es / N	lo 🛘	Desc	cription(s) r	natch CO	C? Y	es Ne	• 🗆
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ORGANIC CHEMICAL METALS 402/802/1	502			+			-	-	-	-			
CYANIDE			1	+			1	-	-				-
NITROGEN FORMS				_			+	-					
TOTAL SULFIDE				\top			_	+	_	-	-	-	-
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CHEMICAL OXYGEN DEMAND	_							1	1	1	-		-
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Chain of Custody and Cooler Receipt Form for 1727086 Page 4 of 5

BC LABORATORIES INC. Submission #: 17-2709	/		COOL	R RECEI	PT FORM				Page	2_0f_5		
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Refrigerant: Ice Blue Ice C	No	ne 🗆	Other	□ Cor	mments:							
Custody Seals Ice Chest .	Contair		No	(-	mments:							
All samples received? Yes No 🗆 🖟	All sample	s contain	ers intact?	Yes	No 🗆	Desc	ription(s) m	atch CO	72 V CV	/v- 5		
COC Received Emi	ssivity: _	0.48	Containe G. U	or: <u>CG/01</u>	SS Therm	ometer ID:	208	Date		5,2112		
SAMPLE CONTAINERS SAMPLE NUMBERS												
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DRGANIC CHEMICAL METALS 402 / 802 / 1602			1					-	-			
CYANIDE						1	-	+				
NITROGEN FORMS				1			-	-				
TOTAL SULFIDE						1	1	_	-			
L NITRATE / NITRITE						1 .	-	+	-	-		
TOTAL ORGANIC CARBON							_	-	+			
CHEMICAL OXYGEN DEMAND							1	+	_	_		
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Chain of Custody and Cooler Receipt Form for 1727086 Page 5 of 5

BC LABORATORIES INC.	101	_	С	OOLEF	RECEI	T FOR	M	-			Page	20f 3
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Custody Seals Ice Chest C	Con	tainers		None	Cor	nments	::					
	Intent?	Yes D	Vo. (7)			/						
All samples received? Yes No D	Ali san	ples con	tainers i	ntact?	es D N	• 🗆		Danasi	41			
COC Received	Emissivity	: 0.	22		calass					atch COC	775	
YES INO					,		momete	r ID: 🎉	00	. Date/	Time #	5,2112
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SAMPLE CONTAINERS				150,000,000		SAN	IPLE NU	MBERS				
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NORGANIC CHEMICAL METALS 402 / 802 /	607	-	-	-			-					
CYANIDE			-			-						
NITROGEN FORMS		_	-				-					
TOTAL SULFIDE							-	-				
L NITRATE/NITRITE				-	-		+			-		
TOTAL ORGANIC CARBON .			_							-		
CHEMICAL OXYGEN DEMAND							+-			-	-	
PHENOLICS							+-	-		-	+-	
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TERIOLOGICAL	<u> </u>						_				-	
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PA 515.1/8150		-	_								-	-
PA 525	-	-										
PA 525 TRAVEL BLANK	+	-										-
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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1727086-01 COC Number:

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-28-3 Sampled By: SISL

09/25/2017 21:12 Receive Date: Sampling Date: 09/25/2017 07:50

Sample Depth: Lab Matrix: Solids Soil Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-28-3

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727086-02 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location: HA-28-5 Sampling Point: SISL Sampled By:

09/25/2017 21:12 Receive Date: 09/25/2017 07:55 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-28-5

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

Sampling Date:

1727086-03 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location: HA-28-8 Sampling Point: SISL Sampled By:

Receive Date: 09/25/2017 21:12 09/25/2017 08:00

Sample Depth: Solids Lab Matrix: Soil Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-28-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000726004

3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727086-04 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-27-1 Sampled By: SISL **Receive Date:** 09/25/2017 21:12 **Sampling Date:** 09/25/2017 08:20

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-28-3

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727086-05 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-27-3 Sampled By: SISL **Receive Date:** 09/25/2017 21:12 **Sampling Date:** 09/25/2017 08:25

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-28-5

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727086-06 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-27-5
Sampled By: SISL

Receive Date: 09/25/2017 21:12 **Sampling Date:** 09/25/2017 08:40

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-28-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 10 of 91

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727086-07 COC Number: --

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-27-8 Sampled By: SISL **Receive Date:** 09/25/2017 21:12 **Sampling Date:** 09/25/2017 08:50

Sample Depth: ---Lab Matrix: Solids

Sample Type: Soil Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-27-1

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727086-08 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-26-1
Sampled By: SISL

Receive Date: 09/25/2017 21:12 **Sampling Date:** 09/25/2017 09:45

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-27-3

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727086-09 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-26-3
Sampled By: SISL

Receive Date: 09/25/2017 21:12

Sampling Date: 09/25/2017 09:50

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-27-5

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Page 11 of 91

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1727086-10 COC Number:

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-26-5 Sampled By: SISL

09/25/2017 21:12 Receive Date: Sampling Date: 09/25/2017 09:55

Sample Depth:

Lab Matrix: Solids Soil Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-27-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

Receive Date:

1727086-11 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location: HA-26-8 Sampling Point:

SISL Sampled By:

09/25/2017 10:00 Sampling Date:

09/25/2017 21:12

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-26-1

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727086-12 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location: HA-25-1 Sampling Point: SISL Sampled By:

Receive Date: 09/25/2017 21:12

09/25/2017 11:45 Sampling Date: Sample Depth:

Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-26-3

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

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4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Report ID: 1000726004

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727086-13 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-25-3 Sampled By: SISL **Receive Date:** 09/25/2017 21:12 **Sampling Date:** 09/25/2017 11:50

Sample Depth: ---

Lab Matrix: Solids Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-26-5

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727086-14 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-25-5 Sampled By: SISL **Receive Date:** 09/25/2017 21:12 **Sampling Date:** 09/25/2017 11:55

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-26-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727086-15 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-25-8
Sampled By: SISL

Receive Date: 09/25/2017 21:12 **Sampling Date:** 09/25/2017 12:55

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-25-1

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 13 of 91

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727086-16 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-24-1 Sampled By: SISL **Receive Date:** 09/25/2017 21:12 **Sampling Date:** 09/25/2017 13:25

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-25-3

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727086-17 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-24-3
Sampled By: SISL

Receive Date: 09/25/2017 21:12 **Sampling Date:** 09/25/2017 13:30

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-25-5

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727086-18 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-24-5
Sampled By: SISL

Receive Date: 09/25/2017 21:12 **Sampling Date:** 09/25/2017 13:35

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-25-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

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Stantec - SLO 3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-01	Client Sampl	e Name:	Former N	lorthern La	ndfill, HA-28-3, 9/2	D:00AM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	te)	64.9	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 23:23	AS1	GC-13	0.997	B[J0322	

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Report ID: 1000726004

Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-02	Client Sampl	nple Name: Former Northern Landfill, HA-28-5, 9/25/2017 7:55:00AM								
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogate	e)	54.2	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 23:00	AS1	GC-13	1	B[J0322		

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-03	Client Sampl	Former N	Former Northern Landfill, HA-28-8, 9/25/2017 8:00:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	re)	79.7	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run			QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 22:37	AS1	GC-13	0.987	B[J0322		

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-04	Client Sampl	e Name:	Former Northern Landfill, HA-27-1, 9/25/2017 8:20:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	400	100	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	200	24	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		2300	mg/kg	400	130	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	79.8	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 19:58	AS1	GC-13	20	B[J0322		

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Report ID: 1000726004

Stantec - SLO Reported:

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

04/02/2018 11:13

BCL Sample ID:	1727086-05	Client Sampl	Former N	Former Northern Landfill, HA-27-3, 9/25/2017 8:25:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	430	110	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	210	26	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		2300	mg/kg	430	140	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	te)	96.4	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 19:35	AS1	GC-13	21.429	B[J0322		

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Stantec - SLO Reported: 04/02/2018 11:13

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A

Project Number: 185850429.300.0006 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-06	Client Sampl	Former N	Former Northern Landfill, HA-27-5, 9/25/2017 8:40:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		210	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	86.2	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run			QC		
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 21:05	AS1	GC-13	1.014	B[J0322	

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Report ID: 1000726004



Reported: 04/02/2018 11:13

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-07	Client Sampl	e Name:	Former Northern Landfill, HA-27-8, 9/25/2017 8:50:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		30	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	44.2	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run			QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	09/29/17 11:30	10/08/17 08:51	AS1	GC-13	1.010	B[J0322		

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3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

BCL Sample ID:	1727086-08	Client Sampl	e Name:	Former N	orthern Lar	ndfill, HA-26-1, 9	ill, HA-26-1, 9/25/2017 9:45:00AM				
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
Aldrin		ND	mg/kg	0.068	0.0046	EPA-8080	ND	A10	1		
alpha-BHC		ND	mg/kg	0.068	0.018	EPA-8080	ND	A10	1		
beta-BHC		ND	mg/kg	0.068	0.020	EPA-8080	ND	A10	1		
delta-BHC		ND	mg/kg	0.068	0.0064	EPA-8080	ND	A10	1		
gamma-BHC (Lindane)		ND	mg/kg	0.068	0.011	EPA-8080	ND	A10	1		
Chlordane (Technical)		ND	mg/kg	6.8	0.23	EPA-8080	ND	A10	1		
4,4'-DDD		ND	mg/kg	0.068	0.029	EPA-8080	ND	A10	1		
4,4'-DDE		ND	mg/kg	0.068	0.0027	EPA-8080	ND	A10	1		
4,4'-DDT		ND	mg/kg	0.068	0.013	EPA-8080	ND	A10	1		
Dieldrin		ND	mg/kg	0.068	0.011	EPA-8080	ND	A10	1		
Endosulfan I		ND	mg/kg	0.068	0.0030	EPA-8080	ND	A10	1		
Endosulfan II		ND	mg/kg	0.068	0.019	EPA-8080	ND	A10	1		
Endosulfan sulfate		ND	mg/kg	0.068	0.046	EPA-8080	ND	A10	1		
Endrin		ND	mg/kg	0.068	0.012	EPA-8080	ND	A10	1		
Endrin aldehyde		ND	mg/kg	0.068	0.031	EPA-8080	ND	A10	1		
Heptachlor		ND	mg/kg	0.068	0.0049	EPA-8080	ND	A10	1		
Heptachlor epoxide		ND	mg/kg	0.068	0.0023	EPA-8080	ND	A10	1		
Methoxychlor		ND	mg/kg	0.068	0.029	EPA-8080	ND	A10	1		
Toxaphene		ND	mg/kg	6.8	1.3	EPA-8080	ND	A10	1		
PCB-1016		ND	mg/kg	1.4	0.53	EPA-8080	ND	A10	1		
PCB-1221		ND	mg/kg	1.4	0.98	EPA-8080	ND	A10	1		
PCB-1232		ND	mg/kg	1.4	1.0	EPA-8080	ND	A10	1		
PCB-1242		ND	mg/kg	1.4	0.57	EPA-8080	ND	A10	1		
PCB-1248		ND	mg/kg	1.4	0.95	EPA-8080	ND	A10	1		
PCB-1254		ND	mg/kg	1.4	0.44	EPA-8080	ND	A10	1		
PCB-1260		ND	mg/kg	1.4	0.40	EPA-8080	ND	A10	1		
Total PCB's (Summation)		ND	mg/kg	1.4	0.68	EPA-8080	ND	A10	1		
TCMX (Surrogate)		51.6	%	20 - 130 (LC	CL - UCL)	EPA-8080		A10	1		
Decachlorobiphenyl (Surro	ogate)	105	%	40 - 130 (LC	CL - UCL)	EPA-8080		A10	1		

			Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8080	09/29/17 10:30	09/29/17 18:19	HKS	GC-17	136.36	B[I2784	

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3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

BCL Sample ID:	1727086-08	Client Sampl	e Name:	Former No	Former Northern Landfill, HA-26-1, 9/25/2017 9:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
Azinphos methyl		ND	mg/kg	0.30	0.22	EPA-8141A	ND		1		
Bolstar		ND	mg/kg	0.30	0.066	EPA-8141A	ND		1		
Chlorpyrifos		ND	mg/kg	0.30	0.042	EPA-8141A	ND		1		
Coumaphos		ND	mg/kg	0.30	0.24	EPA-8141A	ND		1		
Demeton O/S		ND	mg/kg	0.30	0.10	EPA-8141A	ND		1		
Diazinon		ND	mg/kg	0.30	0.072	EPA-8141A	ND		1		
Dichlorvos		ND	mg/kg	0.30	0.027	EPA-8141A	ND		1		
Disulfoton		ND	mg/kg	0.30	0.057	EPA-8141A	ND		1		
Ethoprop		ND	mg/kg	0.30	0.036	EPA-8141A	ND		1		
Fensulfothion		ND	mg/kg	0.30	0.17	EPA-8141A	ND		1		
Fenthion		ND	mg/kg	0.30	0.063	EPA-8141A	ND		1		
Merphos		ND	mg/kg	0.30	0.057	EPA-8141A	ND		1		
Methyl parathion		ND	mg/kg	0.30	0.075	EPA-8141A	ND		1		
Mevinphos		ND	mg/kg	0.30	0.072	EPA-8141A	ND		1		
Naled		ND	mg/kg	0.30	0.13	EPA-8141A	ND		1		
Phorate		ND	mg/kg	0.30	0.078	EPA-8141A	ND		1		
Ronnel (Fenchlorphos)	ND	mg/kg	0.30	0.042	EPA-8141A	ND		1		
Stirophos (Tetrachlorvi	nphos)	ND	mg/kg	0.30	0.060	EPA-8141A	ND		1		
Tokuthion (Prothiofos)		ND	mg/kg	0.30	0.051	EPA-8141A	ND		1		
Trichloronate		ND	mg/kg	0.30	0.039	EPA-8141A	ND		1		
Triphenylphosphate (S	urrogate)	41.4	%	40 - 120 (LC	L - UCL)	EPA-8141A			1		

Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8141A	09/28/17 08:00	09/29/17 14:13	RSM	GC-18	30	B[I2698	

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MU

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

BCL Sample ID:	1727086-08	Client Sampl	e Name:	Former No	orthern Lai	rn Landfill, HA-26-1, 9/25/2017 9:45:00AM					
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
2,4-D		ND	mg/kg	0.55	0.16	EPA-8151A	ND		1		
2,4-DB		ND	mg/kg	1.1	0.46	EPA-8151A	ND		1		
Dalapon		ND	mg/kg	1.4	0.93	EPA-8151A	ND		1		
Dicamba		ND	mg/kg	0.055	0.044	EPA-8151A	ND		1		
Dichloroprop		ND	mg/kg	0.55	0.15	EPA-8151A	ND		1		
Dinoseb		ND	mg/kg	0.19	0.065	EPA-8151A	ND		1		
2,4,5-T		ND	mg/kg	0.082	0.035	EPA-8151A	ND		1		
2,4,5-TP (Silvex)		ND	mg/kg	0.082	0.033	EPA-8151A	ND		1		
2,4-Dichlorophenylace (Surrogate)	tic acid	8.5	%	40 - 120 (LC	L - UCL)	EPA-8151A		S09	1		

			Run			QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8151A	09/28/17 08:30	09/29/17 15:18	MSB	GC-8	27.273	B[I2744			

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Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Reported: 04/02/2018 11:13

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1727086-08	Client Sampl	e Name:	Former Northern Landfill, HA-26-1, 9/25/2017 9:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
Benzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND	Quais	1	
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B	ND		1	
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B	ND		1	
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1	
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1	
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1	
sec-Butylbenzene		0.0017	mg/kg	0.0050	0.0012	EPA-8260B	ND	J	1	
ert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1	
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1	
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B	ND		1	
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1	
-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B	ND		1	
,2-Dibromo-3-chloroprop	oane	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1	
,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B	ND		1	
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1	
,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1	
,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1	
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B	ND		1	
,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1	
is-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
rans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1	
,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1	
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 17	27086-08	Client Sample	e Name:	Former No	Former Northern Landfill, HA-26-1, 9/25/2017 9:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
cis-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1		
trans-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1		
Ethylbenzene		0.0024	mg/kg	0.0050	0.0015	EPA-8260B	ND	J	1		
Hexachlorobutadiene		ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1		
sopropylbenzene		0.0019	mg/kg	0.0050	0.0013	EPA-8260B	ND	J	1		
p-Isopropyltoluene		0.0025	mg/kg	0.0050	0.0013	EPA-8260B	ND	J	1		
Methylene chloride		ND	mg/kg	0.010	0.0024	EPA-8260B	ND		1		
Methyl t-butyl ether		ND	mg/kg	0.0050	0.00050	EPA-8260B	ND		1		
Naphthalene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1		
n-Propylbenzene		0.0019	mg/kg	0.0050	0.0013	EPA-8260B	ND	J	1		
Styrene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1		
1,1,1,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1		
1,1,2,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1		
Tetrachloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1		
Toluene Toluene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1		
1,2,3-Trichlorobenzene		ND	mg/kg	0.0050	0.0021	EPA-8260B	ND		1		
1,2,4-Trichlorobenzene		ND	mg/kg	0.0050	0.0020	EPA-8260B	ND		1		
1,1,1-Trichloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1		
1,1,2-Trichloroethane		ND	mg/kg	0.0050	0.00077	EPA-8260B	ND		1		
Trichloroethene		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1		
Frichlorofluoromethane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1		
1,2,3-Trichloropropane		ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1		
1,1,2-Trichloro-1,2,2-trifluoro	ethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1		
1,2,4-Trimethylbenzene		0.0079	mg/kg	0.0050	0.0013	EPA-8260B	ND		1		
1,3,5-Trimethylbenzene		0.0047	mg/kg	0.0050	0.0015	EPA-8260B	ND	J	1		
Vinyl chloride		ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1		
Total Xylenes		0.0089	mg/kg	0.010	0.0034	EPA-8260B	ND	J	1		
o- & m-Xylenes		0.0040	mg/kg	0.0050	0.0022	EPA-8260B	ND	J	1		
o-Xylene		0.0048	mg/kg	0.0050	0.0012	EPA-8260B	ND	J	1		
1,2-Dichloroethane-d4 (Surro	gate)	108	%	70 - 121 (LC	L - UCL)	EPA-8260B			1		
Toluene-d8 (Surrogate)		94.7	%	81 - 117 (LC	L - UCL)	EPA-8260B			1		
4-Bromofluorobenzene (Surre	ogate)	96.7	%	74 - 121 (LC	L - UCL)	EPA-8260B			1		

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3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401 **Reported:** 04/02/2018 11:13

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID	D : 1727086-08	Client San	nple Name:	Former Northe	hern Landfill, HA-26-1, 9/25/2017 9:45:00AM QC Instrument Dilution Batch ID				
Run #	Method	Prep Date	Run Date/Time	Analyst					
1	EPA-8260B	09/28/17 06:00	10/06/17 10:07	ADC	MS-V2	1	B[I2607		

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 27 of 91

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1727086-08	Client Sampl	e Name:	Former No	Former Northern Landfill, HA-26-1, 9/25/2017 9:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
Acenaphthene		ND	mg/kg	0.90	0.36	EPA-8270C-SIM	ND	40.0	1		
Acenaphthylene		ND	mg/kg	0.90	0.33	EPA-8270C-SIM	ND		1		
Anthracene		1.8	mg/kg	0.90	0.36	EPA-8270C-SIM	ND		1		
Benzo[a]anthracene		1.5	mg/kg	0.90	0.33	EPA-8270C-SIM	ND		1		
Benzo[b]fluoranthene		ND	mg/kg	0.90	0.28	EPA-8270C-SIM	ND		1		
Benzo[k]fluoranthene		ND	mg/kg	0.90	0.33	EPA-8270C-SIM	ND		1		
Benzo[a]pyrene		1.6	mg/kg	0.90	0.28	EPA-8270C-SIM	ND		1		
Benzo[g,h,i]perylene		3.7	mg/kg	0.90	0.33	EPA-8270C-SIM	ND		1		
Chrysene		3.1	mg/kg	0.90	0.29	EPA-8270C-SIM	ND		1		
Dibenzo[a,h]anthracene		ND	mg/kg	0.90	0.30	EPA-8270C-SIM	ND		1		
Fluoranthene		ND	mg/kg	0.90	0.42	EPA-8270C-SIM	ND		1		
Fluorene		ND	mg/kg	0.90	0.33	EPA-8270C-SIM	ND		1		
Indeno[1,2,3-cd]pyrene		ND	mg/kg	0.90	0.28	EPA-8270C-SIM	ND		1		
Naphthalene		2.6	mg/kg	0.90	0.33	EPA-8270C-SIM	ND		1		
Phenanthrene		1.5	mg/kg	0.90	0.36	EPA-8270C-SIM	ND		1		
Pyrene		ND	mg/kg	0.90	0.45	EPA-8270C-SIM	ND		1		
Nitrobenzene-d5 (Surrog	ate)	37.5	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM			1		
2-Fluorobiphenyl (Surrog	ate)	45.0	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM			1		
p-Terphenyl-d14 (Surrog	ate)	50.0	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM			1		

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8270C-SIM	09/29/17 11:00	10/03/17 14:11	MSB	MS-B7	300	B[J0320	

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Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13 Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-08	Client Sampl	Former No	Former Northern Landfill, HA-26-1, 9/25/2017 9:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH - Gasoline		ND	mg/kg	2700	680	EPA-8015B/FFP	ND	A01	1	
TPH - Diesel (FFP)		ND	mg/kg	1400	160	EPA-8015B/FFP	ND	A01	1	
TPH - Motor Oil		13000	mg/kg	2700	890	EPA-8015B/FFP	ND	A01	1	
Tetracosane (Surrogat	e)	49.9	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP		A01	1	

		Run				QC		
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 11:22	AS1	GC-13	136.36	B[J0322	

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Report ID: 1000726004



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Chemical Analysis

BCL Sample ID:	1727086-08	Client Samp	le Name:	Former N	Former Northern Landfill, HA-26-1, 9/25/2017 9:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
Total Cyanide		0.73	mg/kg	0.50	0.15	EPA-9012	ND		1		
pH		7.32	pH Units	0.05	0.05	EPA-9045D	ND	pH1:1	2		
pH Measurement Ten	nperature	19.2	С	0.1	0.1	EPA-9045D	ND		2		

			Run						
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-9012	10/02/17 09:48	10/04/17 09:05	RCC	KONE-1	0.980	B[J0027		
2	EPA-9045D	10/03/17 10:30	10/03/17 10:30	DIW	PH10	1	B[J0223		

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Concentrations (TTLC)

BCL Sample ID:	1727086-08	Client Sampl	e Name:	Former Northern Landfill, HA-26-1, 9/25/2017 9:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	ND	Quuio	1	
Arsenic		1.4	mg/kg	1.0	0.40	EPA-6010B	ND		1	
Barium		14	mg/kg	0.50	0.18	EPA-6010B	ND		2	
Beryllium		0.16	mg/kg	0.50	0.047	EPA-6010B	ND	J	2	
Cadmium		0.55	mg/kg	0.50	0.052	EPA-6010B	ND		1	
Chromium		20	mg/kg	0.50	0.050	EPA-6010B	ND		2	
Total Hexavalent Chro	mium	2.4	mg/kg	1.0	0.30	EPA-7199	ND		3	
Cobalt		2.9	mg/kg	2.5	0.098	EPA-6010B	ND		1	
Copper		7.2	mg/kg	1.0	0.050	EPA-6010B	0.077		2	
Lead		9.7	mg/kg	2.5	0.28	EPA-6010B	ND		2	
Mercury		0.13	mg/kg	0.16	0.019	EPA-7471A	ND	J	4	
Molybdenum		24	mg/kg	2.5	0.050	EPA-6010B	ND		2	
Nickel		130	mg/kg	0.50	0.15	EPA-6010B	ND		2	
Selenium		1.1	mg/kg	1.0	0.98	EPA-6010B	ND		1	
Silver		ND	mg/kg	0.50	0.067	EPA-6010B	ND		1	
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	ND		2	
Vanadium		230	mg/kg	0.50	0.11	EPA-6010B	ND		2	
Zinc		33	mg/kg	2.5	0.087	EPA-6010B	0.21		1	

			Run				QC
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-6010B	10/09/17 11:20	10/09/17 22:40	JCC	PE-OP3	0.980	B[J0797
2	EPA-6010B	10/09/17 11:20	10/10/17 13:55	JCC	PE-OP3	0.980	B[J0797
3	EPA-7199	10/04/17 08:55	10/05/17 16:52	EMW	IC-4	1	B[J0037
4	EPA-7471A	10/03/17 10:45	10/03/17 14:05	MEV	CETAC2	1.025	B[J0196

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-09	Client Sampl	Client Sample Name:		Former Northern Landfill, HA-26-3, 9/25/2017 9:50:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	430	110	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	210	26	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		210	mg/kg	430	140	EPA-8015B/FFP	ND	J	1		
Tetracosane (Surrogate	e)	68.4	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 16:12	AS1	GC-13	21.429	B[J0322	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Concentrations (TTLC)

BCL Sample ID:	1727086-09	Client Sampl	e Name:	Former N	orthern Lar	ndfill, HA-26-3, 9/	/25/2017 9:50):00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	ND	Quais	1
Arsenic		1.8	mg/kg	1.0	0.40	EPA-6010B	ND		1
Barium		15	mg/kg	0.50	0.18	EPA-6010B	ND		1
Beryllium		0.13	mg/kg	0.50	0.047	EPA-6010B	ND	J	1
Cadmium		0.21	mg/kg	0.50	0.052	EPA-6010B	ND	J	1
Chromium		8.8	mg/kg	0.50	0.050	EPA-6010B	0.16		1
Total Hexavalent Chro	mium	0.60	mg/kg	1.0	0.30	EPA-7199	ND	J,S05	2
Cobalt		1.3	mg/kg	2.5	0.098	EPA-6010B	ND	J	1
Copper		2.4	mg/kg	1.0	0.050	EPA-6010B	ND		1
Lead		2.3	mg/kg	2.5	0.28	EPA-6010B	ND	J	1
Mercury		ND	mg/kg	0.16	0.019	EPA-7471A	ND	S05	3
Molybdenum		2.8	mg/kg	2.5	0.050	EPA-6010B	0.059		1
Nickel		7.6	mg/kg	0.50	0.15	EPA-6010B	ND		1
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	ND		1
Silver		ND	mg/kg	0.50	0.067	EPA-6010B	ND		1
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	ND		1
Vanadium		14	mg/kg	0.50	0.11	EPA-6010B	ND		1
Zinc		15	mg/kg	2.5	0.087	EPA-6010B	1.1		1

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-6010B	03/02/18 18:35	03/05/18 12:45	JCC	PE-OP3	1	B006562
2	EPA-7199	03/05/18 10:05	03/06/18 15:18	SAV	IC-4	1	B006616
3	EPA-7471A	03/02/18 10:55	03/05/18 14:10	JP1	CETAC2	0.992	B006519

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-10	Client Sampl	Client Sample Name:		Former Northern Landfill, HA-26-5, 9/25/2017 9:55:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		38	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	38.6	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 11:30	10/08/17 09:15	AS1	GC-13	1.014	B[J0322	

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Reported: 04/02/2018 11:13 Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-11	Client Sampl	Client Sample Name:		Former Northern Landfill, HA-26-8, 9/25/2017 10:00:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		44	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogate	e)	97.6	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 17:42	AS1	GC-13	0.993	B[J0322	

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3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-12	Client Sampl	Former N	Former Northern Landfill, HA-25-1, 9/25/2017 11:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	400	100	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	200	24	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	400	130	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	94.2	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run			QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 20:43	AS1	GC-13	20	B[J0322		

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Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-13	Client Sampl	Former N	Former Northern Landfill, HA-25-3, 9/25/2017 11:50:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH - Gasoline		ND	mg/kg	430	110	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	210	26	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		1800	mg/kg	430	140	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	103	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1	

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 20:20	AS1	GC-13	21.429	B[J0322	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-14	Client Sampl	Former N	Former Northern Landfill, HA-25-5, 9/25/2017 11:55:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	460	120	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	230	28	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		510	mg/kg	460	150	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	89.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 18:28	AS1	GC-13	23.077	B[J0322	

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San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-15	Client Sampl	Former N	Former Northern Landfill, HA-25-8, 9/25/2017 12:55:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		39	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	79.8	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

			Run				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 18:05	AS1	GC-13	1.003	B[J0322			

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Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

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Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-16	Client Sampl	t Sample Name: Former Northern Landfill, HA-24-1, 9/25/2017 1:25:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	430	110	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	210	26	EPA-8015B/FFP	ND		1
TPH - Motor Oil		3100	mg/kg	430	140	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	re)	76.9	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 19:13	AS1	GC-13	21.429	B[J0322	

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Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-17	Client Sampl	Former N	Former Northern Landfill, HA-24-3, 9/25/2017 1:30:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	460	120	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	230	28	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		2000	mg/kg	460	150	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	te)	65.7	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run			QC		
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 18:50	AS1	GC-13	23.077	B[J0322	

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Suite A

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Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727086-18	Client Sampl	le Name:	Former N	Former Northern Landfill, HA-24-5, 9/25/2017 1:35:00PM								
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#				
TPH - Gasoline		ND	mg/kg	40	10	EPA-8015B/FFP	ND	A01	1				
TPH - Diesel (FFP)		ND	mg/kg	20	2.4	EPA-8015B/FFP	ND	A01	1				
TPH - Motor Oil		400	mg/kg	40	13	EPA-8015B/FFP	ND	A01	1				
Tetracosane (Surrogat	re)	83.4	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP		A01	1				

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 11:30	10/06/17 10:59	AS1	GC-13	2	B[J0322	

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Mul

Stantec - SLO

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Suite A

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Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006
Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[I2784						
Aldrin	B[I2784-BLK1	ND	mg/kg	0.00050	0.000034	
alpha-BHC	B[I2784-BLK1	ND	mg/kg	0.00050	0.00013	
beta-BHC	B[I2784-BLK1	ND	mg/kg	0.00050	0.00015	
delta-BHC	B[I2784-BLK1	ND	mg/kg	0.00050	0.000047	
gamma-BHC (Lindane)	B[I2784-BLK1	ND	mg/kg	0.00050	0.000082	
Chlordane (Technical)	B[I2784-BLK1	ND	mg/kg	0.050	0.0017	
4,4'-DDD	B[I2784-BLK1	ND	mg/kg	0.00050	0.00021	
4,4'-DDE	B[I2784-BLK1	ND	mg/kg	0.00050	0.000020	
4,4'-DDT	B[I2784-BLK1	ND	mg/kg	0.00050	0.000093	
Dieldrin	B[I2784-BLK1	ND	mg/kg	0.00050	0.000079	
Endosulfan I	B[I2784-BLK1	ND	mg/kg	0.00050	0.000022	
Endosulfan II	B[I2784-BLK1	ND	mg/kg	0.00050	0.00014	
Endosulfan sulfate	B[I2784-BLK1	ND	mg/kg	0.00050	0.00034	
Endrin	B[I2784-BLK1	ND	mg/kg	0.00050	0.000091	
Endrin aldehyde	B[I2784-BLK1	ND	mg/kg	0.00050	0.00023	
Heptachlor	B[I2784-BLK1	ND	mg/kg	0.00050	0.000036	
Heptachlor epoxide	B[I2784-BLK1	ND	mg/kg	0.00050	0.000017	
Methoxychlor	B[I2784-BLK1	ND	mg/kg	0.00050	0.00021	
Toxaphene	B[I2784-BLK1	ND	mg/kg	0.050	0.0094	
PCB-1016	B[I2784-BLK1	ND	mg/kg	0.010	0.0039	
PCB-1221	B[I2784-BLK1	ND	mg/kg	0.010	0.0072	
PCB-1232	B[I2784-BLK1	ND	mg/kg	0.010	0.0074	
PCB-1242	B[I2784-BLK1	ND	mg/kg	0.010	0.0042	
PCB-1248	B[I2784-BLK1	ND	mg/kg	0.010	0.0070	
PCB-1254	B[I2784-BLK1	ND	mg/kg	0.010	0.0032	
PCB-1260	B[I2784-BLK1	ND	mg/kg	0.010	0.0029	
Total PCB's (Summation)	B[I2784-BLK1	ND	mg/kg	0.010 0.0050		
TCMX (Surrogate)	B[I2784-BLK1	91.0	%	20 - 13		
Decachlorobiphenyl (Surrogate)	B[I2784-BLK1	130	%	40 - 13		

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Stantec - SLO Reported: 04/02/2018 11:13

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401

Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Laboratory Control Sample

							Control Limits			
Constituent	QC Sample ID	Typo	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	KFD	Recovery	KFD	Quais
QC Batch ID: B[I2784										
Aldrin	B[I2784-BS1	LCS	0.0048824	0.0049834	mg/kg	98.0		70 - 130		
gamma-BHC (Lindane)	B[I2784-BS1	LCS	0.0050904	0.0049834	mg/kg	102		60 - 140		
4,4'-DDT	B[I2784-BS1	LCS	0.0064053	0.0049834	mg/kg	129		60 - 140		
Dieldrin	B[I2784-BS1	LCS	0.0051864	0.0049834	mg/kg	104		70 - 130		
Endrin	B[I2784-BS1	LCS	0.0045379	0.0049834	mg/kg	91.1		60 - 140		
Heptachlor	B[I2784-BS1	LCS	0.0049306	0.0049834	mg/kg	98.9		60 - 140		
TCMX (Surrogate)	B[I2784-BS1	LCS	0.010147	0.0099668	mg/kg	102		20 - 130		
Decachlorobiphenyl (Surrogate)	B[I2784-BS1	LCS	0.025402	0.019934	mg/kg	127		40 - 130		

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Suite A

San Luis Obispo, CA 93401

04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Precision & Accuracy

									Control Limits				
		Source	Source		Spike			Percent		Percent	Lab		
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals		
QC Batch ID: B[I2784	Use	d client samp	ole: N										
Aldrin	MS	1724840-81	ND	0.0048136	0.0049669	mg/kg		96.9		50 - 140			
	MSD	1724840-81	ND	0.0049128	0.0050505	mg/kg	2.0	97.3	30	50 - 140			
gamma-BHC (Lindane)	MS	1724840-81	ND	0.0050825	0.0049669	mg/kg		102		50 - 140			
	MSD	1724840-81	ND	0.0051684	0.0050505	mg/kg	1.7	102	30	50 - 140			
4,4'-DDT	MS	1724840-81	ND	0.0063424	0.0049669	mg/kg		128		50 - 140			
	MSD	1724840-81	ND	0.0060677	0.0050505	mg/kg	4.4	120	30	50 - 140			
Dieldrin	MS	1724840-81	ND	0.0051854	0.0049669	mg/kg		104		40 - 140			
	MSD	1724840-81	ND	0.0052963	0.0050505	mg/kg	2.1	105	30	40 - 140			
Endrin	MS	1724840-81	ND	0.0044066	0.0049669	mg/kg		88.7		50 - 150			
	MSD	1724840-81	ND	0.0044465	0.0050505	mg/kg	0.9	88.0	30	50 - 150			
Heptachlor	MS	1724840-81	ND	0.0048765	0.0049669	mg/kg		98.2		60 - 140			
	MSD	1724840-81	ND	0.0049808	0.0050505	mg/kg	2.1	98.6	30	60 - 140			
TCMX (Surrogate)	MS	1724840-81	ND	0.0098695	0.0099338	mg/kg		99.4		20 - 130			
	MSD	1724840-81	ND	0.010062	0.010101	mg/kg	1.9	99.6		20 - 130			
Decachlorobiphenyl (Surrogate)	MS	1724840-81	ND	0.025393	0.019868	mg/kg		128		40 - 130			
	MSD	1724840-81	ND	0.024887	0.020202	mg/kg	2.0	123		40 - 130			

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Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[I2698						
Azinphos methyl	B[I2698-BLK1	ND	mg/kg	0.010	0.0073	
Bolstar	B[I2698-BLK1	ND	mg/kg	0.010	0.0022	
Chlorpyrifos	B[I2698-BLK1	ND	mg/kg	0.010	0.0014	
Coumaphos	B[I2698-BLK1	ND	mg/kg	0.010	0.0081	
Demeton O/S	B[I2698-BLK1	ND	mg/kg	0.010	0.0034	
Diazinon	B[I2698-BLK1	ND	mg/kg	0.010	0.0024	
Dichlorvos	B[I2698-BLK1	ND	mg/kg	0.010	0.00091	
Disulfoton	B[I2698-BLK1	ND	mg/kg	0.010	0.0019	
Ethoprop	B[I2698-BLK1	ND	mg/kg	0.010	0.0012	
Fensulfothion	B[I2698-BLK1	ND	mg/kg	0.010	0.0056	
Fenthion	B[I2698-BLK1	ND	mg/kg	0.010	0.0021	
Merphos	B[I2698-BLK1	ND	mg/kg	0.010	0.0019	
Methyl parathion	B[I2698-BLK1	ND	mg/kg	0.010	0.0025	
Mevinphos	B[I2698-BLK1	ND	mg/kg	0.010	0.0024	
- Naled	B[I2698-BLK1	ND	mg/kg	0.010	0.0043	
Phorate	B[I2698-BLK1	ND	mg/kg	0.010	0.0026	
Ronnel (Fenchlorphos)	B[I2698-BLK1	ND	mg/kg	0.010	0.0014	
Stirophos (Tetrachlorvinphos)	B[I2698-BLK1	ND	mg/kg	0.010	0.0020	
Tokuthion (Prothiofos)	B[I2698-BLK1	ND	mg/kg	0.010	0.0017	
Trichloronate	B[I2698-BLK1	ND	mg/kg	0.010	0.0013	
Triphenylphosphate (Surrogate)	B[I2698-BLK1	50.4	%	40 - 12	(LCL - UCL)	

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> Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

Quality Control Report - Laboratory Control Sample

	•		•		•		•				
								Control Limits			
				Spike		Percent		Percent		Lab	
Constituent	QC Sample ID	Type	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals	
QC Batch ID: B[I2698											
Bolstar	B[I2698-BS1	LCS	0.060984	0.065574	mg/kg	93.0		50 - 130			
Chlorpyrifos	B[I2698-BS1	LCS	0.057049	0.065574	mg/kg	87.0		60 - 140			
Diazinon	B[I2698-BS1	LCS	0.042131	0.065574	mg/kg	64.2		40 - 120			
Methyl parathion	B[I2698-BS1	LCS	0.066393	0.065574	mg/kg	101		60 - 120			
Mevinphos	B[I2698-BS1	LCS	0.068361	0.065574	mg/kg	104		50 - 120			
Ronnel (Fenchlorphos)	B[I2698-BS1	LCS	0.064426	0.065574	mg/kg	98.2		50 - 120			
Stirophos (Tetrachlorvinphos)	B[I2698-BS1	LCS	0.091148	0.065574	mg/kg	139		60 - 140			
Triphenylphosphate (Surrogate)	B[I2698-BS1	LCS	0.075082	0.081967	mg/kg	91.6		40 - 120			

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Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[I2698	Use	d client samp	ole: N								
Bolstar	MS	1727295-01	ND	0.066337	0.066007	mg/kg		100		40 - 140	
	MSD	1727295-01	ND	0.062957	0.066445	mg/kg	5.2	94.7	30	40 - 140	
Chlorpyrifos	MS	1727295-01	ND	0.071617	0.066007	mg/kg		108		40 - 130	
	MSD	1727295-01	ND	0.061960	0.066445	mg/kg	14.5	93.2	30	40 - 130	
Diazinon	MS	1727295-01	ND	0.062046	0.066007	mg/kg		94.0		40 - 120	
	MSD	1727295-01	ND	0.063621	0.066445	mg/kg	2.5	95.8	30	40 - 120	
Methyl parathion	MS	1727295-01	ND	0.074092	0.066007	mg/kg		112		40 - 125	
	MSD	1727295-01	ND	0.072259	0.066445	mg/kg	2.5	109	30	40 - 125	
Mevinphos	MS	1727295-01	ND	0.10083	0.066007	mg/kg		153		40 - 140	Q03
	MSD	1727295-01	ND	0.099834	0.066445	mg/kg	1.0	150	30	40 - 140	Q03
Ronnel (Fenchlorphos)	MS	1727295-01	ND	0.071452	0.066007	mg/kg		108		40 - 120	
	MSD	1727295-01	ND	0.069435	0.066445	mg/kg	2.9	104	30	40 - 120	
Stirophos (Tetrachlorvinphos)	MS	1727295-01	ND	0.11848	0.066007	mg/kg		179		40 - 140	Q03
	MSD	1727295-01	ND	0.11429	0.066445	mg/kg	3.6	172	30	40 - 140	Q03
Triphenylphosphate (Surrogate)	MS	1727295-01	ND	0.080528	0.082508	mg/kg		97.6		40 - 120	
	MSD	1727295-01	ND	0.071927	0.083056	mg/kg	11.3	86.6		40 - 120	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[I2744						
2,4-D	B[I2744-BLK1	ND	mg/kg	0.020	0.0058	
2,4-DB	B[I2744-BLK1	ND	mg/kg	0.040	0.017	
Dalapon	B[I2744-BLK1	ND	mg/kg	0.050	0.034	
Dicamba	B[I2744-BLK1	ND	mg/kg	0.0020	0.0016	
Dichloroprop	B[I2744-BLK1	ND	mg/kg	0.020	0.0055	
Dinoseb	B[I2744-BLK1	ND	mg/kg	0.0070	0.0024	
2,4,5-T	B[I2744-BLK1	ND	mg/kg	0.0030	0.0013	
2,4,5-TP (Silvex)	B[I2744-BLK1	ND	mg/kg	0.0030	0.0012	
2,4-Dichlorophenylacetic acid (Surrogate)	B[I2744-BLK1	87.8	%	40 - 12	0 (LCL - UCL)	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Laboratory Control Sample

							Control Limits			
Constituent	OC Commis ID	Time	Deeult	Spike	Umita	Percent	BDD	Percent	DDD	Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: B[I2744										
2,4-D	B[I2744-BS1	LCS	0.069799	0.080537	mg/kg	86.7		50 - 120		
2,4-DB	B[I2744-BS1	LCS	0.17685	0.18121	mg/kg	97.6		50 - 120		
Dicamba	B[I2744-BS1	LCS	0.017785	0.020134	mg/kg	88.3		50 - 120		
Dichloroprop	B[I2744-BS1	LCS	0.069463	0.080537	mg/kg	86.2		50 - 120		
Dinoseb	B[I2744-BS1	LCS	0.036913	0.040268	mg/kg	91.7		50 - 120		
2,4,5-T	B[I2744-BS1	LCS	0.019463	0.020134	mg/kg	96.7		30 - 120		
2,4,5-TP (Silvex)	B[I2744-BS1	LCS	0.020470	0.020134	mg/kg	102		50 - 120		
2,4-Dichlorophenylacetic acid (Surrogate	e) B[I2744-BS1	LCS	0.11040	0.13423	mg/kg	82.2		40 - 120		

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Precision & Accuracy

									Control Limits		
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[I2744	Use	ed client samp	ole: N								
2,4-D	MS	1727295-01	ND	0.067763	0.078947	mg/kg		85.8		40 - 120	
	MSD	1727295-01	ND	0.055932	0.081356	mg/kg	19.1	68.8	30	40 - 120	
2,4-DB	MS	1727295-01	ND	0.17039	0.17763	mg/kg		95.9		50 - 120	
	MSD	1727295-01	ND	0.14712	0.18305	mg/kg	14.7	80.4	30	50 - 120	
Dicamba	MS	1727295-01	ND	0.017434	0.019737	mg/kg		88.3		50 - 120	
	MSD	1727295-01	ND	0.014237	0.020339	mg/kg	20.2	70.0	30	50 - 120	
Dichloroprop	MS	1727295-01	ND	0.066776	0.078947	mg/kg		84.6		40 - 120	
	MSD	1727295-01	ND	0.052542	0.081356	mg/kg	23.9	64.6	30	40 - 120	
Dinoseb	MS	1727295-01	ND	0.034211	0.039474	mg/kg		86.7		40 - 130	
	MSD	1727295-01	ND	0.029831	0.040678	mg/kg	13.7	73.3	30	40 - 130	
2,4,5-T	MS	1727295-01	ND	0.018421	0.019737	mg/kg		93.3		30 - 120	
	MSD	1727295-01	ND	0.015932	0.020339	mg/kg	14.5	78.3	30	30 - 120	
2,4,5-TP (Silvex)	MS	1727295-01	ND	0.020066	0.019737	mg/kg		102		40 - 120	
•	MSD	1727295-01	ND	0.016271	0.020339	mg/kg	20.9	80.0	30	40 - 120	
2,4-Dichlorophenylacetic acid (Surro	gate MS	1727295-01	ND	0.10625	0.13158	mg/kg		80.7		40 - 120	
	MSD	1727295-01	ND	0.10746	0.13559	mg/kg	1.1	79.3		40 - 120	

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Stantec - SLO 3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 **Reported:** 04/02/2018 11:13

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[I2607						
Benzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0013	
Bromobenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0013	
Bromochloromethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.00092	
Bromodichloromethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.00084	
Bromoform	B[I2607-BLK1	ND	mg/kg	0.0050	0.0015	
Bromomethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0016	
n-Butylbenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0015	
sec-Butylbenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0012	
tert-Butylbenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0012	
Carbon tetrachloride	B[I2607-BLK1	ND	mg/kg	0.0050	0.0011	
Chlorobenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0013	
Chloroethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0014	
Chloroform	B[I2607-BLK1	ND	mg/kg	0.0050	0.00063	
Chloromethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0014	
2-Chlorotoluene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0018	
4-Chlorotoluene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0014	
Dibromochloromethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.00099	
1,2-Dibromo-3-chloropropane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0017	
1,2-Dibromoethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0010	
Dibromomethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0018	
1,2-Dichlorobenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.00081	
1,3-Dichlorobenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0014	
1,4-Dichlorobenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0015	
Dichlorodifluoromethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0013	
1,1-Dichloroethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0014	
1,2-Dichloroethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.00085	
1,1-Dichloroethene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0012	
cis-1,2-Dichloroethene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0013	
trans-1,2-Dichloroethene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0014	
1,2-Dichloropropane	B[I2607-BLK1	ND	mg/kg	0.0050	0.00081	
1,3-Dichloropropane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0011	
2,2-Dichloropropane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0013	
1,1-Dichloropropene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0012	
cis-1,3-Dichloropropene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0011	

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Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[I2607						
trans-1,3-Dichloropropene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0012	
Ethylbenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0015	
Hexachlorobutadiene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0017	
Isopropylbenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0013	
p-Isopropyltoluene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0013	
Methylene chloride	B[I2607-BLK1	ND	mg/kg	0.010	0.0024	
Methyl t-butyl ether	B[I2607-BLK1	ND	mg/kg	0.0050	0.00050	
Naphthalene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0014	
n-Propylbenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0013	
Styrene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0014	
1,1,1,2-Tetrachloroethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2,2-Tetrachloroethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0011	
Tetrachloroethene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0013	
Toluene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0012	
1,2,3-Trichlorobenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0021	
1,2,4-Trichlorobenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0020	
1,1,1-Trichloroethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2-Trichloroethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.00077	
Trichloroethene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0011	
Trichlorofluoromethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0011	
1,2,3-Trichloropropane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0016	
1,1,2-Trichloro-1,2,2-trifluoroethane	B[I2607-BLK1	ND	mg/kg	0.0050	0.0013	
1,2,4-Trimethylbenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0013	
1,3,5-Trimethylbenzene	B[I2607-BLK1	ND	mg/kg	0.0050	0.0015	
Vinyl chloride	B[I2607-BLK1	ND	mg/kg	0.0050	0.0016	
Total Xylenes	B[I2607-BLK1	ND	mg/kg	0.010	0.0034	
p- & m-Xylenes	B[I2607-BLK1	ND	mg/kg	0.0050	0.0022	
o-Xylene	B[I2607-BLK1	ND	mg/kg	0.0050 0.0012		
1,2-Dichloroethane-d4 (Surrogate)	B[I2607-BLK1	112	%	70 - 12		
Toluene-d8 (Surrogate)	B[I2607-BLK1	99.0	%	81 - 117 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	B[I2607-BLK1	116	%	74 - 12	1 (LCL - UCL)	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

							Control Limits			
Constituent	QC Sample ID	Tuno	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
Constituent	QC Sample ID	Туре	Resuit	Levei	Ullits	Recovery	KPD	Recovery	KPD	Quais
QC Batch ID: B[I2607										
Benzene	B[I2607-BS1	LCS	0.11700	0.12500	mg/kg	93.6		70 - 130		
Bromodichloromethane	B[I2607-BS1	LCS	0.14996	0.12500	mg/kg	120		70 - 130		
Chlorobenzene	B[I2607-BS1	LCS	0.13086	0.12500	mg/kg	105		70 - 130		
Chloroethane	B[I2607-BS1	LCS	0.11993	0.12500	mg/kg	95.9		70 - 130		
1,4-Dichlorobenzene	B[I2607-BS1	LCS	0.13010	0.12500	mg/kg	104		70 - 130		
1,1-Dichloroethane	B[I2607-BS1	LCS	0.13452	0.12500	mg/kg	108		70 - 130		
1,1-Dichloroethene	B[I2607-BS1	LCS	0.13580	0.12500	mg/kg	109		70 - 130		
Toluene	B[I2607-BS1	LCS	0.12978	0.12500	mg/kg	104		70 - 130		
Trichloroethene	B[I2607-BS1	LCS	0.13987	0.12500	mg/kg	112		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B[I2607-BS1	LCS	0.058620	0.050000	mg/kg	117		70 - 121		
Toluene-d8 (Surrogate)	B[I2607-BS1	LCS	0.049850	0.050000	mg/kg	99.7		81 - 117		
4-Bromofluorobenzene (Surrogate)	B[I2607-BS1	LCS	0.049170	0.050000	mg/kg	98.3		74 - 121		

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

									Cont	trol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[I2607	Use	d client samp	ole: N								
Benzene	− MS	1724840-60	ND	0.11588	0.12500	mg/kg		92.7		70 - 130	
	MSD	1724840-60	ND	0.10810	0.12500	mg/kg	6.9	86.5	20	70 - 130	
Bromodichloromethane	MS	1724840-60	ND	0.15223	0.12500	mg/kg		122		70 - 130	
	MSD	1724840-60	ND	0.14290	0.12500	mg/kg	6.3	114	20	70 - 130	
Chlorobenzene	MS	1724840-60	ND	0.13639	0.12500	mg/kg		109		70 - 130	
	MSD	1724840-60	ND	0.12639	0.12500	mg/kg	7.6	101	20	70 - 130	
Chloroethane	MS	1724840-60	ND	0.11216	0.12500	mg/kg		89.7		70 - 130	
	MSD	1724840-60	ND	0.10713	0.12500	mg/kg	4.6	85.7	20	70 - 130	
1,4-Dichlorobenzene	MS	1724840-60	ND	0.14859	0.12500	mg/kg		119		70 - 130	
	MSD	1724840-60	ND	0.13886	0.12500	mg/kg	6.8	111	20	70 - 130	
1,1-Dichloroethane	MS	1724840-60	ND	0.12508	0.12500	mg/kg		100		70 - 130	
	MSD	1724840-60	ND	0.12044	0.12500	mg/kg	3.8	96.4	20	70 - 130	
1,1-Dichloroethene	MS	1724840-60	ND	0.12272	0.12500	mg/kg		98.2		70 - 130	
	MSD	1724840-60	ND	0.12446	0.12500	mg/kg	1.4	99.6	20	70 - 130	
Toluene	MS	1724840-60	ND	0.13417	0.12500	mg/kg		107		70 - 130	
	MSD	1724840-60	ND	0.12891	0.12500	mg/kg	4.0	103	20	70 - 130	
Trichloroethene	MS	1724840-60	ND	0.14162	0.12500	mg/kg		113		70 - 130	
	MSD	1724840-60	ND	0.13534	0.12500	mg/kg	4.5	108	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1724840-60	ND	0.059440	0.050000	mg/kg		119		70 - 121	
	MSD	1724840-60	ND	0.057070	0.050000	mg/kg	4.1	114		70 - 121	
Toluene-d8 (Surrogate)	MS	1724840-60	ND	0.052470	0.050000	mg/kg		105		81 - 117	
	MSD	1724840-60	ND	0.050370	0.050000	mg/kg	4.1	101		81 - 117	
4-Bromofluorobenzene (Surrogate)	MS	1724840-60	ND	0.058460	0.050000	mg/kg		117		74 - 121	
	MSD	1724840-60	ND	0.054490	0.050000	mg/kg	7.0	109		74 - 121	

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Suite A

3437 Empresa Drive, Suite A

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL MDL		Lab Quals
QC Batch ID: B[J0320	<u> </u>					<u> </u>
Acenaphthene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0012	
Acenaphthylene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0011	
Anthracene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0012	
Benzo[a]anthracene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0011	
Benzo[b]fluoranthene	B[J0320-BLK1	ND	mg/kg	0.0030	0.00095	
Benzo[k]fluoranthene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0011	
Benzo[a]pyrene	B[J0320-BLK1	ND	mg/kg	0.0030	0.00095	
Benzo[g,h,i]perylene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0011	
Chrysene	B[J0320-BLK1	ND	mg/kg	0.0030	0.00097	
Dibenzo[a,h]anthracene	B[J0320-BLK1	ND	mg/kg	0.0030	0.00099	
Fluoranthene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0014	
Fluorene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0011	
Indeno[1,2,3-cd]pyrene	B[J0320-BLK1	ND	mg/kg	0.0030	0.00092	
- Naphthalene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0011	
Phenanthrene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0012	
Pyrene	B[J0320-BLK1	ND	mg/kg	0.0030	0.0015	
Nitrobenzene-d5 (Surrogate)	B[J0320-BLK1	75.0	%	30 - 110	(LCL - UCL)	
2-Fluorobiphenyl (Surrogate)	B[J0320-BLK1	65.3	%	40 - 120	(LCL - UCL)	
p-Terphenyl-d14 (Surrogate)	B[J0320-BLK1	70.3	%	30 - 120	(LCL - UCL)	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Laboratory Control Sample

								Control Limits		
		_		Spike		Percent		Percent		Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: B[J0320										
Acenaphthene	B[J0320-BS1	LCS	0.025418	0.033445	mg/kg	76.0		60 - 130		
Acenaphthylene	B[J0320-BS1	LCS	0.026371	0.033445	mg/kg	78.9		60 - 130		
Anthracene	B[J0320-BS1	LCS	0.025418	0.033445	mg/kg	76.0		60 - 130		
Benzo[a]anthracene	B[J0320-BS1	LCS	0.030502	0.033445	mg/kg	91.2		60 - 130		
Benzo[b]fluoranthene	B[J0320-BS1	LCS	0.034950	0.033445	mg/kg	104		50 - 130		
Benzo[k]fluoranthene	B[J0320-BS1	LCS	0.031137	0.033445	mg/kg	93.1		60 - 130		
Benzo[a]pyrene	B[J0320-BS1	LCS	0.027960	0.033445	mg/kg	83.6		60 - 130		
Benzo[g,h,i]perylene	B[J0320-BS1	LCS	0.027324	0.033445	mg/kg	81.7		50 - 130		
Chrysene	B[J0320-BS1	LCS	0.027007	0.033445	mg/kg	80.8		50 - 130		
Dibenzo[a,h]anthracene	B[J0320-BS1	LCS	0.022876	0.033445	mg/kg	68.4		50 - 130		
Fluoranthene	B[J0320-BS1	LCS	0.030184	0.033445	mg/kg	90.2		60 - 130		
Fluorene	B[J0320-BS1	LCS	0.023512	0.033445	mg/kg	70.3		50 - 130		
Indeno[1,2,3-cd]pyrene	B[J0320-BS1	LCS	0.026371	0.033445	mg/kg	78.9		50 - 130		
Naphthalene	B[J0320-BS1	LCS	0.025100	0.033445	mg/kg	75.0		50 - 130		
Phenanthrene	B[J0320-BS1	LCS	0.020652	0.033445	mg/kg	61.8		50 - 130		
Pyrene	B[J0320-BS1	LCS	0.035585	0.033445	mg/kg	106		50 - 130		
Nitrobenzene-d5 (Surrogate)	B[J0320-BS1	LCS	0.078478	0.13378	mg/kg	58.7		30 - 110		
2-Fluorobiphenyl (Surrogate)	B[J0320-BS1	LCS	0.071171	0.13378	mg/kg	53.2		40 - 120		
p-Terphenyl-d14 (Surrogate)	B[J0320-BS1	LCS	0.083880	0.13378	mg/kg	62.7		30 - 120		

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Precision & Accuracy

	<u>'</u>							Cont	rol Limits		
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J0320	Use	ed client samp	ole: N								
Acenaphthene	─ MS	1724840-81	ND	0.027997	0.033113	mg/kg		84.6		50 - 130	
	MSD	1724840-81	ND	0.026316	0.032895	mg/kg	6.2	80.0	30	50 - 130	
Acenaphthylene	MS	1724840-81	ND	0.029255	0.033113	mg/kg		88.3		50 - 130	
. ,	MSD	1724840-81	ND	0.028289	0.032895	mg/kg	3.4	86.0	30	50 - 130	
Anthracene	MS	1724840-81	ND	0.029884	0.033113	mg/kg		90.2		50 - 130	
	MSD	1724840-81	ND	0.028618	0.032895	mg/kg	4.3	87.0	30	50 - 130	
Benzo[a]anthracene	MS	1724840-81	ND	0.032715	0.033113	mg/kg		98.8		50 - 130	
Den Ze (a janum acente	MSD	1724840-81	ND	0.036842	0.032895	mg/kg	11.9	112	30	50 - 130	
Benzo[b]fluoranthene	MS	1724840-81	ND	0.036490	0.033113	mg/kg		110		40 - 130	
Denzo[S]moranthene	MSD	1724840-81	ND	0.051316	0.032895	mg/kg	33.8	156	30	40 - 130	Q02,Q
											03
Benzo[k]fluoranthene	MS	1724840-81	ND	0.036490	0.033113	mg/kg		110		40 - 130	
	MSD	1724840-81	ND	0.039145	0.032895	mg/kg	7.0	119	30	40 - 130	
Benzo[a]pyrene	MS	1724840-81	ND	0.029884	0.033113	mg/kg		90.2		40 - 130	
	MSD	1724840-81	ND	0.030263	0.032895	mg/kg	1.3	92.0	30	40 - 130	
Benzo[g,h,i]perylene	MS	1724840-81	ND	0.030513	0.033113	mg/kg		92.1		40 - 130	
	MSD	1724840-81	ND	0.027632	0.032895	mg/kg	9.9	84.0	30	40 - 130	
Chrysene	MS	1724840-81	ND	0.029570	0.033113	mg/kg		89.3		40 - 130	
	MSD	1724840-81	ND	0.028618	0.032895	mg/kg	3.3	87.0	30	40 - 130	
Dibenzo[a,h]anthracene	MS	1724840-81	ND	0.025166	0.033113	mg/kg		76.0		40 - 130	
	MSD	1724840-81	ND	0.023026	0.032895	mg/kg	8.9	70.0	30	40 - 130	
Fluoranthene	MS	1724840-81	ND	0.032715	0.033113	mg/kg		98.8		40 - 130	
	MSD	1724840-81	ND	0.032237	0.032895	mg/kg	1.5	98.0	30	40 - 130	
Fluorene	MS	1724840-81	ND	0.028940	0.033113	mg/kg		87.4		40 - 130	
	MSD	1724840-81	ND	0.028289	0.032895	mg/kg	2.3	86.0	30	40 - 130	
Indeno[1,2,3-cd]pyrene	MS	1724840-81	ND	0.029255	0.033113	mg/kg		88.3		30 - 130	
	MSD	1724840-81	ND	0.026316	0.032895	mg/kg	10.6	80.0	30	30 - 130	
Naphthalene	MS	1724840-81	ND	0.027368	0.033113	mg/kg		82.6		50 - 130	
Hapitalene	MSD	1724840-81	ND	0.027632	0.032895	mg/kg	1.0	84.0	30	50 - 130	
Phenanthrene	MS	1724840-81	ND	0.022964	0.033113			69.3		40 - 130	
1 Honditurono	MSD	1724840-81	ND	0.022368	0.033113	mg/kg mg/kg	2.6	68.0	30	40 - 130	
Dyrono		1724840-81	ND	0.038377	0.033113					40 - 130	
Pyrene	MS MSD	1724840-81	ND	0.038816	0.033113	mg/kg mg/kg	1.1	116 118	30	40 - 130	
Nitrohanzana dE (Comercia)											
Nitrobenzene-d5 (Surrogate)	MS	1724840-81 1724840-81	ND ND	0.10444 0.10691	0.13245 0.13158	mg/kg mg/kg	2.3	78.9 81.3		30 - 110 30 - 110	
O.F	MSD					mg/kg	۷.۵				
2-Fluorobiphenyl (Surrogate)	MS	1724840-81	ND	0.090281	0.13245	mg/kg	4.0	68.2		40 - 120	
	MSD	1724840-81	ND	0.089145	0.13158	mg/kg	1.3	67.7		40 - 120	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Precision & Accuracy

							Control Limits							
									Lab					
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals			
QC Batch ID: B[J0320	Use	d client samp	ole: N											
p-Terphenyl-d14 (Surrogate)	」 MS	1724840-81	ND	0.090596	0.13245	mg/kg		68.4		30 - 120				
	MSD	1724840-81	ND	0.091776	0.13158	mg/kg	1.3	69.7		30 - 120				

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 59 of 91



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J0322						
TPH - Gasoline	B[J0322-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[J0322-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[J0322-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[J0322-BLK1	93.3	%	20 - 14	5 (LCL - UCL)	

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 60 of 91



3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401 **Reported:** 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

				Spike		Percent	<u>Control Limits</u> Percent Lab				
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals	
QC Batch ID: B[J0322											
TPH - Diesel (FFP)	B[J0322-BS1	LCS	81.696	84.746	mg/kg	96.4		64 - 124			
Tetracosane (Surrogate)	B[J0322-BS1	LCS	3.4634	3.3912	mg/kg	102		20 - 145			

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 61 of 91



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

									Cont		
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J0322	llse	d client samp	le: Y - Des	crintion: HA	-28-3 09/25	/2017 07:	50				
<u> </u>		•		•			,,				
TPH - Diesel (FFP)	MS	1727086-01	ND	68.174	84.746	mg/kg		80.4		52 - 131	
	MSD	1727086-01	ND	45.948	82.508	mg/kg	39.0	55.7	30	52 - 131	Q02
Tetracosane (Surrogate)	MS	1727086-01	ND	2.9273	3.3912	mg/kg		86.3		20 - 145	
	MSD	1727086-01	ND	1.9536	3.3017	mg/kg	39.9	59.2		20 - 145	

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 62 of 91



Stantec - SLO 3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Chemical Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J0027						
Total Cyanide	B[J0027-BLK1	ND	mg/kg	0.50	0.15	
QC Batch ID: B[J0223						
рН	B[J0223-BLK1	ND	pH Units	0.05	0.05	
pH Measurement Temperature	B[J0223-BLK1	ND	С	0.1	0.1	

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 63 of 91 Report ID: 1000726004



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Chemical Analysis

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control L Percent Recovery	<u>imits</u>	Lab Quals
QC Batch ID: B[J0027 Total Cyanide	B[J0027-BS1	LCS	14.296	14.423	mg/kg	99.1	KFD	80 - 120	KFD	Quais
QC Batch ID: B[J0223	B[J0223-BS1	LCS	6.9600	7.0000	pH Units	99.4		95 - 105		

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 64 of 91



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Chemical Analysis

Quality Control Report - Precision & Accuracy

								Control Limits			
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J0027	Use	d client samp	le: Y - Des	cription: HA	-37-8, 09/20)/2017 11:5	0				
Total Cyanide	DUP	1726918-05	ND	ND		mg/kg			20		
	MS	1726918-05	ND	9.3974	9.6154	mg/kg		97.7		80 - 120	
	MSD	1726918-05	ND	9.5980	9.8039	mg/kg	2.1	97.9	20	80 - 120	
QC Batch ID: B[J0223 Used client sample: Y - Description: HA-37-8, 09/20/2017 11:50											
рН	DUP	1726918-05	7.5950	7.6190		pH Units	0.3		20		

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 65 of 91

Stantec - SLO 3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J0037						
Total Hexavalent Chromium	B[J0037-BLK1	ND	mg/kg	1.0	0.30	
QC Batch ID: B[J0196						
Mercury	B[J0196-BLK1	ND	mg/kg	0.16	0.019	
QC Batch ID: B[J0797						
Antimony	B[J0797-BLK1	ND	mg/kg	5.0	0.33	
Arsenic	B[J0797-BLK1	ND	mg/kg	1.0	0.40	
Barium	B[J0797-BLK2	ND	mg/kg	0.50	0.18	
Beryllium	B[J0797-BLK1	ND	mg/kg	0.50	0.047	
Cadmium	B[J0797-BLK1	ND	mg/kg	0.50	0.052	
Chromium	B[J0797-BLK2	ND	mg/kg	0.50	0.050	
Cobalt	B[J0797-BLK1	ND	mg/kg	2.5	0.098	
Copper	B[J0797-BLK2	0.078530	mg/kg	1.0	0.050	J
_ead	B[J0797-BLK2	ND	mg/kg	2.5	0.28	
Molybdenum	B[J0797-BLK2	ND	mg/kg	2.5	0.050	
Nickel	B[J0797-BLK2	ND	mg/kg	0.50	0.15	
Selenium	B[J0797-BLK1	ND	mg/kg	1.0	0.98	
Silver	B[J0797-BLK1	ND	mg/kg	0.50	0.067	
Thallium	B[J0797-BLK2	ND	mg/kg	5.0	0.64	
/anadium	B[J0797-BLK1	ND	mg/kg	0.50	0.11	
Zinc	B[J0797-BLK1	0.21105	mg/kg	2.5	0.087	J
QC Batch ID: B006519						
Mercury	B006519-BLK1	ND	mg/kg	0.16	0.019	
QC Batch ID: B006562						
Antimony	B006562-BLK1	ND	mg/kg	5.0	0.33	
Arsenic	B006562-BLK1	ND	mg/kg	1.0	0.40	
Barium	B006562-BLK1	ND	mg/kg	0.50	0.18	
Beryllium	B006562-BLK1	ND	mg/kg	0.50	0.047	
Cadmium	B006562-BLK1	ND	mg/kg	0.50	0.052	
Chromium	B006562-BLK1	0.15707	mg/kg	0.50	0.050	J
Cobalt	B006562-BLK1	ND	mg/kg	2.5	0.098	
Copper	B006562-BLK1	ND	mg/kg	1.0	0.050	
Lead	B006562-BLK1	ND	mg/kg	2.5	0.28	

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 66 of 91

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals	
QC Batch ID: B006562							
Molybdenum	B006562-BLK1	0.058736	mg/kg	2.5	0.050	J	
Nickel	B006562-BLK1	ND	mg/kg	0.50	0.15		
Selenium	B006562-BLK1	ND	mg/kg	1.0	0.98		
Silver	B006562-BLK1	ND	mg/kg	0.50	0.067		
Thallium	B006562-BLK1	ND	mg/kg	5.0	0.64		
Vanadium	B006562-BLK1	ND	mg/kg	0.50	0.11		
Zinc	B006562-BLK1	1.1125	mg/kg	2.5	0.087	J	
QC Batch ID: B006616							
Total Hexavalent Chromium	B006616-BLK1	ND	mg/kg	1.0	0.30		

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 67 of 91

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Laboratory Control Sample

	· •		•				•	Control Limi	its
				Spike		Percent		Percent	Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery RF	D Quals
QC Batch ID: B[J0037									
Total Hexavalent Chromium	B[J0037-BS1	LCS	42.234	40.000	mg/kg	106		80 - 120	
QC Batch ID: B[J0196									
Mercury	B[J0196-BS1	LCS	0.79888	0.80000	mg/kg	99.9		80 - 120	
QC Batch ID: B[J0797									
Antimony	B[J0797-BS1	LCS	91.367	100.00	mg/kg	91.4		75 - 125	
Arsenic	B[J0797-BS1	LCS	8.2275	10.000	mg/kg	82.3		75 - 125	
Barium	B[J0797-BS2	LCS	105.87	100.00	mg/kg	106		75 - 125	
Beryllium	B[J0797-BS1	LCS	8.7437	10.000	mg/kg	87.4		75 - 125	
Cadmium	B[J0797-BS1	LCS	8.7402	10.000	mg/kg	87.4		75 - 125	
Chromium	B[J0797-BS2	LCS	109.48	100.00	mg/kg	109		75 - 125	
Cobalt	B[J0797-BS1	LCS	89.923	100.00	mg/kg	89.9		75 - 125	
Copper	B[J0797-BS2	LCS	94.896	100.00	mg/kg	94.9		75 - 125	
Lead	B[J0797-BS2	LCS	102.93	100.00	mg/kg	103		75 - 125	
Molybdenum	B[J0797-BS2	LCS	102.75	100.00	mg/kg	103		75 - 125	
Nickel	B[J0797-BS2	LCS	112.92	100.00	mg/kg	113		75 - 125	
Selenium	B[J0797-BS1	LCS	8.4091	10.000	mg/kg	84.1		75 - 125	
Silver	B[J0797-BS1	LCS	8.6660	10.000	mg/kg	86.7		75 - 125	
Thallium	B[J0797-BS2	LCS	112.70	100.00	mg/kg	113		75 - 125	
Vanadium	B[J0797-BS1	LCS	97.217	100.00	mg/kg	97.2		75 - 125	
Zinc	B[J0797-BS1	LCS	88.808	100.00	mg/kg	88.8		75 - 125	
QC Batch ID: B006519									
Mercury	B006519-BS1	LCS	0.80624	0.80000	mg/kg	101		80 - 120	
QC Batch ID: B006562									
Antimony	B006562-BS1	LCS	102.63	100.00	mg/kg	103		75 - 125	
Arsenic	B006562-BS1	LCS	9.4294	10.000	mg/kg	94.3		75 - 125	
Barium	B006562-BS1	LCS	102.36	100.00	mg/kg	102		75 - 125	
Beryllium	B006562-BS1	LCS	9.9327	10.000	mg/kg	99.3		75 - 125	
Cadmium	B006562-BS1	LCS	9.8321	10.000	mg/kg	98.3		75 - 125	
Chromium	B006562-BS1	LCS	105.80	100.00	mg/kg	106		75 - 125	
Cobalt	B006562-BS1	LCS	102.51	100.00	mg/kg	103		75 - 125	
Copper	B006562-BS1	LCS	98.262	100.00	mg/kg	98.3		75 - 125	
Lead	B006562-BS1	LCS	101.72	100.00	mg/kg	102		75 - 125	
Molybdenum	B006562-BS1	LCS	101.20	100.00	mg/kg	101		75 - 125	

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 68 of 91 Report ID: 1000726004

Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401 **Reported:** 04/02/2018 11:13

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Laboratory Control Sample

								Control L	imits	
Comotituont	OC Samula ID	Time	Decult	Spike	Heita	Percent	DDD	Percent	DDD	Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: B006562										
Nickel	B006562-BS1	LCS	103.96	100.00	mg/kg	104		75 - 125		
Selenium	B006562-BS1	LCS	8.6322	10.000	mg/kg	86.3		75 - 125		
Silver	B006562-BS1	LCS	9.3710	10.000	mg/kg	93.7		75 - 125		
Thallium	B006562-BS1	LCS	114.14	100.00	mg/kg	114		75 - 125		
Vanadium	B006562-BS1	LCS	103.83	100.00	mg/kg	104		75 - 125		
Zinc	B006562-BS1	LCS	98.961	100.00	mg/kg	99.0		75 - 125		
QC Batch ID: B006616										
Total Hexavalent Chromium	B006616-BS1	LCS	41.778	40.000	mg/kg	104		80 - 120		

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 69 of 91

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

				<u> </u>					Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J0037	Use	d client samp	ole: N								
Total Hexavalent Chromium	DUP	1727341-20	1.2560	1.2600		mg/kg	0.3		20		
	MS	1727341-20	1.2560	42.298	40.000	mg/kg	0.0	103		75 - 125	
	MSD	1727341-20	1.2560	42.794	40.000	mg/kg	1.2	104	20	75 - 125	
QC Batch ID: B[J0196	Use	d client samp	ole: N								
Mercury	─ 」 DUP	1727741-01	0.021846	0.075231		mg/kg	110		20		J,A02
·	MS	1727741-01	0.021846	0.82631	0.76923	mg/kg		105		80 - 120	•
	MSD	1727741-01	0.021846	0.79200	0.76923	mg/kg	4.2	100	20	80 - 120	
QC Batch ID: B[J0797	Use	d client samp	ole: N								
Antimony	─ DUP	1727681-09	ND	ND		mg/kg			20		
•	MS	1727681-09	ND	27.244	100.00	mg/kg		27.2		16 - 119	
	MSD	1727681-09	ND	29.472	100.00	mg/kg	7.9	29.5	20	16 - 119	
Arsenic	DUP	1727681-09	2.9958	3.6795		mg/kg	20.5		20		A02
	MS	1727681-09	2.9958	11.739	10.000	mg/kg		87.4		75 - 125	
	MSD	1727681-09	2.9958	12.906	10.000	mg/kg	9.5	99.1	20	75 - 125	
Barium	DUP	1727681-09	90.045	107.01		mg/kg	17.2		20		
244	MS	1727681-09	90.045	176.57	100.00	mg/kg		86.5		75 - 125	
	MSD	1727681-09	90.045	174.92	100.00	mg/kg	0.9	84.9	20	75 - 125	
Beryllium	DUP	1727681-09	0.24731	0.26124		mg/kg	5.5		20		J
	MS	1727681-09	0.24731	8.5017	10.000	mg/kg		82.5		75 - 125	-
	MSD	1727681-09	0.24731	9.2929	10.000	mg/kg	8.9	90.5	20	75 - 125	
Cadmium	DUP	1727681-09	2.3928	2.7269		mg/kg	13.1		20		
	MS	1727681-09	2.3928	10.751	10.000	mg/kg		83.6		75 - 125	
	MSD	1727681-09	2.3928	11.885	10.000	mg/kg	10.0	94.9	20	75 - 125	
Chromium	DUP	1727681-09	18.275	16.167		mg/kg	12.2		20		
	MS	1727681-09	18.275	98.930	100.00	mg/kg		80.7		75 - 125	
	MSD	1727681-09	18.275	109.21	100.00	mg/kg	9.9	90.9	20	75 - 125	
Cobalt	DUP	1727681-09	3.3761	3.2725		mg/kg	3.1		20		
	MS	1727681-09	3.3761	81.580	100.00	mg/kg		78.2		75 - 125	
	MSD	1727681-09	3.3761	88.185	100.00	mg/kg	7.8	84.8	20	75 - 125	
Copper	DUP	1727681-09	13.075	12.070		mg/kg	8.0		20		
	MS	1727681-09	13.075	93.402	100.00	mg/kg		80.3		75 - 125	
	MSD	1727681-09	13.075	104.50	100.00	mg/kg	11.2	91.4	20	75 - 125	
Lead	DUP	1727681-09	5.7674	5.4407		mg/kg	5.8		20		
	MS	1727681-09	5.7674	85.591	100.00	mg/kg		79.8		75 - 125	
	MSD	1727681-09	5.7674	92.802	100.00	mg/kg	8.1	87.0	20	75 - 125	
Molybdenum	DUP	1727681-09	5.6990	4.9977		mg/kg	13.1		20		
	MS	1727681-09	5.6990	79.371	100.00	mg/kg		73.7		75 - 125	Q03
	MSD	1727681-09	5.6990	88.456	100.00	mg/kg	10.8	82.8	20	75 - 125	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
OC Batal ID: BI 10707	Lise	ed client samp	ıle. N								
QC Batch ID: B[J0797	DUP	1727681-09	23.200	21.671		mg/kg	6.8		20		
NICKEI	MS	1727681-09	23.200	100.35	100.00	mg/kg	0.0	77.2	20	75 - 125	
	MSD	1727681-09	23.200	110.42	100.00	mg/kg	9.6	87.2	20	75 - 125 75 - 125	
Outrosium					100.00		0.0	07.2		10 120	
Selenium	DUP	1727681-09 1727681-09	ND	ND 7.5909	10.000	mg/kg		75.9	20	75 - 125	
	MS		ND			mg/kg	2.2	75.9 77.7	20		
	MSD	1727681-09	ND	7.7652	10.000	mg/kg	2.3	11.1		75 - 125	
Silver	DUP	1727681-09	ND	ND		mg/kg			20		
	MS	1727681-09	ND	7.6659	10.000	mg/kg		76.7		75 - 125	
	MSD	1727681-09	ND	8.4600	10.000	mg/kg	9.8	84.6	20	75 - 125	
Thallium	DUP	1727681-09	ND	ND		mg/kg			20		
	MS	1727681-09	ND	81.010	100.00	mg/kg		81.0		75 - 125	
	MSD	1727681-09	ND	88.200	100.00	mg/kg	8.5	88.2	20	75 - 125	
Vanadium	DUP	1727681-09	41.278	44.267		mg/kg	7.0		20		
	MS	1727681-09	41.278	137.07	100.00	mg/kg		95.8		75 - 125	
	MSD	1727681-09	41.278	149.12	100.00	mg/kg	8.4	108	20	75 - 125	
Zinc	DUP	1727681-09	48.516	51.081		mg/kg	5.2		20		
	MS	1727681-09	48.516	138.66	100.00	mg/kg	0.2	90.1	20	75 - 125	
	MSD	1727681-09	48.516	149.18	100.00	mg/kg	7.3	101	20	75 - 125	
QC Batch ID: B006519		ed client samp									
Mercury	DUP	1806528-01	ND	ND		mg/kg			20		
	MS	1806528-01	ND	0.76046	0.76923	mg/kg		98.9		80 - 120	
	MSD	1806528-01	ND	0.75415	0.76923	mg/kg	8.0	98.0	20	80 - 120	
QC Batch ID: B006562	Use	d client samp	ole: Y - Des	cription: HA	-26-3, 09/25	/2017 09:5	50				
Antimony	DUP	1727086-09	ND	ND		mg/kg			20		
	MS	1727086-09	ND	43.321	100.00	mg/kg		43.3		16 - 119	
	MSD	1727086-09	ND	43.436	100.00	mg/kg	0.3	43.4	20	16 - 119	
Arsenic	DUP	1727086-09	1.8491	1.9970		mg/kg	7.7		20		
	MS	1727086-09	1.8491	11.450	10.000	mg/kg		96.0		75 - 125	
	MSD	1727086-09	1.8491	10.762	10.000	mg/kg	6.2	89.1	20	75 - 125	
Barium	DUP	1727086-09	15.199	14.837		mg/kg	2.4		20		
	MS	1727086-09	15.199	116.95	100.00	mg/kg		102		75 - 125	
	MSD	1727086-09	15.199	106.59	100.00	mg/kg	9.3	91.4	20	75 - 125	
Beryllium	DUP	1727086-09	0.12619	0.11818		mg/kg	6.6		20		J
,a	MS	1727086-09	0.12619	9.5686	10.000	mg/kg	3.0	94.4	_0	75 - 125	Ü
	MSD	1727086-09	0.12619	9.3158	10.000	mg/kg	2.7	91.9	20	75 - 125 75 - 125	
Cadasius											
Cadmium	DUP	1727086-09	0.20526	0.23397	10.000	mg/kg	13.1	00.0	20	7E 10E	J
	MS	1727086-09	0.20526	9.5803	10.000	mg/kg		93.8	00	75 - 125	
	MSD	1727086-09	0.20526	9.2790	10.000	mg/kg	3.2	90.7	20	75 - 125	

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Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 71 of 91

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
OC Potob ID: P006562	Use	d client samp	ole: Y - Des	crintion: HA	-26-3 09/25	/2017 09· <i>!</i>	50				
QC Batch ID: B006562 Chromium	DUP	1727086-09	8.7689	10.117	20 0, 00/20	mg/kg	14.3		20		
Chiomium		1727086-09	8.7689	110.117	100.00		14.3	102	20	75 - 125	
	MS	1727086-09	8.7689	108.25	100.00	mg/kg	2.1	99.5	20	75 - 125 75 - 125	
	MSD				100.00	mg/kg		99.5		73 - 123	
Cobalt	DUP	1727086-09	1.2854	1.4551		mg/kg	12.4		20		J
	MS	1727086-09	1.2854	96.730	100.00	mg/kg	0.0	95.4	00	75 - 125	
	MSD	1727086-09	1.2854	96.139	100.00	mg/kg	0.6	94.9	20	75 - 125	
Copper	DUP	1727086-09	2.4479	2.7428		mg/kg	11.4		20		
	MS	1727086-09	2.4479	96.584	100.00	mg/kg		94.1		75 - 125	
	MSD	1727086-09	2.4479	92.927	100.00	mg/kg	3.9	90.5	20	75 - 125	
Lead	DUP	1727086-09	2.3324	2.7673		mg/kg	17.1		20		
	MS	1727086-09	2.3324	104.31	100.00	mg/kg		102		75 - 125	
	MSD	1727086-09	2.3324	96.345	100.00	mg/kg	7.9	94.0	20	75 - 125	
Molybdenum	DUP	1727086-09	2.7621	3.7865		mg/kg	31.3		20		A02
•	MS	1727086-09	2.7621	94.873	100.00	mg/kg		92.1		75 - 125	
	MSD	1727086-09	2.7621	93.832	100.00	mg/kg	1.1	91.1	20	75 - 125	
	DUP	1727086-09	7.6138	17.564		mg/kg	79.0		20		A02
	MS	1727086-09	7.6138	104.77	100.00	mg/kg		97.2		75 - 125	
	MSD	1727086-09	7.6138	103.39	100.00	mg/kg	1.3	95.8	20	75 - 125	
Selenium	DUP	1727086-09	ND	ND		mg/kg			20		
Ocionam	MS	1727086-09	ND	8.9597	10.000	mg/kg		89.6	20	75 - 125	
	MSD	1727086-09	ND	8.8997	10.000	mg/kg	0.7	89.0	20	75 - 125	
Cilvor				ND					20		
Silver	DUP MS	1727086-09 1727086-09	ND ND	8.6293	10.000	mg/kg mg/kg		86.3	20	75 - 125	
	MSD	1727086-09	ND	8.4972	10.000	mg/kg	1.5	85.0	20	75 - 125 75 - 125	
<u></u>					10.000		1.0			70 120	
Thallium	DUP	1727086-09	ND	ND	400.00	mg/kg		400	20	75 405	
	MS	1727086-09	ND	101.50	100.00	mg/kg	0.4	102	20	75 - 125	
	MSD	1727086-09	ND	99.397	100.00	mg/kg	2.1	99.4	20	75 - 125	
<i>V</i> anadium	DUP	1727086-09	13.863	32.126		mg/kg	79.4		20		Q01
	MS	1727086-09	13.863	117.08	100.00	mg/kg		103		75 - 125	
	MSD	1727086-09	13.863	114.85	100.00	mg/kg	1.9	101	20	75 - 125	
Zinc	DUP	1727086-09	14.650	15.496		mg/kg	5.6		20		
	MS	1727086-09	14.650	108.99	100.00	mg/kg		94.3		75 - 125	
	MSD	1727086-09	14.650	108.47	100.00	mg/kg	0.5	93.8	20	75 - 125	
QC Batch ID: B006616	Use	d client samp	ole: N								
Total Hexavalent Chromium	─ DUP	1806115-20	0.51400	0.49000		mg/kg	4.8		20		J
	MS	1806115-20	0.51400	40.804	40.000	mg/kg		101		75 - 125	
	MSD	1806115-20	0.51400	40.360	40.000	mg/kg	1.1	99.6	20	75 - 125	

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 72 of 91



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EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com/sanleandrolab@emsl.com

EMSL Order: 091719319 Customer ID: BCLA50 Customer PO: 1727086 Project ID:

Attention: Molly Meyers Phone: (661) 327-4911 BC Laboratories, Inc. Fax: (661) 327-1918

4100 Atlas Court Received Date: 10/02/2017 10:15 AM Bakersfield, CA 93308 Analysis Date: 10/09/2017 Collected Date: 09/25/2017

Project: 1727088

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance % Fibrous	% Non-Fibrous	<u>Asbestos</u> % Type
1727086-01		Tan	100% Non-fibrous (Other)	<1% Chrysotile
1127000-01		Non-Fibrous	Too is Normal out (Other)	Th Grilysoule
091719319-0001		Homogeneous		
Soil is a problem matrix	r. Other analytical options are n	ecommended such as EPA 800 PLM/TEM with milling prep		
1727086-02		Tan	100% Non-fibrous (Other)	<1% Chrysotile
		Non-Fibrous		
091719319-0002		Homogeneous		
	. Other analytical options are n	ecommended such as EPA 600 PLM/TEM with milling prep		
1727086-03		Brown	100% Non-fibrous (Other)	None Detected
091719319-0003		Non-Fibrous Homogeneous		
	Other analytical polions are o	ecommended such as EPA 600 PLM/TEM with milling prep		
	. Onto analytour operation are n		100V N 61 (01) 3	-101 0111-
1727086-04		Brown/Black Non-Fibrous	100% Non-fibrous (Other)	<1% Chrysotile
091719319-0004		Homogeneous		
	. Other analytical options are n	ecommended such as EPA 600 PLM/TEM with milling prep		
1727086-05		Brown/Black	100% Non-fibrous (Other)	<1% Chrysotile
11210000		Non-Fibrous	. so is individuo (outer)	-174 0111/20010
091719319-0005		Homogeneous		
Soil is a problem matrix	r. Other analytical options are n	ecommended such as EPA 600 PLM/TEM with milling prep		
1727086-06		Brown/Black	100% Non-fibrous (Other)	None Detected
		Non-Fibrous		
091719319-0006		Homogeneous		
Soil is a problem matrix	. Other analytical options are n	ecommended such as EPA 600 PLM/TEM with milling prep		
1727086-07		Tan/Black	100% Non-fibrous (Other)	<1% Chrysotile
		Non-Fibrous		
091719319-0007		Homogeneous		
Soil is a problem matrix	r. Other analytical options are n	ecommended such as EPA 600 PLM/TEM with milling prep		
1727086-08		Black	100% Non-fibrous (Other)	<1% Chrysotile
20-71-20-2		Non-Fibrous		
091719319-0008 Soil is a problem matrix	Other enablised entions are s	Homogeneous ecommended such as EPA 600 PLM/TEM with milling prep		
	. Other analytical opsions are n			
1727086-09		Brown/Black	100% Non-fibrous (Other)	<1% Chrysotile
091719319-0009		Non-Fibrous Homogeneous		
	. Other analytical options are n	ecommended such as EPA 600 PLM/TEM with milling prep		
1727086-10		Brown/Black	100% Non-fibrous (Other)	<1% Chrysotile
1127000-10		Non-Fibrous	rook Nor-norous (Other)	TW CHIYSOUR
091719319-0010		Homogeneous		
Soil is a problem matrix	. Other analytical options are n	ecommended such as EPA 600 PLM/TEM with milling prep		
1727086-11		Tan/Black	100% Non-fibrous (Other)	<1% Chrysotile
		Non-Fibrous		
091719219-0011		Homogeneous		
Soil is a problem matrix	. Other analytical options are r	ecommended such as EPA 600 PLM/TEM with milling prep		
1727086-12		Brown	100% Non-fibrous (Other)	<1% Chrysotile
		Non-Fibrous		•
091719319-0012		Homogeneous		
Soil is a problem matrix	r. Other analytical options are r	ecommended such as EPA 600 PLM/TEM with milling prep		

Initial report from: 10/09/2017 12:57:44

ASB_PLM_0008_0001 - 1.78 Printed: 10/9/2017 12:57 PM

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EMSL Order: 091719319 Customer ID: BCLA50 Customer PO: 1727086 Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Ast	pestos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1727086-13		Brown/Black		100% Non-fibrous (Other)	<1% Chrysotile
		Non-Fibrous			
091719219-0013		Homogeneous			
Soil is a problem mat	rix. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1727086-14		Brown/Black		100% Non-fibrous (Other)	<1% Chrysotile
		Non-Fibrous			
091719319-0014		Homogeneous			
Soil is a problem mab	rix. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1727086-15		Tan/Black		100% Non-fibrous (Other)	<1% Chrysotile
		Non-Fibrous			-
091719219-0015		Homogeneous			
Soil is a problem mab	riv. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1727086-16		Black		100% Non-fibrous (Other)	<1% Amosite
		Non-Fibrous			
091719319-0016		Homogeneous			
Soil is a problem mab	rix. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1727086-17		Brown		100% Non-fibrous (Other)	<1% Amosite
		Non-Fibrous			
091719219-0017		Homogeneous			
Soil is a problem mat	riv. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1727086-18		Brown		100% Non-fibrous (Other)	<1% Amosite
		Non-Fibrous			
091719319-0018		Homogeneous			
Soil is a problem mati	rix. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		

Analyst(s)	
Oscar Merino (18)	

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The limit of detection, as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL. Analytical, Inc., EMSL is liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method. limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 10/09/2017 12:57:44

ASB_PLM_0008_0001 - 1.78 Printed: 10/9/2017 12:57 PM

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Subcontract Report for 1727086 PDF File Name: wo_1727086_sub_FRNTL.pdf Page 1 of 8





October 17, 2017

FAL Project ID: 10977

Ms. Molly Meyers BC Laboratories 4100 Atlas Court Bakersfield, CA 93308

Dear Ms. Meyers,

The following results are associated with Frontier Analytical Laboratory project 10977. This corresponds to your subcontract order number 1727086. One solid sample was received on 10/6/2017. This sample was extracted and analyzed by EPA Method 8290 for tetra through octa chlorinated dibenzo dioxins and furans. The Toxic Equivalency (TEQ) for your sample has been calculated using the 2005 World Health Organization's (WHO's) toxic equivalency factors (TEFs). BC Laboratories requested a turnaround time of fifteen business days for project 10977.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains our sample tracking log, and the analytical results. The Sample Receipt section contains your chain of custody, our sample login form and a sample photo. The attached results are specifically for the sample referenced in this report only. These results meet all National Environmental Laboratory Accreditation Program (NELAP) requirements and shall not be reproduced except in full. Frontier Analytical Laboratory's State of Oregon NELAP certificate number is 4041 and our State of California ELAP certificate number is 2934. This report has been emailed to you as a portable document format (PDF) file. A hardcopy of this report will not be sent to you unless specifically requested.

If you have any questions regarding project 10977, please contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Bradley B. Silverbush Director of Operations

FRONTIER ANALYTICAL LABORATORY

5172 Hillsdale Circle * El Dorado Hills, CA 95762 Tel (916) 934-0900 * Fax (916) 934-0999 www.frontieranalytical.com

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Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 10977

Received on: 10/06/2017 Project Due: 10/30/2017 Storage: R3

 FAL
 Client
 Client Sample ID
 Client Sample ID
 Requested Method
 Sampling Method
 Sampling Date
 Sampling Date
 Mode Time
 Due Date

 10977-001-SA
 0
 1727086
 1727086-08
 EPA 8290 D/F
 Solid
 09/25/2017
 09:45 am
 10/25/2017

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Subcontract Report for 1727086 PDF File Name: wo_1727086_sub_FRNTL.pdf Page 3 of 8

EPA Method 8290 PCDD/F



FAI, ID: 10977-001-MB Client ID: Method Blank Matrix: Solid Batch No: X4265	Date	Extracted: 10- Received: NA unt: 5.00 g		ICal: PCDI GC Calum Units: pg/g		20	quired: 10- 05 WHO TI sis: Dry We	EQ: 0.0	
Compound	Con	c DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DI.	Qual
2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8-HxCDD 1,2,3,7,8-PeCDD 0CDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HxCDF 1,2,3,4,7,8,9-HxCDF 0CDF	NI NI NI NI NI NI NI NI NI NI NI NI NI	0 0.459 0 0.636 0 0.654 0 0.691 0 0.948 0 0.420 0 0.420 0 0.433 0 0.335 0 0.335 0 0.335 0 0.435 0 0.435 0 0.445 0 0 0.445			0.0273 0.0570 0.0793 0.0940 0.0823 0.0842 0.172 0.0269 0.0468 0.0437 0.0477 0.0574 0.06574 0.0883 0.170	Total TCDD Total PeCDD Total HxCDD Total HpCDD Total TCDF Total PeCDF Total HxCDF Total HxCDF Total HxCDF	ND ND ND ND ND	0.193 0.459 0.654 0.691 0.169 0.169 0.445 0.445	
Internal Standards 13C-1,2,3,7,8-TCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,6,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8,9-HyCDF 13C-1,2,3,4,7,8,9-HyCDF 13C-1,2,3,4,7,8,9-HyCDF 13C-1,2,3,4,7,8,9-HyCDF	% Rec 89.2 95.9 96.0 91.1 102 89.9 85.0 84.1 88.0 103 95.8 101 107 110 123 109	QC Limits 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135	Qual		B AAC C C D PA DNQ A B AA M M ND A NP N P PA S S X M	otopic Labeled Star gnal to noise ratio is nalyte is present in resence of Dipheny nalyte concentration nalyte concentration nalyte concentration saximum possible or nalyte Not Detected of Provided re-filtered through a nample acceptance of antix interferences esult taken from dill	s > 10:1 Method Bla e I Ethers in is below on in seconda in is below on on seconda in is below on on seconda in is below of whether at Detection Whatman of	nk alibration ra salibration ra salibration ra alibration ra n on Limit Lev 0.7um GF/F	inge inge inge
37Cl-2,3,7,8-TCDD	106	50.0 - 150						200011	

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Subcontract Report for 1727086 PDF File Name: wo_1727086_sub_FRNTL.pdf Page 4 of 8

EPA Method 8290 PCDD/F



FAI, ID: 10977-001-OPR Client ID: OPR Matrix: Solid Batch No: X4265	Date Extracted: 10-09-201 Date Received: NA Amount: 5.00 g	7	ICal: PCDDFAL4-9-18-17 GC Column: DB5MS Units: ng/ml	Acquired: 10-10-2017 2005 WHO TEQ: NA
Compound	Conc QC Limits	Qual		
2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD	11.6 7.00 - 13.0 59.0 35.0 - 65.0 58.1 35.0 - 65.0 56.4 35.0 - 65.0 54.2 35.0 - 65.0 58.3 35.0 - 65.0 116 70.0 - 130			
2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,5,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 0,00000000000000000000000000000000000	11.8 7.00 - 13.0 59.6 35.0 - 65.0 58.9 35.0 - 65.0 56.9 35.0 - 65.0 56.6 35.0 - 65.0 57.6 35.0 - 65.0 57.5 35.0 - 65.0 57.6 35.0 - 65.0 114 70.0 - 130			
Internal Standards	% Rec QC Limits	Qual		
13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDD 13C-0,2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HyCDF 13C-1,2,3,4,7,8,9-HyCDF 13C-1,2,3,4,7,8,9-HyCDF 13C-1,2,3,4,7,8,9-HyCDF 13C-0,2,5,4,7,8,9-HyCDF 13C-0,2,5,4,7,8,9-HyCDF 13C-1,2,3,4,7,8,9-HyCDF	71.9 40.0 - 135 70.6 40.0 - 135 74.7 40.0 - 135 75.2 40.0 - 135 69.6 40.0 - 135 63.0 40.0 - 135 70.6 40.0 - 135 70.1 40.0 - 135 87.1 40.0 - 135 87.0 40.0 - 135 87.1 40.0 - 135 87.1 40.0 - 135 89.9 40.0 - 135 80.9 40.0 - 135 80.9 40.0 - 135 80.9 40.0 - 135 80.9 40.0 - 135 75.7 40.0 - 135		signal to nois B. Analyte is pre C. Chemical Inte D. Presence of I DNQ. Analyte conc E. Analyte conc F. Analyte conc J. Analyte conc M. Maximum po ND. Analyte Not I NP. Not Provided P. Pre-filtered th	Diphenyl Ethers entration is below calibration range entration is above calibration range mation on secondary column entration is below calibration range ssible concentration Detected at Detection Limit Level grough a Whatman 0.7um GF/F filter phance criteria not met
37Cl-2,3,7,8-TCDD	85.6 50.0 - 150			from dilution or reinjection

Date: 10/17/2017

Reviewed By:__&W Date: 10/17/2017

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Subcontract Report for 1727086 PDF File Name: wo_1727086_sub_FRNTL.pdf Page 5 of 8

EPA Method 8290 PCDD/F



FAL ID: 10977-001-SA Client ID: 1727086-08 Matrix: Solid Batch No: X4265	Date Extracted: 10-09-2017 ICal: PCDDFAL4- Date Received: 10-08-2017 GC Column: DBSI Amount: 5.03 g Units: pg/g % Solids: 93.19				n: DB5MS								
Compound	Con	c DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL Qual					
2.3.7,8-TCDD 1,2.3.7,8-PeCDD 1,2.3.4.7,8-HxCDD 1,2.3,6.7,8-HxCDD 1,2.3,7.8,9-HxCDD 1,2.3,7.8,9-HxCDD 0CDD	6.3 14,- 8.0 42,- 21,- 194 3160	4 - 5 - 4 - 8 -		6.34 14.4 0.805 4.24 2.18 19.4 9.48	0.0273 0.0570 0.0793 0.0940 0.0823 0.0842 0.172	Total TCDD Total PeCDD Total HxCDD Total HpCDD	24.9 68.8 266 3900	:					
2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 0,2,3,4,7,8,9-HpCDF	0.57: 1.0 1.4 5.3 4.5 6.8 NC 21: 14:	4 - 7 - 5 - 2 - 5 - 0 0.799 8 - 9 -) 1	0.0575 0.0312 0.441 0.535 0.452 0.685 	0.0259 0.0449 0.0468 0.0437 0.0417 0.0574 0.0657 0.0747 0.0883 0.170	Total TCDF Total PeCDF Total HxCDF Total HpCDF	9.48 29.9 200 1050	:					
13C-2.3.7,8-PeCDD 13C-1.2.3.7,8-PeCDD 13C-1.2.3.4.7,8-HxCDD 13C-1.2.3.4.7,8-HxCDD 13C-1.2.3.4.6,7.8-HpCDD 13C-0.2.3.7,8-PeCDF 13C-1.2.3.7,8-PeCDF 13C-1.2.3.4.7,8-HxCDF 13C-1.2.3.4.7,8-HxCDF 13C-1.2.3.4.7,8-HxCDF 13C-1.2.3.4.7,8-HxCDF 13C-1.2.3.4.7,8-HxCDF 13C-1.2.3.4.7,8-HxCDF 13C-1.2.3.4.7,8-HpCDF 13C-1.2.3.4.7,8-HpCDF 13C-1.2.3.4.7,8-HpCDF	% Rec 92.3 84.9 95.9 70.2 91.1 86.0 74.4 65.1 90.7 68.4 86.1 81.9 96.8 92.0	QC Limits 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135	Qual		A sign B Ans C Che D Pre DNQ Ans E Ans F Ans J Ans M Mas ND Ans NP Not P Pre S Ser X Mal	topic Labeled Star nal to noise ratio is alyte is present in in emical Interference sence of Dipheny alyte concentration alyte concentration alyte concentration alyte concentration alyte Not Detected Provided -filtered through a mple acceptance of trix interferences	s > 10:1 Method Blar Bethers is below or is above or on seconda is below an is below and the below whatman of whatman of whatman of whatman of whatman	nk alibration range alibration range ry column alibration range n Limit Level 0.7um GF/F fiber net					
Cleanup Surrogate 37Cl-2,3,7,8-TCDD	109	50.0 - 150			* Res	sult taken from dilu	tion or rein	ection					

Date: 10/17/2017

Reviewed By:__&W Date: 10/17/2017

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Subcontract Report for 1727086 PDF File Name: wo_1727086_sub_FRNTL.pdf Page 6 of 8

SUBCONTRACT ORDER

BC Laboratories

1727086

RECEIVING LABORATORY:

Frontier Analytical Laboratory \$FRNTL-EINV

5172 Hillsdale Circle El Dorado Hills, CA 95762 Phone :(916) 934-0900

Fax: (916) 934-0999

SENDING LABORATORY:

BC Laboratories 4100 Atlas Ct

Bakersfield, CA 93308 Phone: 661-327-4911 Fax: 661-327-1918

Project Manager:

Molly Meyers

Analysis

Due

Expires

Laboratory ID

Comments

Sample ID: 1727086-08

Solids

Sampled:09/25/17 09:45

og8290s Full Scan FRNTL

10/09/17 17:00

10/25/17 09:45

Containers Supplied:

Released By

Date

Received By

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Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: 10977

Client:	BC Laboratories, Inc
Client Project ID:	·
Date Received:	10/06/2017
Time Received:	11:00 am
Received By:	KZ
Logged In By:	KZ
# of Samples Received:	1
Duplicates:	0
Storage Location:	R3

Method of Delivery:	California Overnight
Tracking Number:	C11235900269629
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	0
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test aqueous sample for residual Chlorine	No
Sodium Thiosulfate Added	No
Adequate Sample Volume	Yes
Appropriate Sample Container	No
pH Range of Aqueous Sample	N/A

Anomalies or additional comments:

Please note that the sample was received in a clear glass jar. NELAP requires samples be received in amber glass bottles or jars. Although this anomaly will not affect your results, we are required by NELAP to make a note of it. We will proceed with analysis unless directed otherwise by you.

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5172 Hillsdale Circle * El Dorado Hills, CA 95762 * Tel (916) 934-0900 * Fax (916) 934-0999 * www.frontieranalytical.com

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

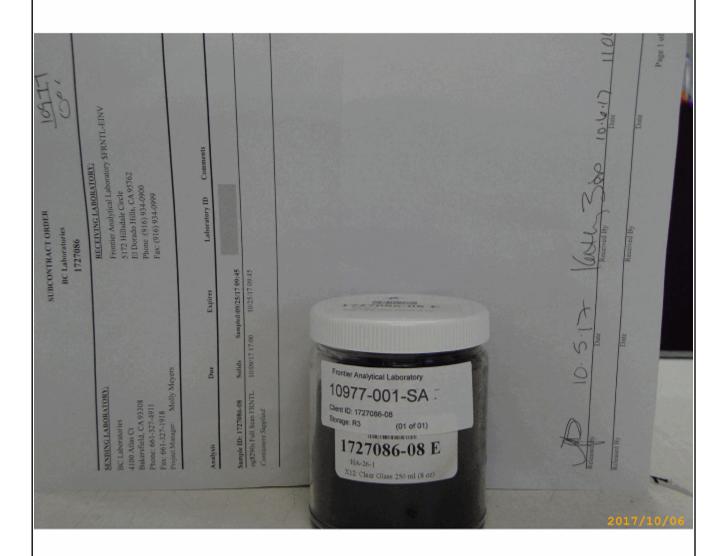
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Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 81 of 91



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Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 82 of 91

Subcontract Report for 1727086 PDF File Name: wo_1727086_sub_FRNTL_addn.pdf Page 1 of 8





March 30, 2018

Ms. Molly Meyers BC Laboratories 4100 Atlas Court Bakersfield, CA 93308

Dear Ms. Meyers,

The following results are associated with Frontier Analytical Laboratory project 11342. This corresponds to your subcontract order 1727086. One solid sample was received on 03/02/2018 in good condition. This sample was extracted and analyzed by EPA Method 8290 for tetra through octa chlorinated dibenzo dioxin and furans. The Toxic Equivalency (TEQ) for your sample has been calculated using the 2005 World Health Organization's (WHO's) toxic equivalency factors (TEFs). BC Laboratories requested a turnaround time of fifteen business days for project 11342.

Please note that this sample was received past the method recommended hold time of thirty days. However EPA Method 8290 states, (Section 6.4); "Storage and holding times-All samples, except fish and adipose tissue samples, must be stored at 4°C in the dark, and should be extracted within 30 days and completely analyzed within 45 days of extraction. Note: The holding times listed in Sec. 6.4 are recommendations. PCDDs and PCDFs are very stable in a variety of matrices, and holding times under the conditions listed in Sec. 6.4 may be as high as a year for certain matrices." We can confirm your sample has been stored at the required method conditions since its receipt on 03/02/2018.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains our sample tracking log and the analytical results. The Sample Receipt section contains your chain of custody, our sample login form and a sample photo. The enclosed results are specifically for the sample referenced in this report only. These results shall not be reproduced except in full. Frontier Analytical Laboratory's State of Oregon NELAP certificate number is 4041. Our State of California ELAP certificate number is 2934. This report has been emailed to you. A hardcopy of this report will not be sent to you unless specifically requested.

If you have any questions regarding project 11342, please feel free to contact me at 916-934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Thomas C. Crabtree

Director

FRONTIER ANALYTICAL LABORATORY

5172 Hillsdale Circle * El Dorado Hills, CA 95762 Tel (916) 934-0900 * Fax (916) 934-0999 www.frontieranalytical.com

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Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 11342

Received on: 03/02/2018 Project Due: 03/26/2018 Storage: R-3

AL Client Client Requested Sampling Sampling Hold Time

Ample ID Dup Project ID Sample ID Method Matrix Date Time Due Date

11342-001-SA 0 1727086 1727086-09 EPA 8290 D/F Solid 09/25/2017 09:50 am 10/25/2017

FAL Sample ID Notes

11342-001-SA 'Please note that the sample was received past its hold time. We will proceed with analysis unless directed otherwise by you."

000002 of 000008

5172 Hillsdale Circle * El Dorado Hills, CA 95762 * Tel (916) 934-0900 * Fax (916) 934-0999 * www.frontieranalytical.com

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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EPA Method 8290 PCDD/F



FAL ID: 11342-001-MB Client ID: Method Blank Matrix: Solid Batch No: X4449	Date	Extracted: 03-2 Received: NA unt: 5.00 g	24-2018	ICal: PCDI GC Colum Units: pg/g		2	loquired: 03- 005 WHO TI Rasis: Dry Wi	EQ: 0.0	
Compound	Con	ic DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2.3.7.8-TCDD 1.2.3.7.8-PeCDD 1.2.3.4.7.8-HxCDD 1.2.3.6.7.8-HxCDD 1.2.3.7.8.9-HxCDD 0.00D 2.3.7.8-TCDF 1.2.3.7.8-PeCDF 2.3.4.7.8-PeCDF 1.2.3.4.7.8-PeCDF 1.2.3.4.7.8-HxCDF 1.2.3.4.7.8-HxCDF 1.2.3.4.7.8-HxCDF 1.2.3.4.7.8-HxCDF 1.2.3.4.7.8-HxCDF 1.2.3.4.7.8-HxCDF 1.2.3.4.7.8-HxCDF 1.2.3.4.7.8-HxCDF 1.2.3.4.7.8-HxCDF	N N N N N N N N N N N N N N N N N N N	0 0.317 0 0.498 0 0.488 0 0.450 0 0.638 0 0.933 0 0.230 0 0.226 0 0.330 0 0.385 0 0.380 0 0.427 0 0.359 0 0.347			0.0273 0.0570 0.0790 0.0990 0.0823 0.0842 0.172 0.0269 0.0449 0.0487 0.0417 0.0557 0.0747 0.0863 0.170	Total TCDD Total PeCDD Total HxCDD Total HpCDD Total TCDF Total PeCDF Total HxCDF Total HxCDF Total HxCDF	ND ND ND ND ND	0.173 0.317 0.494 0.638 0.135 0.230 0.427 0.359	
13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,6,7,8-HxCDD 13C-0,2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-1,2,3,4,7,8-PeCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF 13C-1,2,3,4,7,8,9-HxCDF	% Rec 78.7 84.5 78.7 82.5 77.2 72.0 82.3 78.8 81.3 75.8 75.7 75.1 78.1 76.4 79.3 70.9	QC Limits 40.0 - 135	Qual		A sign B Ar C CF D Pr DNQ Ar E Ar J Ar M Ms ND Ar NP Nc P Pr S Se	otopic Labeled Sits inal to noise ratio salyte is present in nemical Interferen- esence of Diphen salyte concentrationally salyte concentrationally acceptance of provided extractionally in the concentration as the concentrationally in the concentrationally as the concentrationally in the concentration of the concentrationally in the concentration of the concentrat	is >10:1 n Method Bla ce yl Ethers on is below o n on seconda on is below o concentration d at Detection a Whatman criteria not r	alibration ra salibration ra ary column alibration ra n on Limit Lew 0.7um GF/F	inge ange inge
Cleanup Surrogate 37Cl-2,3,7,8-TCDD	73.3	50.0 - 150			* Re	sult taken from di	lution or rein	ijection	

3/30/2018

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EPA Method 8290 PCDD/F



FAL ID: 11342-001-OPR Client ID: OPR Metrix: Solid Batch No: X4449	Date Extracted: 03-24- Date Received: NA Amount 5.00 g	2018	ICal: PCDDFAL4-12-20-17 GC Column: DB5MS Units: ng/ml	Acquired: 03-26-2018 2005 WHO TEQ: NA
Compound	Conc QC Limits	Qual		
2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,4,6,7,8-HpCDD 0CDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,7,8,9-HxCDF	10.5 7.00 - 13.0 53.6 35.0 - 65.0 49.1 35.0 - 65.0 48.2 35.0 - 65.0 50.6 35.0 - 65.0 51.8 35.0 - 65.0 66.4 70.0 - 13.0 49.3 35.0 - 65.0 49.0 35.0 - 65.0 51.2 35.0 - 65.0 50.7 35.0 - 65.0 50.7 35.0 - 65.0 50.8 35.0 - 65.0			
1,2,3,4,7,8,9-HpCDF OCDF	51.9 35.0 - 65.0 99.5 70.0 - 130			
Internal Standards	% Rec QC Limits	Qual		
13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,6,7,8-HxCDD 13C-1,2,3,6,7,8-HxCDD 13C-0CDD 13C-0CDD 13C-0CDD 13C-1,2,3,7,8-PeCDF 13C-1,2,3,4,7,8-PeCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF	65.1 40.0 - 135 67.8 40.0 - 135 67.9 40.0 - 135 64.3 40.0 - 135 64.3 40.0 - 135 66.4 40.0 - 135 66.4 40.0 - 135 66.4 40.0 - 135 64.1 40.0 - 135 67.8 40.0 - 135 64.0 40.0 - 135 63.4 40.0 - 135 64.0 40.0 - 135		A signal to note B Analyte is pro C Chemical Into D Presence of DNO Analyte conc E Analyte conf F Analyte conf J Analyte conc M Maximum po ND Analyte Not I NP Not Provided P Pre-filtered ti S Sample acce	Diphenyl Ethers entration is below calibration range entration is above calibration range mation on secondary column entration is below calibration range ssible concentration Detected at Detection Limit Level prough a Whatman 0.7um GF/F fiber ptance criteria not met
Cleanup Surrogate 37Cl-2,3,7,8-TCDD	61.3 50.0 - 150		X Matrix interfe * Result taken	rences from dilution or reinjection

3/30/2018

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5172 Hillsdale Circle * El Dorado Hills, CA 95762 * Tel (916) 934-0900 * Fax (916) 934-0999 * www.frontieranalytical.com

Report ID: 1000726004



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EPA Method 8290 PCDD/F



FAI, ID: 11342-001-SA Client ID: 1727086-09 Matrix: Solid Batch No: X4449	Date Amou	Extracted: 03-0 Received: 03-0 int: 5.03 g lids: 97.77		ICal: PCDI GC Calum Units: pg/g							
Compound	Con	c DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL.	Qual		
2.3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD	0.63 1.5 0.85 4.6 2.8 21: 309	0 - 7 - 1 - 2 - 5 -	7 7 7	0.636 1.50 0.0857 0.461 0.282 2.15 0.927	0.0273 0.0570 0.0793 0.0940 0.0823 0.0842 0.172	Total TCDD Total PeCDD Total HxCDD Total HpCDD	7.37 28.6	:	М		
2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8-HxCDF 1,2,3,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	NC NC 0.614 0.544 0.814 NC 244 1.77 16	0.217 0.243 6 - 0 - 4 - 0 0.325 7 - 1 -	J J	0.0616 0.0540 0.0814 0.247 0.0173 0.0483	0.0269 0.0449 0.0468 0.0437 0.0417 0.0574 0.0657 0.0747 0.0883 0.170	Total TCDF Total PeCDF Total HxCDF Total HxCDF	2.61 20.9	:	1		
13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,6,7,8-HxCDD 13C-1,2,3,6,7,8-HxCDD 13C-1,2,3,4,6,7,8-HxCDD 13C-0,2,3,7,8-PeCDF 13C-1,2,3,7,8-PeCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF	% Rec 86.2 92.5 91.9 86.2 85.8 80.7 89.1 87.0 89.3 82.2 82.3 81.1 81.8 83.3 87.7 77.9	QG Limits 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135	Qual		B ALC CCD PIDNQ ALE ALA MM MD ALM NP N PIS SIX M	otopic Labeled Si gnal to noise ratio malyte is present i hemical Interferer resence of Dipher nalyte concentrat nalyte concentrat iaximum possible nalyte Not Detect of Provided re-filtered through ample acceptano latrix interference	n is >10:1 n Method Bl noe	calibration ra calibration ra calibration ra lary column calibration ra in ion Limit Lev 0.7um GF/R met	inge ange inge el		
Cleanup Surrogate 37Cl-2.3.7.8-TCDD	82.8	50.0 - 150			* R	esult taken from o	filution or rei	njection			

Reviewed By: d0f√
Date: 3/30/2018

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Subcontract Report for 1727086 PDF File Name: wo_1727086_sub_FRNTL_addn.pdf Page 6 of 8

SUBCONTRACT ORDER

BC Laboratories 1727086 11342

SENDING LABORATORY:

BC Laboratories 4100 Atlas Ct Bakersfield, CA 93308 Phone: 661-327-4911

Fax: 661-327-1918 Project Manager: Molly Meyers RECEIVING LABORATORY:

Frontier Analytical Laboratory \$FRNTL-EINV 5172 Hillsdale Circle El Dorado Hills, CA 95762

Phone :(916) 934-0900 Fax: (916) 934-0999

Analysis

Dua

Expires

Laboratory ID

Comments

Langeria en

Containers Supplied:

Sample ID: 1727086-09

Solids

Sampled:09/25/17 09:50

metals, dioxin, Cr6 added per Kirk. mm 3/1

og8290s Full Scan FRNTL

FRNTL 03/15/18 17:00

10/25/17 09:50

Containers Supplied:

3.18 Key Sig 3:12/2018 1000
Released By Date Received By Sig 3:12/2018 1000

Released By

Date

Received By

Date

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Page 1 of 1



Subcontract Report for 1727086 PDF File Name: wo_1727086_sub_FRNTL_addn.pdf Page 7 of 8



Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: 11342

01:	DO 1 -1 1 1
	BC Laboratories, Inc
Client Project ID:	1727086
Date Received:	03/02/2018
Time Received:	10:10 am
Received By:	KZ
Logged In By:	SC
# of Samples Received:	1
Duplicates:	0
Storage Location:	R-3

Method of Delivery:	Golden State Overnight
Tracking Number:	47057030118371811893
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	0
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test aqueous sample for residual Chlorine	No
Sodium Thiosulfate Added	No
Adequate Sample Volume	Yes
Appropriate Sample Container	No
pH Range of Aqueous Sample	N/A

Anomalies or additional comments:

Please note that the sample was received in a clear glass jar. NELAP requires samples be received in amber glass bottles or jars. Although this anomaly will not affect your results, we are required by NELAP to make a note of it. We will proceed with analysis unless directed otherwise by you.

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5172 Hillsdale Circle * El Dorado Hills, CA 95762 * Tel (916) 934-0900 * Fax (916) 934-0999 * www.frontieranalytical.com

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

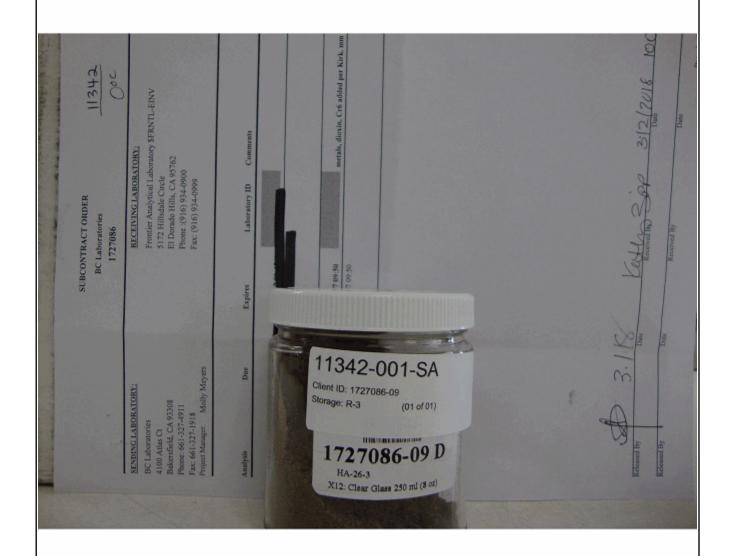
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 89 of 91



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Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 90 of 91

Reported: 04/02/2018 11:13

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Notes And Definitions

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Stantec - SLO

Suite A

J Estimated Value (CLP Flag)
MDL Method Detection Limit
ND Analyte Not Detected
PQL Practical Quantitation Limit

A01 Detection and quantitation limits are raised due to sample dilution.

A02 The difference between duplicate readings is less than the quantitation limit.

A10 Detection and quantitation limits were raised due to matrix interference.

pH1:1 pH result reported on a 1:1 dilution of sample

Q01 Sample precision is not within the control limits.

Q02 Matrix spike precision is not within the control limits.

Q03 Matrix spike recovery(s) is(are) not within the control limits.

S05 The sample holding time was exceeded.

S09 The surrogate recovery on the sample for this compound was not within the control limits.

Report ID: 1000726004 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 91 of 91



Date of Report: 01/04/2018

Kirk Henning

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Client Project: 185850429.300.0006

BCL Project: Former Northern Landfill

BCL Work Order: 1727087 Invoice ID: B281752

Enclosed are the results of analyses for samples received by the laboratory on 9/25/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000658042

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Stuart Buttram
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101



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Laboratory / Client Sample Cross Reference	6
Sample Results	
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Total Petroleum Hydrocarbons	11
1727087-02 - HA-31-1.5	
Total Petroleum Hydrocarbons	12
1727087-03 - HA-31-3	
Total Petroleum Hydrocarbons	13
1727087-04 - HA-31-5	
Total Petroleum Hydrocarbons	14
1727087-05 - HA-31-8	
Total Petroleum Hydrocarbons	15
1727087-06 - HA-30-1	
Total Petroleum Hydrocarbons	16
1727087-07 - HA-30-3	
Total Petroleum Hydrocarbons	17
1727087-08 - HA-30-5	
Total Petroleum Hydrocarbons	18
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Total Petroleum Hydrocarbons	20
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Chain of Custody and Cooler Receipt Form for 1727087 Page 1 of 3 Chain of Custody Form | STD | 5 Day** | 2 Day** | 1 Day Result Request **Surcharge Notes System # (Nesded for EDT) BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA\83308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com other O Waste Water Ground Waster Drinking Water a6pnjg **Analysis Requested** でいる Project #: 185850429.300.000 Project Name: Polo Former Norths 10:20 09:35 10100 13:20 08:30 05:50 10:25 37:01 2:42 Sampled 10:15 12:37 1247 12:52 08:15 State of CA? (EDT) EDF Required? City, State, Zipton Luis Opis po, CA 340) Sampler(s): Jim Raney □ Yes □ No Geotracker 09 2217 Sampled ABORATORIES, INC. Date □ Yes Street Address; 3437 Emocesa, Drive, Suite A Same as above Email: Kick, Henring @ Stantec.com Phone (805) 250-2354 Fax Attn: Kack Henryma 14-29-8 4-29-6 4A-30-8 HA-29-3 1A-31-5 JA-30-5 1A-30-3 HA-31-15 HA-31-8 HA-80-1 14-29-1 Client: Startec Work Order #: Address Client: Attn: و コ

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Report ID: 1000691036



Chain of Custody and Cooler Receipt Form for 1727087 Page 2 of 3

BC LABORATORIES INC.			COOLE	R RECEIP	T FORM		1 1000	ı	Page	of X
Submission #: 17 -2708	7									Inc
SHIPPING INFO					SHIDDIN	G CONTA	VINED	1	FREE .	93
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BC Lab Field Service 🔀 Oth	er 🗆 (Speci	fy)		_ 01	her 🗆 (S	pecify)	J BOX	~		
				1					VV	/ S
Refrigerant: Ice D Blue Ice	□ Not	ne 🗆	Other D	Con	ments:		•			
Custody Seals Ce Chest □	Contain			coi	mments:					
All samples received? Yes No 🗆	All sample	s contain	ers intact?	Yes N	0 0	Descri	iption(s) m	atch COC	7 Yes 1	le C
COC Received	Emisșivity: _	0.98	Contains	-COM	The		208			
Q YES □ NO			Containe	- (40.)	nem	ometer ID:	KO D	Date	Time //	2112
4 ILS BNO	Temperature	: (A)	1-0	*C /	(C)	6.7	°C	Analy	rst Init 165	Y
,	T				SAME	LE NUMBER	c			
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nz/8nz/16nz PE UNPRES		1			1		+		_	-
ne Cr ¹⁴			1		1	-	+			-
T INORGANIC CHEMICAL METALS			+-	_		-		-		
NORGANIC CHEMICAL METALS 402 / 802 / 10	ine	1		+	-		-	-	-	
CYANIDE		1	-	-	+	-	-	-		
I NITROGEN FORMS			-	-	-	-	-	-		
T TOTAL SULFIDE		+-		-	-	-		-		
z. NITRATE / NITRITE		+		1	-		-	-		
TOTAL ORGANIC CARBON .	- 	-		+		<u> </u>	-			
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mi VOA VIAL TRAVEL BLANK		+	-	-	-					
ml VOA VIAL		-								
CEPA 1664		-								
ODOR		-								
DIOLOGICAL		-								
CTERIOLOGICAL										
mi VOA VIAL- 504										
EPA 508/608/8080								1		
EPA 515.1/8150								1		
EPA 525										
EPA 525 TRAVEL BLANK							1		1	1
ni EPA 547									1	1
d EPA 531.1							****	1	+	-
EPA 548	1							 	-	1
EPA 549						-		-	-	-
EPA 8015M			1.			-			-	1
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RT KIT									1	
IMA CANISTER						-			-	
nents:										



Chain of Custody and Cooler Receipt Form for 1727087 Page 3 of 3

BC LABORATORIES INC.			OOLER	RECEIPT	FORM			Page	2/6	f XA
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Submission #: (+-2+0'3+				1				1	EDEE LICE	92.6
SHIPPING INFORM			_		IIPPING C				Free Lioi /es 🗆 N	- 11
Fed Ex D UPS D Ontrac D] Hand] (Specify	i Delivery	, 0	Ice Che	st ⊠ (Spec		Box □	,	W / :	_ 11
3C Lab Field Service Other I	J (Specify	,		. Othe	r 🗆 (opec	11 y /			VV /	3
Refrigerant: Ice X Blue Ice □	None		Other []	Comm	ents:		•			
nemgerane 100 p	Containe	-	None	7	nents:					
Sustody Seals Republication Chest Li	macr? Yes		Wone	Com	nents.					
Ill samples received? Yes ☑ No □ A	ll samples	containers	intact? Y	es 🗷 No	0	Descrip	tion(s) mate			
COC Received Emi	ssivity: 🐧	1.48	Container:	calass	Thermom	eter ID:	05	Date/Tin	no 4/25	2112
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er/Ser/16er PE UNPRES	-	-	-					· ·		
oz Cr ¹⁶	-	-	-					-	-	
T INORGANIC CHEMICAL METALS	-	-					-	-	-	
NORGANIC CHEMICAL METALS 402/802/1602									-	
T CYANIDE			-	-			 	-		
T NITROGEN FORMS			-				-			
T TOTAL SULFIDE	-	-	-				-		-	
OZ NITRATE/NITRITE		-	-						-	
T TOTAL ORGANIC CARBON .		-	-						1	
T CHEMICAL OXYGEN DEMAND			1	-						
ta PhenoLics	-	1	1		-		-			
0mi VOA VIAL TRAVEL BLANK	-	-	-							
0ml VOA VIAL	·	1		-						
T EPA 1664	7	1	1							
T ODOR		†								
ADIOLOGICAL		1	1							
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0 ml VOA VIAL-504 TEPA 508/608/8080										
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T EPA 8015M										
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AART KIT					-					
MMA CANISTER	<u> </u>	<u></u>						<u> </u>		

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401 Reported: 01/04/2018 13:21
Project: Former Northern Landfill
Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727087-01 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-33-8 Sampled By: SISL **Receive Date:** 09/25/2017 21:12 **Sampling Date:** 09/22/2017 08:15

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-33

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727087-02 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-31-1.5 Sampled By: SISL **Receive Date:** 09/25/2017 21:12 **Sampling Date:** 09/22/2017 08:50

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-31

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727087-03 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-31-3
Sampled By: SISL

Receive Date: 09/25/2017 21:12

Sampling Date: 09/22/2017 09:35 **Sample Depth:** ---

Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-31

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000691036

3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:21

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1727087-04 COC Number:

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-31-5 Sampled By: SISL

09/25/2017 21:12 Receive Date: Sampling Date: 09/22/2017 09:40

Sample Depth: Lab Matrix: Solids Soil Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-31

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727087-05 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location: HA-31-8 Sampling Point: SISL Sampled By:

09/25/2017 21:12 Receive Date: 09/22/2017 10:00 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-31

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727087-06 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location: HA-30-1 Sampling Point: SISL Sampled By:

Receive Date: 09/25/2017 21:12 09/22/2017 10:15 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-30

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401 Reported: 01/04/2018 13:21
Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727087-07 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-30-3 Sampled By: SISL **Receive Date:** 09/25/2017 21:12 **Sampling Date:** 09/22/2017 10:20

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-30

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727087-08 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-30-5
Sampled By: SISL

Receive Date: 09/25/2017 21:12 **Sampling Date:** 09/22/2017 10:25

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-30

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727087-09 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-30-8
Sampled By: SISL

Receive Date: 09/25/2017 21:12 **Sampling Date:** 09/22/2017 10:45

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-30

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000691036 4100 Atlas Court Bakersfield, CA 93308 (661) 3

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:21

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1727087-10 COC Number:

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-29-1 Sampled By: SISL

09/25/2017 21:12 Receive Date: Sampling Date: 09/22/2017 12:37

Sample Depth: Lab Matrix: Solids Soil Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-29

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727087-11 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location: HA-29-3 Sampling Point: Sampled By:

SISL

09/25/2017 21:12 Receive Date: 09/22/2017 12:42 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-29

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727087-12 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location: HA-29-6 Sampling Point: SISL Sampled By:

Receive Date: 09/25/2017 21:12 09/22/2017 12:47 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-29

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000691036

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3437 Empresa Drive, Suite A Project: Former Northern Landfill Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727087-13 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-29-8 Sampled By: SISL **Receive Date:** 09/25/2017 21:12 **Sampling Date:** 09/22/2017 12:52

Sample Depth:---Lab Matrix:SolidsSample Type:Soil

Delivery Work Order: Global ID:

Location ID (FieldPoint): HA-29

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727087-14 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-28-1
Sampled By: SISL

Receive Date: 09/25/2017 21:12 **Sampling Date:** 09/22/2017 13:20

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-28

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000691036 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 10 of 30



Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:21

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727087-01	Client Sample Name:		Former N	Former Northern Landfill, HA-33-8, 9/22/2017 8:15:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogate	e)	86.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run			QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	09/29/17 12:40	10/05/17 21:24	AS1	GC-13	0.993	B[J0158		

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Stantec - SLO Reported: 01/04/2018 13:21

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727087-02	Client Sampl	e Name:	Former N	orthern Laı	50:00AM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	380	94	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	190	22	EPA-8015B/FFP	ND		1
TPH - Motor Oil		2600	mg/kg	380	120	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	re)	85.0	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1

			Run			QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	09/29/17 12:40	10/06/17 14:47	AS1	GC-13	18.750	B[J0158		

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Reported: 01/04/2018 13:21

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727087-03	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-31-3, 9/22/2017 9:35:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	1700	420	EPA-8015B/FFP	ND	A01	1		
TPH - Diesel (FFP)		ND	mg/kg	830	100	EPA-8015B/FFP	ND	A01	1		
TPH - Motor Oil		7300	mg/kg	1700	540	EPA-8015B/FFP	ND	A01	1		
Tetracosane (Surrogat	te)	65.7	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP		A01	1		

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	09/29/17 12:40	10/06/17 03:24	AS1	GC-13	83.333	B[J0158		

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Suite A

3437 Empresa Drive, Suite A

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Reported: 01/04/2018 13:21

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727087-04	Client Sampl	Former N	Former Northern Landfill, HA-31-5, 9/22/2017 9:40:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		180	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	70.1	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run			QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	09/29/17 12:40	10/06/17 02:16	AS1	GC-13	1.003	B[J0158		

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3437 Empresa Drive, Suite A

Reported: 01/04/2018 13:21

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Suite A San Luis Obispo, CA 93401 **Total Petroleum Hydrocarbons**

BCL Sample ID:	1727087-05	Client Sample Name:		Former N	Former Northern Landfill, HA-31-8, 9/22/2017 10:00:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		170	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	80.7	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run				QC
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	09/29/17 12:40	10/06/17 01:53	AS1	GC-13	1.017	B[J0158

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Suite A

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Reported: 01/04/2018 13:21

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727087-06	Client Sampl	Client Sample Name:		Former Northern Landfill, HA-30-1, 9/22/2017 10:15:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	430	110	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	210	26	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		1500	mg/kg	430	140	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	86.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	09/29/17 12:40	10/06/17 01:30	AS1	GC-13	21.429	B[J0158		

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San Luis Obispo, CA 93401

Reported: 01/04/2018 13:21

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727087-07	Client Sampl	Former N	orthern La	ndfill, HA-30-3, 9/2	2/2017 10:2	0:00AM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	460	120	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	230	28	EPA-8015B/FFP	ND		1
TPH - Motor Oil		3200	mg/kg	460	150	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	re)	89.3	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1

			Run				QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	09/29/17 12:40	10/06/17 15:10	AS1	GC-13	23.077	B[J0158			

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San Luis Obispo, CA 93401

Reported: 01/04/2018 13:21 Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727087-08	Client Sampl	Former N	Former Northern Landfill, HA-30-5, 9/22/2017 10:25:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		18	mg/kg	20	6.5	EPA-8015B/FFP	ND	J	1	
Tetracosane (Surrogat	e)	81.4	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1	

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 12:40	10/05/17 22:08	AS1	GC-13	1.007	B[J0158	

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Suite A

3437 Empresa Drive, Suite A

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Reported: 01/04/2018 13:21

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727087-09	Client Sampl	le Name:	Former N	orthern La	ndfill, HA-30-8, 9/2	2/2017 10:4	5:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		23	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	92.9	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1

			Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 12:40	10/05/17 22:53	AS1	GC-13	1.003	B[J0158	

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Suite A

3437 Empresa Drive, Suite A

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Reported: 01/04/2018 13:21

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727087-10	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-29-1, 9/22/2017 12:37:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	320	79	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	160	19	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		420	mg/kg	320	100	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	76.6	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 12:40	10/05/17 23:15	AS1	GC-13	15.789	B[J0158	

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Stantec - SLO Reported: 01/04/2018 13:21

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727087-11	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-29-3, 9/22/2017 12:42:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		73	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	84.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 12:40	10/06/17 01:07	AS1	GC-13	1.010	B[J0158	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:21

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727087-12	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-29-6, 9/22/2017 12:47:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		42	mg/kg	20	6.5	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogate	e)	73.7	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1			

			Run				QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	09/29/17 12:40	10/06/17 00:45	AS1	GC-13	1.007	B[J0158			

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Stantec - SLO Reported: 01/04/2018 13:21

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727087-13	Client Sampl	Former N	Former Northern Landfill, HA-29-8, 9/22/2017 12:52:00PM								
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		16	mg/kg	20	6.5	EPA-8015B/FFP	ND	J	1			
Tetracosane (Surrogat	e)	86.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1			

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 12:40	10/05/17 22:31	AS1	GC-13	1.014	B[J0158	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:21

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727087-14	Client Sampl	e Name:	Former N	lorthern La	n Landfill, HA-28-1, 9/22/2017 1:20:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogate	e)	56.7	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1			

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	09/29/17 12:40	10/05/17 21:46	AS1	GC-13	1.003	B[J0158	

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1000691036 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com



Stantec - SLO 3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

01/04/2018 13:21 Project: Former Northern Landfill

Reported:

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J0158						
TPH - Gasoline	B[J0158-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[J0158-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[J0158-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[J0158-BLK1	89.4	%	20 - 14	5 (LCL - UCL)	

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 25 of 30 Report ID: 1000691036



Stantec - SLO Reported: 01/04/2018 13:21

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

								Control L	imits	
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
QC Batch ID: B[J0158										
TPH - Diesel (FFP)	B[J0158-BS1	LCS	73.972	83.333	mg/kg	88.8		64 - 124		
Tetracosane (Surrogate)	B[J0158-BS1	LCS	2.9820	3.3347	mg/kg	89.4		20 - 145		

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 26 of 30 Report ID: 1000691036



3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/04/2018 13:21

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

									Control Limits			
		Source	Source		Spike			Percent		Percent	Lab	
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals	
QC Batch ID: B[J0158	Use	d client samp	le: Y - Des	cription: HA	-29-8, 09/22	2/2017 12:	52					
TPH - Diesel (FFP)	─ MS	1727087-13	ND	80.367	84.746	mg/kg		94.8		52 - 131		
	MSD	1727087-13	ND	62.110	83.893	mg/kg	25.6	74.0	30	52 - 131		
Tetracosane (Surrogate)	MS	1727087-13	ND	3.2856	3.3912	mg/kg		96.9		20 - 145		
	MSD	1727087-13	ND	2.5107	3.3570	mg/kg	26.7	74.8		20 - 145		

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 27 of 30 Report ID: 1000691036





Subcontract Report for 1727087 PDF File Name: wo_1727087_sub_all.pdf Page 1 of 2



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com/sanleandrolab@emsl.com

EMSL Order: 091719288 Customer ID: BCLA50 Customer PO: 1727087 Project ID:

Attention: Molly Meyers (661) 327-4911 Phone: BC Laboratories, Inc. Fax: (661) 327-1918

4100 Atlas Court Received Date: 10/02/2017 10:15 AM Bakersfield, CA 93308 Analysis Date: 10/09/2017 Collected Date: 09/22/2017

Project: 1727087

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Non-A: Appearance % Fibrous	sbestos % Non-Fibrous	Asbestos % Type
727087-01		Tan	50% Quartz	None Detected
		Non-Fibrous	50% Non-fibrous (Other)	
91719288-0001 Soil is a problem matrix	Other analytical polions are re	Homogeneous commended such as EPA 600 PLM/TEM with milling prep		
	i. Ollier analytical opisions are re		50% Quartz	-101 Ch11-
727087-02		Brown Non-Fibrous	50% Quartz 50% Non-fibrous (Other)	<1% Chrysotile
91719288-0002		Homogeneous	So in Half-Hardes (Chief)	
Soil is a problem matrix	r. Other analytical options are re	commanded such as EPA 600 PLM/TEM with milling prep		
727087-03		Black	50% Quartz	<1% Chrysotile
		Non-Fibrous	15% Matrix	,
91719288-0003		Homogeneous	35% Non-fibrous (Other)	
ioi) is a problem matrix	 Other analytical options are re 	commended such as EPA 600 PLM/TEM with milling prep		
727087-04		Tan	50% Quartz	<1% Chrysotile
		Non-Fibrous	50% Non-fibrous (Other)	
91719298-0004 Soil is a problem matrix	r Other analytical antique are re	Homogeneous commended such as EPA 600 PLM/TEM with milling prep		
	acaryrical apacina are re	***		401.00
727087-05		Tan Non-Fibrous	50% Quartz 5% Matrix	<1% Chrysotile
91719288-0005		Homogeneous	45% Non-fibrous (Other)	
	x. Other analytical options are re	commended such as EPA 600 PLM/TEM with milling prep		
727087-06		Tan	50% Quartz	<1% Chrysotile
121007 00		Non-Fibrous	50% Non-fibrous (Other)	· · · · · · · · · · · · · · · · · · ·
91719288-0006		Homogeneous		
loil is a problem matrix	r. Other analytical options are re	commended such as EPA 600 PLM/TEM with milling prep		
727087-07		Tan	30% Quartz	<1% Chrysotile
		Non-Fibrous	15% Ca Carbonate	
91719288-0007		Homogeneous	20% Gypsum	
is a problem matrix	Other analytical options are or	commended such as EPA 600 PLM/TEM with milling prep	35% Non-fibrous (Other)	
	. Ollier analytical opcions are re			-40° Ch
727087-08		Tan Non-Fibrous	50% Quartz 6% Matrix	<1% Chrysotile
1719288-0008		Homogeneous	44% Non-fibrous (Other)	
oil is a problem matrix	v. Other analytical options are re	commended such as EPA 600 PLM/TEM with milling prep		
727087-09		Tan	50% Quartz	<1% Chrysotile
		Non-Fibrous	10% Matrix	,
91719288-0008		Homogeneous	40% Non-fibrous (Other)	
oil is a problem matrix	x. Other analytical options are re	commended such as EPA 600 PLM/TEM with milling prep		
727087-10		Tan	50% Quartz	<1% Chrysotile
		Non-Fibrous	10% Matrix	
91719288-0010	Other analytical autieur are er	Homogeneous	40% Non-fibrous (Other)	
	r. Omer analytical options are re	commended such as EPA 600 PLM/TEM with milling prep		
727087-11		Brown	50% Quartz	<1% Chrysotile
P1719288-0011		Non-Fibrous	10% Matrix 40% Non-fibrous (Other)	
	x. Other analytical options are re	Homogeneous commended such as EPA 600 PLM/TEM with milling prep		
				e194 Charestie
727087-12		Tan Non-Fibrous	50% Quartz 5% Matrix	<1% Chrysotile
91719288-0012		Homogeneous	45% Non-fibrous (Other)	

Initial report from: 10/09/2017 11:44:03

ASB_PLM_0008_0001 - 1.78 Printed: 10/9/2017 11:44 AM

Page 1 of 2

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Subcontract Report for 1727087 PDF File Name: wo_1727087_sub_all.pdf Page 2 of 2



EMSL Order: 091719288 Customer ID: BCLA50 Customer PO: 1727087 Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-A	sbestos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1727087-13		Tan		50% Quartz	<1% Chrysotile
		Non-Fibrous		10% Matrix	
91719288-0013		Homogeneous		40% Non-fibrous (Other)	
Soil is a problem matrix	. Other analytical options are rec	commended such as EPA	600 PLM/TEM with milling prep		
1727087-14		Tan		50% Quartz	<1% Chrysotile
		Non-Fibrous		50% Non-fibrous (Other)	
91719288-0014		Homogeneous			
Soll is a problem matrix	Other analytical options are re-	commended such as EPA	600 PLM/TEM with milling prep	,	

Analyst(s) Shane Heisser (14)

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The limit of detection, as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 10/09/2017 11:44:03

ASB_PLM_0008_0001 - 1.78 Printed: 10/9/2017 11:44 AM

Page 2 of 2

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Stantec - SLO Reported: 01/04/2018 13:21

3437 Empresa Drive, Suite A Project: Former Northern Landfill Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Notes And Definitions

J Estimated Value (CLP Flag)

MDL Method Detection Limit

ND Analyte Not Detected

PQL Practical Quantitation Limit

A01 Detection and quantitation limits are raised due to sample dilution.

Report ID: 1000691036 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 30 of 30



Date of Report: 01/19/2018

Kirk Henning

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Client Project: 185850429.300.0006
BCL Project: Former Northern Landfill

BCL Work Order: 1727448

Invoice ID: B282322, B289256

Enclosed are the results of analyses for samples received by the laboratory on 9/26/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000691037

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Stuart Buttram
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101



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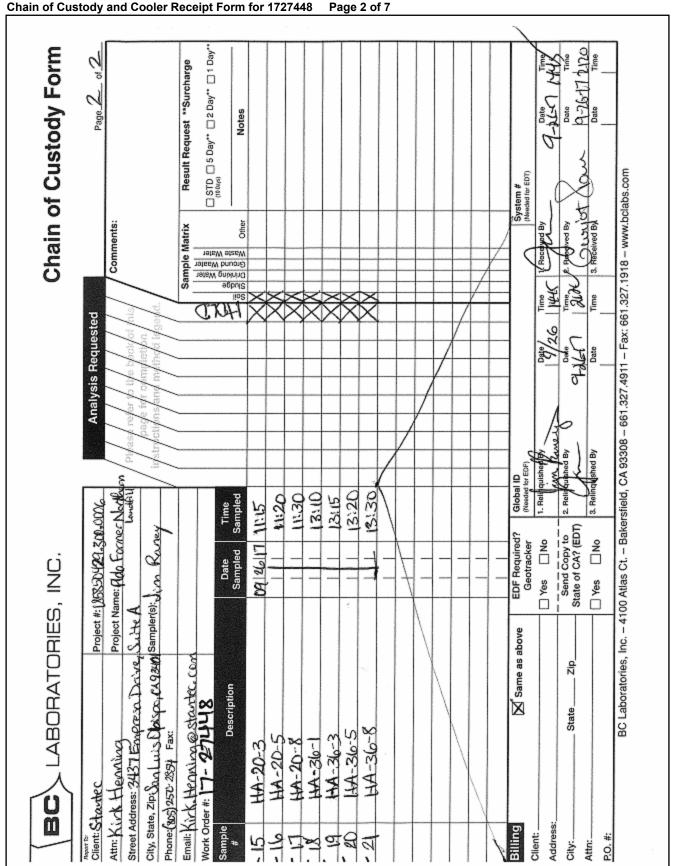
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I	Miscellaneous Reports	
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Sample	Results	
	1727448-01 - HA-24-8	
	Total Petroleum Hydrocarbons	18
	1727448-02 - HA-23-1	
	Total Petroleum Hydrocarbons	19
	1727448-03 - HA-23-3	
	Total Petroleum Hydrocarbons	20
	1727448-05 - HA-23-8	
	Total Petroleum Hydrocarbons	21
	1727448-06 - HA-22-1	
	Total Petroleum Hydrocarbons	22
	1727448-07 - HA-22-3	
	Total Petroleum Hydrocarbons	23
	1727448-08 - HA-22-5	
	Total Petroleum Hydrocarbons	24
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	1727448-13 - HA-21-8	
	Total Petroleum Hydrocarbons	28
	1727448-14 - HA-20-1	
	Total Petroleum Hydrocarbons	29
	1727448-15 - HA-20-3	
	Total Petroleum Hydrocarbons	30
•	1727448-17 - HA-20-8	
	Total Petroleum Hydrocarbons	31
•	1727448-18 - HA-36-1	
	Total Petroleum Hydrocarbons	32
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Chain of Custody and Cooler Receipt Form for 1727448 Page 1 of 7 Chain of Custody Form STD | 5 Day" | 2 Day" | 1 Day Result Request **Surcharge 9-26-17 Notes BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Sample Matrix 1916W 93s6W Ground Weater Drinking Water Analysis Requested Project Name: Former Northern La 67.50 10:35 52:15 08:30 09:00 10:33 07:45 09/26/17 67:30 08:05 10:39 58:45 \$:50 Project #: (\$5897H29, 300,000) State of CA? (EDT) Sampler(s): Um Rancy EDF Required? Geotracker 8 □ □ Yes □ No 09 26 17 Date Sampled LABORATORIES, INC. □ Yes Same as above Street Address: 343 - Shoresa Drive, Sur City, State, Zip: Snu Luis Poispo, CA99HDI ΖP 4A-21-3 4A-22-8 A-22-5 HA-23-3 4-23-8 -12-M Phone: (805) 250 - 2854 Fax Attn: Kick Hewsing Email: Hick-Hennings Client: Starrec Ú Nork Order #: Sample Address Client: P.O. #: 9 1 و Attn:

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com





Report ID: 1000697598 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com



Chain of Custody and Cooler Receipt Form for 1727448 Page 3 of 7 Chain of Custody Form ☐STD ☐ 5 Day** ☐ 2 Day** ☐ 1 Day Result Request "Surcharge Notes Oate System # (Needed for EDT) BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Comments: 2. Received By Sample Matrix . Received By Waste Water Ground Washer Drinking Water eppuis Date 2 proof 1600 Relinquished By 2. Relinquished By Global (D* / Send Copy to State of CA? (EDT) EDF Required? Geotracker ŝ □ Yes □ No LABORATORIES, INC. □ Yes Project Name: Sampler(s): Project #: Same as above 34462 HA-21-3 HA-22-8 -122-3 HA-21-1 4A-22-Fax: HA-22 Street Address: City, State, Zip Work Order #: ŏ Email: Address P.O.

Report ID: 1000697598 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 5 of 40



Chain of Custody and Cooler Receipt Form for 1727448 Page 4 of 7 Chain of Custody Form STD 🗆 5 Day** 🗀 2 Day** 🗀 1 Day Result Request **Surcharge Notes OSS System # (Noaded for EDT) BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Comments: Other 2. Received By votaW esseW Ground Waater Sludge Date Analysis f. Refinquished By Global ID (Needed for EDF) Send Copy to State of CA? (EDT) EDF Required? Geotracker □ Yes □No 8 | ABORATORIES, INC. □ Yes Project Name: Sampler(s): Same as above 녆 34412-14-30-1 Ü Street Address: lity, State, Zip: Vork Order #: lone: lient mail: Billing 2 Address 5 Client city: Attn:

Report ID: 1000697598 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 6 of 40



Chain of Custody and Cooler Receipt Form for 1727448 Page 5 of 7

BC LABORATORIES INC.	7		OOLER	RECEIPT	FURIN	1		raye		<u> </u>
Submission #: 7- 2744	Δ	-		r				T .		
SHIPPING INFO Fed Ex □ UPS □ Ontra	RMATION	i Delivery	,	Ice Che		CONTAII None cify)			res d n	0 🗆
Refrigerant: Ice X Blue Ice	□ None		Other 🗆	Comm						
Custody Seals lice Chest □	Containe Intact? Yes		None	Comi	ments:		2			
All samples received? Yes No □	All samples						tion(s) mate	h COC? Y		
WEYER THO	missivity: 🐧 Temperature:	-	_	3.1	C) (C)		<u>0</u> 8_	Date/Tim Analyst I	700	2120 SP
SAMPLE CONTAINERS			T-100		1	NUMBERS	T -	1 .		1
		2	3	4	5	6	7	<u> 8 </u>	9	10
QT PE UNPRES 402/802/1602 PE UNPRES		1								
		1				-				
20z Cr ^{sf}		1				-				
OT INORGANIC CHEMICAL METALS		 				-	600.			-
INORGANIC CHEMICAL METALS 40z / 80z / 1	50Z	1					100 m			-
PT CYANIDE		-					2005			-
PT NITROGEN FORMS		 					2000 2000 2000 2000 2000 2000 2000 200			
PT TOTAL SULFIDE						 				-
20z. NITRATE / NITRITE	· -	├			<u> </u>					
PT TOTAL ORGANIC CARBON .										
PT CHEMICAL OXYGEN DEMAND							-			
PAA PHENOLICS			ļ							
40ml VOA VIAL TRAVEL BLANK								and the same of th		-
40ml VOA VIAL								B (80)		
QT EPA 1664							- 8			
PT ODOR								alkilda		
RADIOLOGICAL										,
BACTERIOLOGICAL										
40 ml VOA VIAL- 504					-					
OT EPA 508/608/8080				1		<u> </u>				
OT EPA 515.1/8150										
OT EPA 525										
OT EPA 525 TRAVEL BLANK										
40mt EPA 547			1							
40mi EPA 531.1		1	1							
	1		1							
Box EPA 548	-		1		l					
QT EPA 549			1.		l					
QT RPA 8015M			· ,							
OT EPA 8270	A	A	A	A	A	A	A	A	A	A
802 / 1602 / 1202 AMBER	14	1	1	1	7	1	1	1	7	
80z / 160z / 320z JAR	_	-	-			-	-			
SOIL SLEEVE		-					-			
PCB VIAL		-								
PLASTIC BAG		-					-			
TEDLAR BAG		-								5/
FERROUS IRON		-	-							<u> </u>
ENCORE										
SMART KIT										
SUMMA CANISTER		1								
		1	-		-	<u> </u>			-	
Comments:				Date/Tir		-28	-	300		



Chain of Custody and Cooler Receipt Form for 1727448

BC LABORATORIES INC.			OOLER	RECEIPT	FORM			Pag	e_2	0f <u>3</u>
Submission #: 17-27448										-
SHIPPING INFORM					HIRPING				FREE LIC	
Fed Ex □ UPS □ Ontrac □	Hand	i Deliver	y 🗆	Ice Che	este⊠(Box 🗆		YES 🗆 1	
BC Lab Field Service Other C	(Specify	')		, Oth	er □'(Spe	cify)		-	W /	s
Refrigerant: Ice X Blue Ice □	None		Other 🗆	Comn	nents:					-
Figure 1 and	Containe	re El	None	₩ Com	mente.		-	i		
Intact? Yes 🗆 No 🗇 📗	fact? Yes		ivone	* 00111	mento.		L	<u>/</u>		
				es 🔰 No			tion(s) mat	ch COC?	Yes 🏞 No	
COC Received Emis	sivity: ()	98	Container:	leve glax	S Thermon	veter ID:	10 X	Date/Tin	no 1/26	2120
ALAEC DINO.			_						Init G	-
A LEG Ten	perature:	(A)	7.5	*C - /	(C) 13)	°C	Analyst	Init // >	2.1
					SAMPLE	NUMBERS				
SAMPLE CONTAINERS	11/	RI	121	4	5	- 6	7	8		10
QT PE UNPRES										
40x/80x/160x PE UNPRES										
20z Cr ¹⁶										
OT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 40z / 80z / 160z							286			
PT CYANIDE							100			
PT NITROGEN FORMS							100			
PT TOTAL SULFIDE							980			
202. NITRATE / NITRITE .										
PT TOTAL ORGANIC CARBON .								,		
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK				}						
40ml VOA VIAL							:6	40°20's		
OT EPA 1664							3			
PT ODOR								- Americano		1
RADIOLOGICAL			Ĺ							
BACTERIOLOGICAL										
40 ml VOA VIAL- 504					'					
OT EPA 508/G08/8080										
OT EPA 515.1/8150 .										
OT EPA 525										
OT EPA 525 TRAVEL BLANK										
90ml EPA 547										
60ml EPA 531-1										
Rox EPA 548						-				
OT EPA 549										
OT EPA 8015M										
OT EPA 8070			· -							
loz/16oz/36oz/AMBER	A	A	A							
02/1601/3202 JAR	/									
OST 100E7 320E JAK OIL SLEEVE										
CB VIAL										
LASTIC BAG										-
TEDLAR BAG										2
TERROUS IRON										
ENCORE										
MART KIT										
UMMA CANISTER										
					The second secon					



Chain of Custody and Cooler Receipt Form for 1727448 Page 7 of 7

Submission #: 17-27448												
SHIPPING INFORMATION Fed Ex UPS Ontrac Hand Delivery BC Lab Field Service Other (Specify)					SHIPPING CONTAINER Ice Chest (None Box Other (Specify)					FREE LIQUID YES NO . W / S		
Refrigerant: Ice X Blue Ice □	None	0	Other 🗆	Com	ments:							
	Contain		None	Å, co⊔	ments:							
All samples received? Yes K No □ Al	l samples	container	s intact? Y	es ∄ No		Descrip	tion(s) ma	tch COC?	Yes 🚰 No			
COC Received Emis		94		Inhe	(C)		20.8	Date/Ti	me 1 26 Init <i>(</i> -5	2120 SP		
SAMPLE CONTAINERS	SAMPLE NUMBERS											
	u,	5 7	6,	174	18 4	191	201	214	9	10		
QT PE UNPRES 4oz / 8oz / 16oz PE UNPRES		1	 				1	-	-	-		
202 Cr16			1				+	1		-		
OT INORGANIC CHEMICAL METALS		1	1		 	 	1	-		-		
INORGANIC CHEMICAL METALS 40z / 80z / 160z		1	1	1	—		1	+	1	-		
PT CYANIDE		1	1		 		 	 	 			
PT NITROGEN FORMS			1				-	+	1	-		
PT TOTAL SULFIDE		1	1					+	1			
20z. NITRATE / NITRITE		1			1		-	1	-			
PT TOTAL ORGANIC CARBON					1		1			-		
PT CHEMICAL OXYGEN DEMAND							†		1			
PIA PHENOLICS									†	 		
40mi VOA VIAL TRAVEL BLANK								1				
40ml VOA VIAL								1	·			
OT RPA 1664		1						1				
PT ODOR												
RADIOLOGICAL										-		
BACTERIOLOGICAL												
40 mi VOA VIAL- 504												
QT EPA 508/608/8080												
QT EPA 515.1/8150												
QT EPA 525												
QT EPA 525 TRAVEL BLANK												
10ml EPA 547												
40ml EPA 531.1												
Soz EPA 548												
OT EPA 549												
OT EPA 8015M			-									
OT EPA 8270	-4-											
loz / 1602 / 15202 AMBER	A	A	A	A	A	A	A	A				
0z/160z/32oz JAR												
SOIL SLEEVE												
CB VIAL												
PLASTIC BAG												
TEDLAR BAG										51		
TERROUS IRON										."		
ENCORE												
MART KIT												

3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727448-01 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-24-8 Sampled By: SISL **Receive Date:** 09/26/2017 21:20 **Sampling Date:** 09/26/2017 07:30

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-24-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727448-02 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-23-1
Sampled By: SISL

Receive Date: 09/26/2017 21:20 **Sampling Date:** 09/26/2017 07:45

Sample Depth:---Lab Matrix:SolidsSample Type:SoilDelivery Work Order:

Global ID:

Location ID (FieldPoint): HA-23-1

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727448-03 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-23-3
Sampled By: SISL

Receive Date: 09/26/2017 21:20 **Sampling Date:** 09/26/2017 07:50

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-23-3

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000697598 4100 Atlas

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3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727448-04 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-23-5 Sampled By: SISL **Receive Date:** 09/26/2017 21:20 **Sampling Date:** 09/26/2017 07:55

Sample Depth: --Lab Matrix: Solids

Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-23-5

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727448-05 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-23-8
Sampled By: SISL

Receive Date: 09/26/2017 21:20 **Sampling Date:** 09/26/2017 08:05

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-23-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727448-06 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-22-1
Sampled By: SISL

Receive Date: 09/26/2017 21:20 **Sampling Date:** 09/26/2017 08:30

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-22-1

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000697598

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3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Project: Former Northern Landfill Project Number: 185850429.300.0006 Project Manager: Kirk Henning

01/19/2018 11:05

Reported:

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1727448-07 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-22-3 Sampled By: SISL

09/26/2017 21:20 Receive Date: Sampling Date: 09/26/2017 08:45

Sample Depth: Lab Matrix: Solids Soil Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-22-3

Matrix: W

Sample QC Type (SACode): CS

09/26/2017 21:20

Cooler ID:

Receive Date:

1727448-08 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location: HA-22-5 Sampling Point: SISL Sampled By:

09/26/2017 08:50 Sampling Date: Sample Depth: Solids Lab Matrix:

Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-22-5

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727448-09 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location: HA-22-8 Sampling Point: SISL Sampled By:

Receive Date: 09/26/2017 21:20

09/26/2017 09:00 Sampling Date: Sample Depth:

Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-22-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727448-10 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-21-1 Sampled By: SISL **Receive Date:** 09/26/2017 21:20 **Sampling Date:** 09/26/2017 10:30

Sample Depth: ---Lab Matrix: Solids

Sample Type: Soil Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-21-1

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727448-11 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-21-3
Sampled By: SISL

Receive Date: 09/26/2017 21:20 **Sampling Date:** 09/26/2017 10:35

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-21-3

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727448-12 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-21-5
Sampled By: SISL

Receive Date: 09/26/2017 21:20 **Sampling Date:** 09/26/2017 10:39

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-21-5

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000697598

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727448-13 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-21-8 Sampled By: SISL **Receive Date:** 09/26/2017 21:20 **Sampling Date:** 09/26/2017 10:45

Sample Depth:---Lab Matrix:SolidsSample Type:Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-21-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727448-14 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-20-1
Sampled By: SISL

Receive Date: 09/26/2017 21:20 **Sampling Date:** 09/26/2017 11:10

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-20-1

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727448-15 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-20-3
Sampled By: SISL

Receive Date: 09/26/2017 21:20 **Sampling Date:** 09/26/2017 11:15

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-20-3

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000697598

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3437 Empresa Drive, Suite A Suite A

Suite A Project Number: 185850429.300.0006
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Reported:

Laboratory Client Sample Information

1727448-16 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-20-5 Sampled By: SISL **Receive Date:** 09/26/2017 21:20 **Sampling Date:** 09/26/2017 11:20

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order: Global ID:

01/19/2018 11:05

Project: Former Northern Landfill

Location ID (FieldPoint): HA-20-5

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727448-17 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-20-8
Sampled By: SISL

Receive Date: 09/26/2017 21:20 **Sampling Date:** 09/26/2017 11:30

Sample Depth:---Lab Matrix:SolidsSample Type:SoilDelivery Work Order:

Global ID:

Location ID (FieldPoint): HA-20-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727448-18 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-36-1
Sampled By: SISL

Receive Date: 09/26/2017 21:20 **Sampling Date:** 09/26/2017 13:10

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-36-1

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

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San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727448-19 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-36-3 Sampled By: SISL **Receive Date:** 09/26/2017 21:20 **Sampling Date:** 09/26/2017 13:15

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-36-3

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727448-20 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-36-5
Sampled By: SISL

Receive Date: 09/26/2017 21:20 **Sampling Date:** 09/26/2017 13:20

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-36-5

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727448-21 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-36-8
Sampled By: SISL

Receive Date: 09/26/2017 21:20 **Sampling Date:** 09/26/2017 13:30

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-36-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000697598 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 16 of 40



Misc Report For 1727448 PDF File Name: wo 1727448 misc EDT EMSLA.pdf Page 1 of 1



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order: 091800322 Customer ID: BCLA50 Customer PO: 1727448 Project ID:

Attention: Molly Meyers BC Laboratories, Inc. 4100 Atlas Court

Bakersfield, CA 93308

Fax: (661) 327-1918 Received Date: 01/04/2018 9:30 AM Analysis Date: 01/09/2018

Phone: (661) 327-4911

Collected Date:

Project: 1727448

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Ast	estos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1727448-04		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091800322-0001		Homogeneous			
Soil is a problem matri	ix. Other analytical options are rec	ommended such as EPA 6	00 PLM/TEM with milling prep		
1727448-12		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091800322-0002		Homogeneous			
Soil is a problem matri	ix. Other analytical options are rec	ommended such as EPA 6	00 PLM/TEM with milling prep		
1727448-16		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous		,	
091900322-0003		Homogeneous			
Soil is a problem matri	ix. Other analytical options are rec		00 PLM/TEM with milling prop		
1727448-20		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091800322-0004		Homogeneous			
Soil is a problem matri	ix. Other analytical options are rec	ommended such as EPA 6	00 PLM/TEM with million prep		

Analyst(:	s)	
4 4	m - 1 - 1 - 1 - 1	

Matthew Batongbacai or Other Approved Signatory

Due to magnification limitations inherent in PLM, asbestos libers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional festing by TEM to confirm asbestos quantities. The limit of detection, as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 01/10/2018 02:57:54

ASB_PLM_0008_0001 - 1.78 Printed: 1/9/2018 11:57 PM

Page 1 of 1

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Stantec - SLO 3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-01	Client Sampl	Former N	Former Northern Landfill, HA-24-8, 9/26/2017 7:30:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		20	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	97.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	10/05/17 11:00	10/08/17 11:33	AS1	GC-13	0.984	B[J0639

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4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Stantec - SLO Reported: 01/19/2018 11:05

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-02	Client Sampl	Former N	Former Northern Landfill, HA-23-1, 9/26/2017 7:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		92	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	te)	89.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	10/05/17 11:00	10/08/17 15:11	AS1	GC-13	0.993	B[J0639

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3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Suite A

Stantec - SLO Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-03	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-23-3, 9/2	6/2017 7:50	0:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		19	mg/kg	20	6.5	EPA-8015B/FFP	ND	J	1
Tetracosane (Surrogat	e)	94.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 11:00	10/08/17 11:10	AS1	GC-13	1.003	B[J0639	

Page 20 of 40 Report ID: 1000697598

3437 Empresa Drive, Suite A

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-05	Client Sample Name:		Former N	Former Northern Landfill, HA-23-8, 9/26/2017 8:05:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		10	mg/kg	20	6.5	EPA-8015B/FFP	ND	J	1		
Tetracosane (Surrogat	e)	81.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	10/05/17 11:00	10/08/17 06:56	AS1	GC-13	1.007	B[J0639

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-06	Client Sampl	Client Sample Name:		Former Northern Landfill, HA-22-1, 9/26/2017 8:30:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	40	10	EPA-8015B/FFP	ND	A01	1		
TPH - Diesel (FFP)		ND	mg/kg	20	2.4	EPA-8015B/FFP	ND	A01	1		
TPH - Motor Oil		480	mg/kg	40	13	EPA-8015B/FFP	ND	A01	1		
Tetracosane (Surrogat	re)	59.7	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP		A01	1		

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 11:00	10/11/17 00:32	AS1	GC-13	1.967	B[J0639	

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Page 22 of 40 Report ID: 1000697598

Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-07	Client Sample Name:		Former N	Former Northern Landfill, HA-22-3, 9/26/2017 8:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		280	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	76.6	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

	Run					QC		
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 11:00	10/09/17 03:04	AS1	GC-13	1.003	B[J0639	

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San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-08	Client Sampl	le Name:	Former N	orthern La	ndfill, HA-22-5, 9/2	6/2017 8:50	D:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		65	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	65.5	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1

			Run		QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 11:00	10/08/17 12:42	AS1	GC-13	0.993	B[J0639	

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4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-09	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-22-8, 9/2	6/2017 9:00	D:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		22	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	98.9	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

		Run		QC				
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 11:00	10/08/17 11:56	AS1	GC-13	0.990	B[J0639	

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3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Suite A

Stantec - SLO Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-10	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-21-1, 9/26/2017 10:30:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		190	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	83.4	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run		QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 11:00	10/09/17 02:18	AS1	GC-13	0.990	B[J0639	

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Report ID: 1000697598

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Suite A

3437 Empresa Drive, Suite A

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006 San Luis Obispo, CA 93401

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-11	Client Sampl	le Name:	Former N	orthern Laı	ndfill, HA-21-3, 9/2	6/2017 10:3	5:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		190	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	re)	37.9	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

	Run					QC		
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 11:00	10/08/17 15:34	AS1	GC-13	1.007	B[J0639	

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Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-13	Client Sampl	e Name:	Former Northern Landfill, HA-21-8, 9/26/2017 10:45:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		25	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	re)	92.3	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

			Run		QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 11:00	10/08/17 12:19	AS1	GC-13	0.984	B[J0639	

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3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-14	Client Sampl	Former N	Former Northern Landfill, HA-20-1, 9/26/2017 11:10:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	re)	68.2	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 11:00	10/08/17 07:19	AS1	GC-13	0.997	B[J0639	

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3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Suite A

Stantec - SLO Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-15	Client Sampl	Former N	Former Northern Landfill, HA-20-3, 9/26/2017 11:15:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		7.0	mg/kg	20	6.5	EPA-8015B/FFP	ND	J,A57	1	
Tetracosane (Surrogat	e)	74.2	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/05/17 11:00	10/08/17 10:24	AS1	GC-13	1.017	B[J0639		

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3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-17	Client Sampl	Former N	Former Northern Landfill, HA-20-8, 9/26/2017 11:30:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		6.6	mg/kg	20	6.5	EPA-8015B/FFP	ND	J,A57	1		
Tetracosane (Surrogat	e)	63.2	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/05/17 11:00	10/08/17 10:47	AS1	GC-13	1.010	B[J0639		

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-18	Client Sampl	Former N	orthern La	ndfill, HA-36-1, 9/2	6/2017 1:10	D:00PM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	40	10	EPA-8015B/FFP	ND	A01	1
TPH - Diesel (FFP)		ND	mg/kg	20	2.4	EPA-8015B/FFP	ND	A01	1
TPH - Motor Oil		310	mg/kg	40	13	EPA-8015B/FFP	ND	A01	1
Tetracosane (Surrogat	e)	38.4	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP		A01	1

			Run			QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/05/17 11:00	10/11/17 00:55	AS1	GC-13	2.007	B[J0639		

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Stantec - SLO Reported: 01/19/2018 11:05

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-19	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-36-3, 9/26/2017 1:15:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		28	mg/kg	20	6.5	EPA-8015B/FFP	ND	A57	1		
Tetracosane (Surrogat	te)	91.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/05/17 11:00	10/08/17 14:48	AS1	GC-13	1.017	B[J0639		

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727448-21	Client Sampl	ample Name: Former Northern Landfill, HA-36-8, 9/26/2017 1:30:00PM								
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		7.4	mg/kg	20	6.5	EPA-8015B/FFP	ND	J	1		
Tetracosane (Surrogat	e)	74.4	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

			Run				QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/05/17 11:00	10/08/17 21:41	AS1	GC-13	1.017	B[J0639			

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3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J0639						
TPH - Gasoline	B[J0639-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[J0639-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[J0639-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[J0639-BLK1	93.4	%	20 - 145 (LCL - UCL)		

Report ID: 1000697598 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 35 of 40



3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401 Project: Former Northern Landfill
Project Number: 185850429.300.0006
Project Manager: Kirk Henning

01/19/2018 11:05

Reported:

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

							_ •				
								Control L	imits		
				Spike		Percent		Percent		Lab	
Constituent	QC Sample ID	Type	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals	
QC Batch ID: B[J0639											
TPH - Diesel (FFP)	B[J0639-BS1	LCS	78.698	81.967	mg/kg	96.0		64 - 124			
Tetracosane (Surrogate)	B[J0639-BS1	LCS	3.4325	3.2800	mg/kg	105		20 - 145			

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 11:05

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
OC Batch ID: BI.I0639 Used client sample: Y - Description: HA-24-8, 09/26/2017 07:30											
QC Batch ID: B[J0639		a client samp	ie: Y - Des	cription: HA	-24-8, 09/26	/2017 07:3	50				
TPH - Diesel (FFP)	MS	1727448-01	ND	88.611	83.056	mg/kg		107		52 - 131	
	MSD	1727448-01	ND	34.170	82.781	mg/kg	88.7	41.3	30	52 - 131	Q02,Q 03
Tetracosane (Surrogate)	MS	1727448-01	ND	3.4827	3.3236	mg/kg		105		20 - 145	
	MSD	1727448-01	ND	1.4929	3.3126	mg/kg	80.0	45.1		20 - 145	

Report ID: 1000697598 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 37 of 40



Subcontract Report for 1727448 PDF File Name: wo_1727448_sub_all.pdf Page 1 of 2



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com/sanleandrolab@emsl.com

EMSL Order: 091719447 Customer ID: BCLA50 Customer PO: 1727448 Project ID:

Attention: Molly Meyers (661) 327-4911 Phone: BC Laboratories, Inc. Fax: (661) 327-1918 4100 Atlas Court Received Date: 10/04/2017 10:00 AM

Bakersfield, CA 93308 Analysis Date: 10/11/2017 Collected Date: 09/26/2017

Project: 1727448

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Non-A Appearance % Fibrous	sbestos % Non-Fibrous	Asbestos % Type
	Description			
1727448-01		Brown Non-Fibrous	35% Quartz 65% Non-fibrous (Other)	None Detected
091719447-0001		Homogeneous	oo is Horritanous (Onles)	
Soil is a problem matrix	. Other analytical options are re	commended such as EPA 600 PLM/TEM with milling prep	,	
1727448-02		Brown	30% Quartz	None Detected
		Non-Fibrous	70% Non-fibrous (Other)	
091719447-0002		Homogeneous		
Soil is a problem matrix	r. Other analytical options are re	commended such as EPA 600 PLM/TEM with milling prep		
1727448-03		Brown	35% Quartz	None Detected
91719447-0003		Non-Fibrous	65% Non-fibrous (Other)	
	Other enablical onlines are o	Homogeneous commended such as EPA 600 PLM/TEM with milling prep		
-	. Other analytical opisions are re			
1727448-05		Brown Non-Fibrous	40% Quartz 60% Non-fibrous (Other)	None Detected
091719447-0004		Homogeneous	cove retrained (offer)	
	. Other analytical options are re	commanded such as EPA 600 PLM/TEM with milling prep		
1727448-06		Brown	35% Quartz	2% Amosite
1121410-00		Non-Fibrous	63% Non-fibrous (Other)	2.00 / 11110-2000
91719447-0005		Homogeneous		
Soil is a problem matrix	 Other analytical options are re 	commended such as EPA 600 PLM/TEM with milling prep	,	
1727448-07		Brown	40% Quartz	3% Amosite
		Non-Fibrous	57% Non-fibrous (Other)	
091719447-0006		Homogeneous		
Soil is a problem matrix	. Other analytical options are re	commended such as EPA 600 PLM/TEM with milling prep	0	
1727448-08		Brown	40% Quartz	<1% Amosite
091719447-0007		Non-Fibrous	60% Non-fibrous (Other)	
	Other analytical onlines are or	Homogeneous commended such as EPA 600 PLM/TEM with milling prep	1	
1727448-09	. one and the speed at the	Brown	40% Quartz	<1% Amosite
727440-09		Non-Fibrous	60% Non-fibrous (Other)	ST99 Almosite
091719447-0008		Homogeneous	ou to their mandes (outlier)	
Soil is a problem matrix	r. Other analytical options are re	commended such as EPA 600 PLM/TEM with milling prep		
1727448-10		Brown	40% Quartz	<1% Amosite
		Non-Fibrous	60% Non-fibrous (Other)	
091719447-0009		Homogeneous		
Soil is a problem matrix	c. Other analytical options are re	commended such as EPA 600 PLM/TEM with milling prep		
1727448-11		Brown	40% Quartz	None Detected
		Non-Fibrous	60% Non-fibrous (Other)	
091719447-0010 Soil is a seoblose moto	Other enablised entires are a	Homogeneous		
-	. Other averytical opsions are n	ecommended such as EPA 600 PLM/TEM with milling prep		
1727448-13		Brown Non-Fibrous	40% Quartz	None Detected
191719447-0011		Non-Fibrous Homogeneous	60% Non-fibrous (Other)	
	r. Other analytical options are re	commanded such as EPA 600 PLM/TEM with milling prep		
1727448-14		Brown	40% Quartz	None Detected
1127440-14		Non-Fibrous	60% Non-fibrous (Other)	Horse Detected
091719447-0012		Homogeneous		
Soil is a problem matrix	. Other analytical options are re	commended such as EPA 600 PLM/TEM with milling prep	3	

Initial report from: 10/11/2017 11:11:15

ASB_PLM_0008_0001 - 1.78 Printed: 10/11/2017 11:11 AM

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Subcontract Report for 1727448 PDF File Name: wo_1727448_sub_all.pdf Page 2 of 2



EMSL Order: 091719447 Customer ID: BCLA50 Customer PO: 1727448 Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Asbestos		
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1727448-15		Brown		40% Quartz	None Detected
		Non-Fibrous		60% Non-fibrous (Other)	
091719447-0013		Homogeneous			
Soil is a problem matri	ix. Other analytical options are rec	commended such as EPA 6	000 PLM/TEM with milling prep		
1727448-17		Brown		40% Quartz	None Detected
		Non-Fibrous		60% Non-fibrous (Other)	
091719447-0014		Homogeneous			
1727448-18		Brown		40% Quartz	None Detected
		Non-Fibrous		60% Non-fibrous (Other)	
091719447-0015		Homogeneous			
Soil is a problem matri	ix. Other analytical options are rec	ommended such as EPA 6	000 PLM/TEM with milling prep		
1727448-19		Brown/Tan		100% Non-fibrous (Other)	<1% Amosite
		Non-Fibrous			
091719447-0016		Homogeneous			
Soil is a problem matri	ix. Other analytical options are rec	commended such as EPA 6	300 PLM/TEM with milling prep		
1727448-21		Brown/Tan		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091719447-0017		Homogeneous			
Soil is a problem matri	k. Other analytical options are rec	ammended such as EPA 6	OO PLM/TEM with milling prep		

Analyst(s) Beheshta Ahadi (15) Oscar Merino (2)

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The limit of detection, as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 10/11/2017 11:11:15

ASB_PLM_0008_0001 - 1.78 Printed: 10/11/2017 11:11 AM

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3437 Empresa Drive, Suite A Project: Former Northern Landfill

Suite A Project Number: 185850429.300.0006
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Notes And Definitions

J Estimated Value (CLP Flag)

MDL Method Detection Limit

ND Analyte Not Detected

PQL Practical Quantitation Limit

A01 Detection and quantitation limits are raised due to sample dilution.

A57 Chromatogram not typical of motor oil.

Q02 Matrix spike precision is not within the control limits.

Q03 Matrix spike recovery(s) is(are) not within the control limits.

Report ID: 1000697598 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 40 of 40



Date of Report: 01/19/2018

Kirk Henning

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Client Project: 185850429.300.0006

BCL Project: Former Northern Landfill

BCL Work Order: 1727449

Invoice ID: B282417, B289257

Enclosed are the results of analyses for samples received by the laboratory on 9/27/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000691038

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Stuart Buttram
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101



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Chain of Custody and Cooler Receipt Form for 1727449 Page 1 of 4 Chain of Custody Form STD 5 Day* 02 Day* 01 Day Result Request "Surcharge BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Comments Naste Water Ground Waater Drinking Water eppuis Analysis Requested Global ID Former Northern 08:40 05:89 00:00 64:20 09:30 00:00 (S) Project #: 185850429.300.0006 09 22 117 08:33 CP:25 3 Sampleo Send Copy to State of CA? (EDT) Sampler(s): Jim Kaney EDF Required? ° | **ջ** □ Geotracker Sampled ABORATORIES, INC. Yes □ Yes Project Name Street Address; 3437 Entoress, Drive, Sulted Same as above City, State, ZipeBurludsObispo,CA93401 ᄗ Description 4A-40-8 NA-35-3 HA-40-5 1A-41-3 14-41-5 HA-35--14-4F 1-14-4H Attn: Kirk Henning Phone: (865) 250-2854 Fax: Email: Kirk, Henning Ment: Starte Work Order #: M Address Slent: .o. #: t

Report ID: 1000697613 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 3 of 29



Chain of Custody and Cooler Receipt Form for 1727449 Page 2 of 4 Chain of Custody Form STD = 5 Day** = 2 Day** = 1 Day Result Request "Surcharge Notes System # (Needed for EDT) BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Other Sample Matrix hateW etseW Ground Waater Drinking Water fig2 Analysis Requested Date Date Global ID (Needed for EDF) Send Copy to State of CA? (EDT) EDF Required? Geotracker 2 | ŝ LABORATORIES, INC. □ Yes □ Yes Project Name: Sampler(s): Project #: Same as above 27449 HA-35-3 HA-40-5 14-11-3 -355--0H-4H H-41-5 エデ Fax: U Street Address: City, State, Zip: Work Order #: ŏ Email: Billing Address Client: 9 3 P.O. #: Attn: Ç.

Report ID: 1000697613 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 4 of 29



Chain of Custody and Cooler Receipt Form for 1727449 Page 3 of 4

BC LABORATORIES INC.	~	С	OOLER	RECEIPT	FORM			Page	10	of 2
Submission #: 17-2744	9									
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Report ID: 1000697613

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T CYANIDE	 -	_									
T NITROGEN FORMS											
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Page 6 of 29

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401 Project: Former Northern Landfill
Project Number: 185850429.300.0006
Project Manager: Kirk Henning

01/19/2018 12:23

Reported:

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727449-01 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-40-1 Sampled By: SISL **Receive Date:** 09/27/2017 21:30 **Sampling Date:** 09/27/2017 08:33

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-40-1

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727449-02 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-40-3
Sampled By: SISL

Receive Date: 09/27/2017 21:30 **Sampling Date:** 09/27/2017 08:40

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-40-3

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727449-03 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-40-5
Sampled By: SISL

Receive Date: 09/27/2017 21:30

Sampling Date: 09/27/2017 08:50
Sample Depth: --Lab Matrix: Solids

Sample Type: Soil Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-40-5

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000697613 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727449-04 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-40-8 Sampled By: SISL **Receive Date:** 09/27/2017 21:30 **Sampling Date:** 09/27/2017 09:00

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-40-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727449-05 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-41-1
Sampled By: SISL

Receive Date: 09/27/2017 21:30 **Sampling Date:** 09/27/2017 09:20

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-41-1

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727449-06 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-41-3
Sampled By: SISL

Receive Date: 09/27/2017 21:30

Sampling Date: 09/27/2017 09:25

Sample Depth:---Lab Matrix:SolidsSample Type:SoilDelivery Work Order:

Global ID:

Location ID (FieldPoint): HA-41-3

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727449-07 COC Number: --

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-41-5 Sampled By: SISL **Receive Date:** 09/27/2017 21:30 **Sampling Date:** 09/27/2017 09:30

Sample Depth: ---Lab Matrix: Solids

Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-41-5

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727449-08 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-41-8
Sampled By: SISL

Receive Date: 09/27/2017 21:30 **Sampling Date:** 09/27/2017 09:40

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-41-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727449-09 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-35-1
Sampled By: SISL

Receive Date: 09/27/2017 21:30

Sampling Date: 09/27/2017 09:55

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-35-1

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000697613

Page 9 of 29

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Project Number: 185850429.300.0006

01/19/2018 12:23

Project Manager: Kirk Henning

Reported:

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727449-10 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-35-3 Sampled By: SISL **Receive Date:** 09/27/2017 21:30 **Sampling Date:** 09/27/2017 10:00

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-35-3

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727449-11 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-35-5
Sampled By: SISL

Receive Date: 09/27/2017 21:30 **Sampling Date:** 09/27/2017 11:00

Sample Depth:---Lab Matrix:SolidsSample Type:SoilDelivery Work Order:

Global ID:

Location ID (FieldPoint): HA-35-5

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

1727449-12 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-35-8
Sampled By: SISL

Receive Date: 09/27/2017 21:30 **Sampling Date:** 09/27/2017 11:10

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-35-8

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000697613 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Stantec - SLO Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Suite A Project Number: 185850429.300.0006
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

3437 Empresa Drive, Suite A

1727449-13 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-39-1 Sampled By: SISL **Receive Date:** 09/27/2017 21:30

Sampling Date: 09/27/2017 13:50

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-39-1

Matrix: W

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000697613 4100 Atlas Court Bakerstield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 11 of 29



Misc Report For 1727449 PDF File Name: wo 1727449 misc EDT EMSLA.pdf Page 1 of 1



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order: 091800320 Customer ID: BCLA50 Customer PO: 1727449 Project ID:

Attention: Molly Meyers BC Laboratories, Inc.

4100 Atlas Court Bakersfield, CA 93308

Phone: (661) 327-4911 Fax: (661) 327-1918 Received Date: 01/04/2018 9:30 AM

Analysis Date: 01/09/2018

Collected Date:

Project: 1727449

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-As	Asbestos	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1727449-03		Brown Non-Fibrous		100% Non-fibrous (Other)	None Detected
091800320-0001		Homogeneous			
Sail is a problem matrix.	Other analytical options are recom	mended such as EPA 6	00 PLM/TEM with milling prep		
1727449-07		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091800320-0002		Homogeneous			
Soil is a problem matrix.	Other analytical options are recom-	mended such as EPA 6	00 PLM/TEM with milling prep		

Analyst(s) Adam C. Fink (2)

Matthew Batongbacai or Other Approved Signatory

Due to magnification limitations inherent in PLM, asbestos libers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional festing by TEM to confirm asbestos quantities. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 01/10/2018 02:51:12

ASB_PLM_0008_0001 - 1.78 Printed: 1/9/2018 11:51 PM

Page 1 of 1

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Stantec - SLO Reported: 01/19/2018 12:23

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727449-01	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-40-1, 9/2	7/2017 8:3	3:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		9.1	mg/kg	20	6.5	EPA-8015B/FFP	ND	J	1
Tetracosane (Surrogat	e)	89.8	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1

			Run				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/05/17 14:15	10/09/17 08:04	AS1	GC-13	0.993	B[J0709			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Report ID: 1000697613

Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727449-02	Client Sampl	e Name:	Former Northern Landfill, HA-40-3, 9/27/2017 8:40:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	96.1	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1	

			Run				QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/05/17 14:15	10/09/17 08:27	AS1	GC-13	0.984	B[J0709			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Page 14 of 29 Report ID: 1000697613



Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727449-04	Client Sampl	e Name:	Former Northern Landfill, HA-40-8, 9/27/2017 9:00:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	84.9	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/05/17 14:15	10/13/17 01:03	AS1	GC-2	0.990	B[J0709		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Page 15 of 29 Report ID: 1000697613

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727449-05	Client Sampl	Former N	Former Northern Landfill, HA-41-1, 9/27/2017 9:20:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		22	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	70.1	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

				QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 14:15	10/13/17 01:26	AS1	GC-2	0.997	B[J0709	

Report ID: 1000697613

Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	D: 1727449-06 Client Sample Name: Former Northern Landfill, HA-41-3, 9/27/2017 9:25:00Al					Former Northern Landfill, HA-41-3, 9/27/2017 9:25:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogat	e)	64.9	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1			

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/05/17 14:15	10/11/17 16:53	AS1	GC-13	1.017	B[J0709		

Page 17 of 29 Report ID: 1000697613

Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727449-08	Client Sampl	Client Sample Name:		Former Northern Landfill, HA-41-8, 9/27/2017 9:40:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogate	e)	67.6	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run			QC		
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 14:15	10/13/17 01:48	AS1	GC-2	1.017	B[J0709	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727449-09	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-35-1, 9/2	7/2017 9:5	5:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	74.9	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 14:15	10/13/17 02:10	AS1	GC-2	0.984	B[J0709	

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3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727449-10	Client Sampl	Former N	Former Northern Landfill, HA-35-3, 9/27/2017 10:00:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	60.4	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run	QC				
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 14:15	10/13/17 03:18	AS1	GC-2	1.017	B[J0709	

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Report ID: 1000697613

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Stantec - SLO Reported: 01/19/2018 12:23

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727449-11	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-35-5, 9/27/2017 11:00:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogat	te)	71.6	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1			

			Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 14:15	10/13/17 03:40	AS1	GC-2	0.997	B[J0709	

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Report ID: 1000697613



Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727449-12	Client Sample Name:		Former N	Former Northern Landfill, HA-35-8, 9/27/2017 11:10:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogate	e)	94.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1			

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 14:15	10/13/17 04:03	AS1	GC-2	1.017	B[J0709	

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Report ID: 1000697613

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1727449-13	Client Sampl	e Name:	Former Northern Landfill, HA-39-1, 9/27/2017 1:50:00PM								
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #			
TPH - Gasoline		ND	mg/kg	800	200	EPA-8015B/FFP	ND	A01	1			
TPH - Diesel (FFP)		ND	mg/kg	400	48	EPA-8015B/FFP	ND	A01	1			
TPH - Motor Oil		6900	mg/kg	800	260	EPA-8015B/FFP	ND	A01	1			
Tetracosane (Surrogat	re)	74.3	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP		A01	1			

			Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/05/17 14:15	10/13/17 04:25	AS1	GC-2	40	B[J0709	

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3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J0709						
TPH - Gasoline	B[J0709-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[J0709-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[J0709-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[J0709-BLK1	81.6	%	20 - 14	5 (LCL - UCL)	

Report ID: 1000697613 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 24 of 29



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

			-				•				
								Control Limits Borcont Lab			
				Spike		Percent		Percent		Lab	
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals	
QC Batch ID: B[J0709											
TPH - Diesel (FFP)	B[J0709-BS1	LCS	61.262	82.237	mg/kg	74.5		64 - 124			
Tetracosane (Surrogate)											

Report ID: 1000697613 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 25 of 29

Stantec - SLO Reported: 01/19/2018 12:23

3437 Empresa Drive, Suite A Project: Former Northern Landfill Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

									Cont	rol Limits		
		Source	Source		Spike			Percent		Percent	Lab	
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals	
QC Batch ID: B[J0709	Batch ID: BI.10709 Used client sample: Y - Description: HA-41-3, 09/27/2017 09:25											
TPH - Diesel (FFP)	— MS	1727449-06	ND	73.929	83.056	mg/kg		89.0		52 - 131		
	MSD	1727449-06	ND	79.530	82.781	mg/kg	7.3	96.1	30	52 - 131		
Tetracosane (Surrogate)	MS	1727449-06	ND	3.0522	3.3236	mg/kg		91.8		20 - 145		
	MSD	1727449-06	ND	3.3906	3.3126	mg/kg	10.5	102		20 - 145		

Report ID: 1000697613 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 26 of 29



Subcontract Report for 1727449 PDF File Name: wo_1727449_sub_all.pdf Page 1 of 2



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order: 091719448 Customer ID: BCLA50 Customer PO: 1727449 Project ID:

 Attention:
 Molly Meyers
 Phone:
 (661) 327-4911

 BC Laboratories, Inc.
 Fax:
 (661) 327-1918

 4100 Atlas Court
 Received Date:
 10/04/2017 10:00 AM

Bakersfield, CA 93308 Analysis Date: 10/11/2017
Collected Date: 09/27/2017

Project: 1727449

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbe	stos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1727449-01		Brown Non-Fibrous		50% Quartz 50% Non-fibrous (Other)	None Detected
091719448-0001		Homogeneous			
Soil is a problem matri	x. Other analytical options are re	commended such as EPA 60	0 PLM/TEM with milling prep		
1727449-02		Brown Non-Fibrous		50% Quartz 50% Non-fibrous (Other)	None Detected
091719448-0002		Homogeneous			
Soil is a problem matri	v. Other analytical options are re	commended such as EPA 60	O PLM/TEM with milling prep		
1727449-04		Brown Non-Fibrous		60% Quartz 40% Non-fibrous (Other)	None Detected
091719448-0003		Homogeneous		To to their manage former?	
Soil is a problem matri	x. Other analytical options are re	-	0 PLM/TEM with milling prep		
1727449-05		Brown Non-Fibrous		60% Quartz 40% Non-fibrous (Other)	None Detected
091719448-0004		Homogeneous		, , , , , , , , , , , , , , , , , , , ,	
Soil is a problem matri	v. Other analytical options are re	•	O PLM/TEM with milling prep		
1727449-06		Brown Non-Fibrous		60% Quartz 40% Non-fibrous (Other)	None Detected
091719448-0005		Homogeneous		To to their manage former?	
Soil is a problem matri	x. Other analytical options are re	-	0 PLM/TEM with milling prep		
1727449-08		Brown Non-Fibrous		60% Quartz 40% Non-fibrous (Other)	None Detected
091719448-0006		Homogeneous		,	
Soil is a problem matri	r. Other analytical options are re	commended such as EPA 60	O PLM/TEM with milling prep		
1727449-09		Brown Non-Fibrous		60% Quartz 40% Non-fibrous (Other)	None Detected
091719448-0007		Homogeneous		,	
Soil is a problem matri	x. Other analytical options are re	commended such as EPA 60	O PLM/TEM with milling prep		
1727449-10		Brown Non-Fibrous		60% Quartz 40% Non-fibrous (Other)	None Detected
091719448-0008		Homogeneous			
Soil is a problem matri	x. Other analytical options are re	commended such as EPA 60	0 PLM/TEM with milling prep		
1727449-11		Brown Non-Fibrous		60% Quartz 40% Non-fibrous (Other)	None Detected
091719448-0008		Homogeneous		(2.0.24)	
Soil is a problem matri	x. Other analytical options are re	commended such as EPA 60	O PLM/TEM with milling prep		
1727449-12		Brown Non-Fibrous		60% Quartz 40% Non-fibrous (Other)	None Detected
91719448-0010		Homogeneous		in it is in it is a family	
Soil is a problem matri	x. Other analytical options are re		0 PLM/TEM with milling prep		
1727449-13		Brown/Black Non-Fibrous		40% Quartz 58% Non-fibrous (Other)	<1% Amosite 2% Chrysotile
091719448-0011		Homogeneous		20 in Front House (winds)	211 0111/20010
Soil is a problem matri	x. Other analytical options are re		O PLM/TEM with milling prep		

Initial report from: 10/11/2017 10:38:47

ASB_PLM_0008_0001 - 1.78 Printed: 10/11/2017 10:38 AM

Page 1 of 2

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Subcontract Report for 1727449 PDF File Name: wo_1727449_sub_all.pdf Page 2 of 2



EMSL Order: 091719448 Customer ID: BCLA50 Customer PO: 1727449 Project ID:

Analyst(s) Cecilia Yu (11)

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The limit of detection, as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method. limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 10/11/2017 10:38:47

ASB_PLM_0008_0001 - 1.78 Printed: 10/11/2017 10:38 AM

Page 2 of 2

Report ID: 1000697613

Stantec - SLO Reported: 01/19/2018 12:23

3437 Empresa Drive, Suite A Project: Former Northern Landfill Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Notes And Definitions

J Estimated Value (CLP Flag)

MDL Method Detection Limit

ND Analyte Not Detected

PQL Practical Quantitation Limit

A01 Detection and quantitation limits are raised due to sample dilution.

Report ID: 1000697613 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 29 of 29



Date of Report: 01/19/2018

Kirk Henning

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Client Project: 185850429.300.0006

BCL Project: Former Northern Landfill

BCL Work Order: 1727760

Invoice ID: B282552, B289258

Enclosed are the results of analyses for samples received by the laboratory on 9/29/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000691039

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Stuart Buttram

Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101





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1727760-11 - HA-43-8	
Total Petroleum Hydrocarbons	26
1727760-12 - HA-44-1	
Total Petroleum Hydrocarbons	27
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Total Petroleum Hydrocarbons	28
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Chain of Custody and Cooler Receipt Form for 1727760 Page 1 of 7 Chain of Custody Form ☐ STD ☐ 5 Day** ☐ 2 Day** ☐ 1 Day Result Request **Surcharge Notes BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 681.327.1918 - www.bclabs.com Comments: ő Sample Matrix Waste Wator Drinking Water Ground Waster Sludge lios Time Analysis Requested Date COT Penting to Global ID (Neoded for EDF) Send Copy to State of CA? (EDT) EDF Required? Geotracker °N | **ջ** 13811 LABORATORIES, INC □ Yes □ Yes Project Name: Sampler(s): Project #: Same as above 139-8 44-43-3 177 8-CH-87 A-42-3 71-42-6 -43--43-8 Fæ A-42-1 Street Address: u City, Stale, Zip: Work Order #; ă Phone: Email: Address Client: P.O. #:

Report ID: 1000697614 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 3 of 38



Chain of Custody and Cooler Receipt Form for 1727760 Page 2 of 7 ☐ STD ☐ 5 Day** ☐ 2 Day** ☐ 1 D Chain of Custody For Result Request **Surcharge System # (Needed for EDT) BC Laboratories, Inc. -- 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com 2. Received By Drinking Water Ground Waster Waste Water eppnis 105 Analysis Requested Dade रिल्मिस स्व उत्मावकरी 3. Relinquished By State of CA? (EDT) EDF Required? Geotracker □ Yes □ No 2 [] LABORATORIES, INC Project Name: , Yes Sampler(s): Project #: Same as above \geq State Ü Street Address: City, State, Zip: Work Order #: Phone: Attn: Email: Billing Address Client City: Attn: P.O.

Report ID: 1000697614 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 4 of 38



Chain of Custody and Cooler Receipt Form for 1727760 Page 3 of 7 Chain of Custody Form |STD || 5 Day** || 2 Day** || 1 Day* Result Request "Surcharge 50/12/13 SUB-OUT Secon Selma BC Laboratories, Inc. – 4100 Atlas Ct. – Bakersfield, CA 93308 – 661.327.4911 – Fax: 661.327.1918 - Www.bclabs.com Comments Sample Matrix Vaste Water Ground Waster Drinking Water HOCDAnalysis Requested Global ID 68:33 10:55 Project #: 185850429, 320,0000 Sampled 10:23 OFFO 01:5D 08:37 88:45 **B**3:15 10:45 10:50 07:45 08:25 10:15 00:90 Project Name: Tornec Navelheral Send Copy to State of CA? (EDT) Sampler(s): Jim Raney EDF Required? **≗** □ Yes □ No Geotracker S 28 17 Sampled Date □ Yes -ABORATORIES, Lick A Same as above malithink Henning@stouter.com treet Address: 3437 Empreso Drive Description ity, State, Zipi Buluis Obtso 14-44-3 HA-43-8 4A-43-3 AA-43-5 1-hh-4H HA-42-8 HA-42-5 HA-39-8 HA-42-3 HA-43-1 hones (205) 953 - 1854 Fax: HA -42-1 HIII KICK HEAMING ent: Starte /ork Order #: ā mple lient:

Report ID: 1000697614 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 5 of 38



Chain of Custody and Cooler Receipt Form for 1727760 Page 4 of 7 Chain of Custody Form |STD | || 5 Day** || 2 Day** || 1 Day Result Request **Surcharge Notes BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Sample Matrix vaste Water Ground Waater Drinking Water Sludge Analysis Requested 13:20 13,30 310 13:15 1:05 Project #: (\$5\$50429. \$00.000) Project Name: Former Nigot City, State, Zipi Ban Luis (Valsco, CA9340) Sampleris): Jin Kaney Send Copy to State of CA? (EDT) EDF Required? □ Yes □ No 7912817 Geotracker Sampled -ABORATORIES, INC. 7-2776 □ Yes Same as above reso Dobye, Suffed Email:Kirk Henning @Starte.com Ę. Description Phone: (805) 250-2854 Fax: atm:Kirk Henning Street Address: 3431 Eme lient: Stantec Vork Order #: Ō ddress lient: ₽ Ä o,

Report ID: 1000697614 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 6 of 38



Chain of Custody and Cooler Receipt Form for 1727760 Page 5 of 7

Submission #: 17-27760										of 2_
SHIPPING INFORM	The second second			5	HIPPING	CONTAI	MED		FREE LIQ	IIID
Fed Ex □ UPS □ Ontrac □		d Delivery	0	Ice Ch	est-Ei er □ (Spe	None 🗆			/ES D N	0 0
Refrigerant: Ice-⊠ Blue Ice □	None		ther 🗆	Comr	nents:	-				and the same
Custody Seals Ice Chest □	Containe	ers 🗓	None		ments:			Section of the last of the las	- Comment	
			intact? Y	es 🗹 No	'o	Descrip	tion(s) mate	h COC? \	es& No	0
COC Received Emissivity 0.98 Container: III 235 Janhermometer ID: TH 234 Date/Time 04 29/13-10-14 YES INO Temperature: (A) 0.77 °C / (C) 0.4 °C Analyst Init VIVI										
SAMPLE CONTAINERS		,				NUMBERS				
	. 1	/3	74	-14	7.5	98 /	7	8	9	10
OT PE UNPRES			·	T			ļ			
40z / 80z / 160z PE UNPRES 20z Cr**					ļ		<u> </u>	·	-	-
					-	-			 	-
QT INORGANIC CHEMICAL METALS			-		 	-			·	
INORGANIC CHEMICAL METALS 40z / 80z / 160z							+	·		-
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PT NITROGEN FORMS		-		-		-	-			-
PT TOTAL SULFIDE	 					-				-
2cc. NITRATE / NITRITE	-	-								-
PT TOTAL ORGANIC CARBON .		-					-	-	-	
PT CHEMICAL OXYGEN DEMAND				-						
PIA PHENOLICS					-		-		-	-
40mi VOA VIAL TRAVEL BLANK										-
40ml VOA VIAL							-		ļ	-
QT EPA 1664										
PT ODOR (<u> </u>	-								
RADIOLOGICAL							-			-
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT RPA 515.1/8150										
QT EPA 525					1		· * *			
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
OT EPA 549										
OT EPA 8015M	-									
OT EPA 8270					1					
OT EPA 82/0 Boz / 160z / 32oz AMBER										
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	-	-/-	· · · ·		1					-
SOIL SLEEVE		-			 				-	
PCB VIAL		-				-	-			
PLASTIC BAG		-					-			
TEDLAR BAG										
FERROUS IRON		-								-
ENCORE		-			-					
SMART KIT			-				-			
SUMMA CANISTER									-	
Comments:				-	-					

Report ID: 1000697614



Chain of Custody and Cooler Receipt Form for 1727760 Page 6 of 7

BC LABORATORIES INC. Submission #: 17-277	20	C	OOLER	RECEIPT	FORM	T		Page	0	<u> </u>
	The second second	- Harry State						Τ.		
SHIPPING INFOR		d Delivery		Ice Che		CONTAIN None 🗆 cify)			REE LIQUES IN N	0 0
Refrigerant: Ice Blue Ice	□ None	- C	ther 🗆	Comm	ents:					
	Containe		None	Comr	ments:					
All samples received? Yes 📝 No 🗅	All samples						ion(s) mate	h COC? Y	es P No I	-
	missivity: <u>()/</u> Temperature:			glassJe			1074 °C	Date/Tim Analyst I	e <u>(9 29 </u> nit <u>YEM</u> Q	17 PU 31 1431
	T					NUMBERS				
SAMPLE CONTAINERS	12	15	66	/7	18	19	110	11 1	112	1/3
QT PE UNPRES										
40z/80z/160z PE UNPRES								:		
Zoz Cr ¹⁶				-						
OT INORGANIC CHEMICAL METALS		-								
INORGANIC CHEMICAL METALS 40z / 80z / 16	0Z	-		-						
PT CYANIDE		1						-		
PT NITROGEN FORMS		-		-						
PT TOTAL SULFIDE		-								
201. NITRATE / NITRITE	+	1		-						
PT TOTAL ORGANIC CARBON PT CHEMICAL OXYGEN DEMAND	+-	-								
PIA PHENOLICS		_								
40mi VOA VIAL TRAVEL BLANK	_	-					-			
40ml VOA VIAL										
QT EPA 1664										-
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 m2 VOA VIAL- 504										
QT EPA 508/608/8080							· ·			
QT EPA 515.1/8150										
QT EPA 525										
OT EPA 525 TRAVEL BLANK										
60ml EPA 547										
40ml EPA 531.1										
Soz EPA 548	/									-
OT EPA 549										
OT EPA 8015M	-									-
OT EPA 8270										
oz/16oz/32oz AMBER		_				-1				1
62 / 160z / 5202 JAR	1 *	A	A	A	A	A	A	_A	A	1
OIL SLEEVE									ļ	
CB VIAL		-								-
LASTIC BAG										-
TEDLAR BAG				· ·		· ·			-	
ERROUS IRON		-								
NCORE							-			
MART KIT										
UMMA CANISTER										
omments:								- /		

Report ID: 1000697614 Page 8 of 38



Report ID: 1000697614

Chain of Custody and Cooler Receipt Form for 1727760 Page 7 of 7

LABORATORIES INC.	7616	CO	OLER R	ECEIPT F	ORM	T		Page		
ubmission #: 7-27	760		7				-	1 -	REE LIQU	IID
SHIPPING INFORI	MOITAM		Ĭ.			ONTAIN	EK		ES D NO	
ed Ex UPS Ontrac		Delivery	- I	Ice Ches	(Spec		BOX L		w / s	
C Lab Field Service	☐ (Specify)_			Other	[] (opec	1. Y /			** /	
lefrigerant: Ice⊄D Blue Ice [None [) Ot	her 🗆	Commo						
terrigorance to T	Container	eri.	None Y	Comm	nents:					1
	Intact? Yes G	No FI							-4	
samples recurred.	All samples co	ontainers in	ntact? Ye	No C	3		on(s) mate	h COC? Y	Falaal	17 (1)
	nissivity: ()(O	[X_ 0	ntainer:	iaus de	Ul hermom	eter ID:	(0)3	Date/Tim	0011011	1034
COC Received En	emperature:	(A) D	<u>٩</u> ٠ `	°c / (c) D(5	°C	Analyst I	nit Yell	
E 120	emperature.		2			NUMBERS				
SAMPLE CONTAINERS	1 120	117	119	4	5	6	7	8	9	10
		7.11	0 1							-
T PE UNPRES 12/802/1602 PE UNPRES								-		-
or Cr ^{ef}									-	
R CF** T INORGANIC CHEMICAL METALS										
T INORGANIC CHESITEAL STALES NORGANIC CHEMICAL METALS 40z / 80z / 16	oz									
T CYANIDE								-	-	-
T NITROGEN FORMS										-
T TOTAL SULFIDE								-	-	1
GL NITRATE/NITRITE						-		-	-	1
T TOTAL ORGANIC CARBON					-					
T CHEMICAL OXYGEN DEMAND										
NA PHENOLICS					-			-		
IBml VOA VIAL TRAVEL BLANK					-					
iomi VOA VIAL				-						
OT RPA 1664		-		-	-			1		
PT ODOR .	_	-	-		-					
RADIOLOGICAL		+	-							
BACTERIOLOGICAL	-	-		1						
40 ml VOA VIAL- 504		-								
QT EPA 508/608/8080										
QT EPA 515.1/8150		-								
OT EPA 525		1			1					
OT EPA 525 TRAVEL BLANK		1								-
40ml EPA 547		1								-
40ml EPA 531.1										
Sox EPA 548		1	1							
QT EPA 549		1	1.							
QT EPA 8015M	_	-	1.							
QT EPA 8270			1							
80x/160x/320x AMBER		A	A	-						
80z / 160z / 1200 JAR	- A	1-4	+~							
SOIL SLEEVE		1	1							
PCB VIAL		1	1							
PLASTIC BAG				1						
TEDLAR BAG	_	-	1							
FERROUS IRON		+								
ENCORE			-		1					
SMART KIT				-	-		1		-	
SUMMA CANISTER								-		
									Λ	

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401 Reported: 01/19/2018 12:23
Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727760-01 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-39-3 Sampled By: SISL **Receive Date:** 09/29/2017 16:35 **Sampling Date:** 09/28/2017 07:45

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-39

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727760-02 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-39-5
Sampled By: SISL

Receive Date: 09/29/2017 16:35 **Sampling Date:** 09/28/2017 07:50

Sample Depth:---Lab Matrix:SolidsSample Type:SoilDelivery Work Order:

Global ID:

Location ID (FieldPoint): HA-39

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727760-03 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-39-8
Sampled By: SISL

Receive Date: 09/29/2017 16:35 **Sampling Date:** 09/28/2017 08:00

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-39

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000697614 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401
 Reported:
 01/19/2018 12:23

 Project:
 Former Northern Landfill

 Project Number:
 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727760-04 COC Number: --

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-42-1 Sampled By: SISL **Receive Date:** 09/29/2017 16:35 **Sampling Date:** 09/28/2017 08:25

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-42

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727760-05 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-42-3
Sampled By: SISL

Receive Date: 09/29/2017 16:35 **Sampling Date:** 09/28/2017 08:33

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-42

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727760-06 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-42-5
Sampled By: SISL

Receive Date: 09/29/2017 16:35 **Sampling Date:** 09/28/2017 08:37

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-42

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000697614

Page 11 of 38

3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1727760-07 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-42-8 Sampled By: SISL

09/29/2017 16:35 Receive Date: Sampling Date: 09/28/2017 08:45

Sample Depth: Lab Matrix: Solids Soil Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-42

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727760-08 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location: HA-43-1 Sampling Point: SISL Sampled By:

09/29/2017 16:35 Receive Date: 09/28/2017 09:40 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-43

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727760-09 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location: HA-43-3 Sampling Point: SISL Sampled By:

Receive Date: 09/29/2017 16:35 09/28/2017 09:15 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-43

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727760-10 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-43-5 Sampled By: SISL **Receive Date:** 09/29/2017 16:35 **Sampling Date:** 09/28/2017 10:15

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-43

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727760-11 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-43-8
Sampled By: SISL

Receive Date: 09/29/2017 16:35 **Sampling Date:** 09/28/2017 10:23

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-43

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727760-12 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-44-1
Sampled By: SISL

Receive Date: 09/29/2017 16:35 **Sampling Date:** 09/28/2017 10:45

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-44

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000697614 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

3437 Empresa Drive, Suite A Suite A

Project: Former Northern Landfill Project Number: 185850429.300.0006 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Reported:

Laboratory **Client Sample Information**

1727760-13 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-44-3 Sampled By: SISL

09/29/2017 16:35 Receive Date: Sampling Date: 09/28/2017 10:50

Sample Depth: Lab Matrix: Solids Soil Sample Type:

Delivery Work Order: Global ID:

01/19/2018 12:23

Location ID (FieldPoint): HA-44

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727760-14 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location: HA-44-5 Sampling Point: SISL Sampled By:

09/29/2017 16:35 Receive Date: 09/28/2017 10:55 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-44

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727760-15 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location: HA-44-8 Sampling Point: SISL Sampled By:

Receive Date: 09/29/2017 16:35 09/28/2017 11:05 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-44

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Report ID: 1000697614

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401 Project: Former Northern Landfill
Project Number: 185850429.300.0006
Project Manager: Kirk Henning

01/19/2018 12:23

Reported:

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727760-16 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-46-1 Sampled By: SISL **Receive Date:** 09/29/2017 16:35 **Sampling Date:** 09/28/2017 13:10

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-46

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727760-17 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-46-3
Sampled By: SISL

Receive Date: 09/29/2017 16:35 **Sampling Date:** 09/28/2017 13:15

Sample Depth:---Lab Matrix:SolidsSample Type:SoilDelivery Work Order:

Global ID:

Location ID (FieldPoint): HA-46

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727760-18 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-46-5
Sampled By: SISL

Receive Date: 09/29/2017 16:35 **Sampling Date:** 09/28/2017 13:20

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-46

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Report ID: 1000697614 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 15 of 38

Stantec - SLO Reported: 01/19/2018 12:23

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Client Sample Information Laboratory

1727760-19 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-46-8 Sampled By: SISL

09/29/2017 16:35 Receive Date: Sampling Date: 09/28/2017 13:30

Sample Depth: Lab Matrix: Solids Soil

Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-46

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Page 16 of 38 Report ID: 1000697614



Misc Report For 1727760 PDF File Name: wo 1727760 misc EDT EMSLA.pdf Page 1 of 1



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com / sanleandrolab@emsl.com EMSL Order: 091800328 Customer ID: BCLA50 Customer PO: 1727760 Project ID:

Attention: Molly Meyers

BC Laboratories, Inc. 4100 Atlas Court Bakersfield, CA 93308 Phone: (661) 327-4911 Fax: (661) 327-1918 Received Date: 01/04/2018 9:30 AM

Analysis Date: 01/09/2018 Collected Date: 09/28/2017

Project: 1727760

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asb	estos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1727760-06		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091800328-0001		Homogeneous			
Sail is a problem matr	ix. Other analytical options are rec	commended such as EPA 6	500 PLM/TEM with milling prep		
1727760-10		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091800328-0002		Homogeneous			
Soil is a problem matr	ix. Other analytical options are rec	commended such as EPA 6	300 PLM/TEM with milling prep		
1727760-14		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091800328-0003		Homogeneous			
Soil is a problem matr	ix. Other analytical options are rec	commended such as EPA 6	500 PLM/TEM with milling prop		
1727760-18		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091800328-0004		Homogeneous			
Soil is a problem matr	ix. Other analytical options are rec	commended such as EPA 6	500 PLM/TEM with milling prep		

Analyst(s)	
Adam C. Elek (4)	

Matthew Batongbacal or Other Approved Signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional tasting by TEM to confirm asbestos quantities. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 01/10/2018 02:57:12

ASB_PLM_0008_0001 - 1.78 Printed: 1/9/2018 11:57 PM

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Report ID: 1000697614 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com



3437 Empresa Drive, Suite A

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-01	Client Sampl	e Name:	Former Northern Landfill, HA-39-3, 9/28/2017 7:45:00AM								
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#			
TPH - Gasoline		ND	mg/kg	280	70	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	140	17	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		1600	mg/kg	280	91	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogat	e)	94.4	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1			

	Run					QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/09/17 22:30	10/14/17 01:25	AS1	GC-2	14.019	B[J1131		

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-02	Client Sampl	e Name:	me: Former Northern Landfill, HA-39-5, 9/28/2017 7:50:00AM								
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #			
TPH - Gasoline		ND	mg/kg	290	73	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	150	17	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		1200	mg/kg	290	95	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogat	re)	111	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1			

					QC				
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/09/17 22:30	10/14/17 01:02	AS1	GC-2	14.563	B[J1131		

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Stantec - SLO 3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-03	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-39-8, 9/2	8/2017 8:00	D:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		210	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	te)	89.6	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 22:30	10/14/17 00:39	AS1	GC-2	1.003	B[J1131	

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3437 Empresa Drive, Suite A Suite A

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Stantec - SLO

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-04	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-42-1, 9/2	8/2017 8:2	5:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		22	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	te)	85.1	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 22:30	10/13/17 23:09	AS1	GC-2	0.987	B[J1131	

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Report ID: 1000697614

Reported: 01/19/2018 12:23

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-05	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-42-3, 9/2	8/2017 8:3	3:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		36	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	te)	96.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 22:30	10/16/17 12:35	AS1	GC-2	0.997	B[J1131	

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Report ID: 1000697614

Stantec - SLO Reported: 01/19/2018 12:23

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-07	Client Sampl	e Name:	Former N	lorthern La	ndfill, HA-42-8, 9/2	8/2017 8:4	5:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	74.5	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 22:30	10/13/17 15:29	AS1	GC-2	0.987	B[J1131	

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Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

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Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-08	Client Sampl	le Name:	Former N	orthern La	ndfill, HA-43-1, 9/2	8/2017 9:40	D:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		67	mg/kg	20	6.5	EPA-8015B/FFP	ND	A57	1
Tetracosane (Surrogat	e)	84.7	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 22:30	10/13/17 23:32	AS1	GC-2	0.993	B[J1131	

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Suite A

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San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-09	Client Sampl	le Name:	Former N	lorthern La	ndfill, HA-43-3, 9/2	8/2017 9:1	5:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	e)	78.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	10/09/17 22:30	10/13/17 06:41	AS1	GC-2	1.010	B[J1131

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Suite A

3437 Empresa Drive, Suite A

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Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-11	Client Sample Name:		Former N	Former Northern Landfill, HA-43-8, 9/28/2017 10:23:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	100	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run			QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/09/17 22:30	10/13/17 05:10	AS1	GC-2	1.010	B[J1131		

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Stantec - SLO 3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-12	Client Sampl	Former N	Former Northern Landfill, HA-44-1, 9/28/2017 10:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	te)	80.5	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/09/17 22:30	10/13/17 07:03	AS1	GC-2	1.017	B[J1131		

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-13	Client Sampl	e Name:	Former N	orthern Landfill, HA-44-3, 9/28/2017 10:50:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	76.1	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run			QC		
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 22:30	10/13/17 06:18	AS1	GC-2	0.984	B[J1131	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-15	Client Sampl	e Name:	Former Northern Landfill, HA-44-8, 9/28/2017 11:05:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	75.9	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1	

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 22:30	10/13/17 05:33	AS1	GC-2	1.017	B[J1131	

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San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-16	Client Sampl	e Name:	Former N	orthern Laı	ndfill, HA-46-1, 9/2	8/2017 1:10	D:00PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		160	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	e)	60.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 22:30	10/14/17 00:17	AS1	GC-2	0.987	B[J1131	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-17	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-46-3, 9/28/2017 1:15:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	te)	58.9	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/09/17 22:30	10/13/17 22:47	AS1	GC-2	1.014	B[J1131		

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727760-19	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-46-8, 9/28/2017 1:30:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogat	e)	62.5	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1			

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 22:30	10/13/17 05:55	AS1	GC-2	0.990	B[J1131	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1131						
TPH - Gasoline	B[J1131-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[J1131-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[J1131-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[J1131-BLK1	72.0	%	20 - 14	5 (LCL - UCL)	

Report ID: 1000697614 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 33 of 38



Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401 Reported: 01/19/2018 12:23
Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

								Control L	imits	1 -1-	
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals	
QC Batch ID: B[J1131											
TPH - Diesel (FFP)	B[J1131-BS1	LCS	87.163	84.746	mg/kg	103		64 - 124			
Tetracosane (Surrogate)	B[J1131-BS1	LCS	3.5903	3.3912	mg/kg	106		20 - 145			

Report ID: 1000697614 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 34 of 38



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:23

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1131	Use	d client samp	le: Y - Des	cription: HA	-42-8, 09/28	/2017 08:4	1 5				
TPH - Diesel (FFP)	─ MS	1727760-07	ND	75.213	83.893	mg/kg		89.7		52 - 131	
	MSD	1727760-07	ND	83.548	84.175	mg/kg	10.5	99.3	30	52 - 131	
Tetracosane (Surrogate)	MS	1727760-07	ND	2.8587	3.3570	mg/kg		85.2		20 - 145	
	MSD	1727760-07	ND	3.5114	3.3684	mg/kg	20.5	104		20 - 145	

Report ID: 1000697614 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 35 of 38



Subcontract Report for 1727760 PDF File Name: wo_1727760_sub_all.pdf Page 1 of 2



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com/sanleandrolab@emsl.com

EMSL Order: 091719467 Customer ID: BCLA50 Customer PO: 1727760 Project ID:

Phone:

Attention: Molly Meyers

BC Laboratories, Inc. 4100 Atlas Court Bakersfield, CA 93308

Fax: (661) 327-1918 Received Date: 10/06/2017 10:45 AM

(661) 327-4911

Analysis Date: 10/13/2017 Collected Date: 09/28/2017

Project: 1727760

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

% Type <1% Chrysotile
<1% Chrysotile
<1% Chrysotile
The City State
<1% Chrysotile
-10/ 05
<1% Chrysotile
<1% Chrysotile
,
None Detected
<1% Chrysotile
<1% Chrysotile
401 01
<1% Chrysotile
<1% Chrysotile
<1% Chrysotile
None Detected

Initial report from: 10/13/2017 12:44:53

ASB_PLM_0008_0001 - 1.78 Printed: 10/13/2017 12:54 PM

Page 1 of 2

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Report ID: 1000697614



Subcontract Report for 1727760 PDF File Name: wo_1727760_sub_all.pdf Page 2 of 2



EMSL Order: 091719467 Customer ID: BCLA50 Customer PO: 1727760 Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-A	sbestos	<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1727760-16		Tan/Black		50% Quartz	<1% Chrysotile
		Non-Fibrous		5% Matrix	
091719467-0013		Homogeneous		45% Non-fibrous (Other)	
Soil is a problem matri	x. Other analytical options are re-	commended such as EPA 6	00 PLM/TEM with milling prep	D	
1727760-17		Tan		50% Quartz	<1% Chrysotile
		Non-Fibrous		50% Non-fibrous (Other)	
091719467-0014		Homogeneous			
Soil is a problem matri	 Other analytical options are re- 	commended such as EPA 6	00 PLM/TEM with milling prep	D	
1727760-19		Tan/Black		60% Quartz	<1% Chrysotile
		Non-Fibrous		2% Matrix	-
091719467-0015		Homogeneous		38% Non-fibrous (Other)	
Soil is a problem matri	v. Other analytical options are re-	commanded such as EPA 6	OO PLINTEM with milling pres	9	

Analyst(s) Shane Heisser (15) Matthew Balongbacal

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 10/13/2017 12:44:53

ASB_PLM_0008_0001 - 1.78 Printed: 10/13/2017 12:54 PM

Page 2 of 2

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, detachment or third party interpretation.

Report ID: 1000697614 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Stantec - SLO Reported:

3437 Empresa Drive, Suite A Project: Former Northern Landfill

01/19/2018 12:23

Suite A Project Number: 185850429.300.0006
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Notes And Definitions

MDL Method Detection Limit
ND Analyte Not Detected

PQL Practical Quantitation Limit

A57 Chromatogram not typical of motor oil.

Report ID: 1000697614 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 38 of 38



Date of Report: 07/20/2018

Kirk Henning

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Client Project: 185850429.300.0006

BCL Project: Former Northern Landfill

BCL Work Order: 1727761

Invoice ID: B282553, B289259

Enclosed are the results of analyses for samples received by the laboratory on 9/29/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000697615

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Stuart Buttram
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101





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Total Petroleum Hydrocarbons	19
1727761-05 - HA-45-1	
Total Petroleum Hydrocarbons	20
1727761-06 - HA-45-3	
Total Petroleum Hydrocarbons	21
1727761-08 - HA-45-8	
Total Petroleum Hydrocarbons	22
1727761-09 - HA-48-1	
Total Petroleum Hydrocarbons	23
1727761-10 - HA-48-3	
Total Petroleum Hydrocarbons	24
1727761-12 - HA-48-8	
Total Petroleum Hydrocarbons	25
1727761-13 - HA-32(a)-1	
Total Petroleum Hydrocarbons	26
1727761-14 - HA-32(a)-3	
Total Petroleum Hydrocarbons	27
1727761-15 - HA-32(b)-3	
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Chain of Custody and Cooler Receipt Form for 1727761 Page 1 of 7 Chain of Custody Form ☐ STD ☐ 5 Day** ☐ 2 Day** ☐ 1 Day Result Request **Surcharge Date System # (Needed for EDT) BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Other Comments: Master Water Ground Waster Drinking Water elipnis Analysis Requested Date Date टेटने हिस्सी कि उपानास उत्तर का का Global ID / (Needed for EDF) Send Copy to State of CA? (EDT) EDF Required? Geotracker ŝ °N □ Yes □ Yes Project Name: Sampler(s): -ABORATORIES Project #: Same as above 녆 2-81-4t +1-45-3 14 A 45-8 Fax: 1/4-48-Street Address: City, Stale, Zip: u Nork Order #: Attu: 🗡 Email: Phone: Address: St.

Report ID: 1000771306 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 3 of 36



Chain of Custody and Cooler Receipt Form for 1727761 Page 2 of 7 Chain of Custody Form STD 05 Day" 02 Day" 01 Day Result Request "Surcharge BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com 800 Comments: 3. Received By Waste Water Ground Waater Dinking Water 103 Analysis Requested Dete 503 हिसीज के स्वीक्ष है। हु03 हुनीज के स्वीक्ष 3. Retinquished By Global ID (Needed for EDF) Send Copy to State of CA? (EDT) EDF Required? Geotracker 8 | □ Yes □ No ABORATORIES, INC. □ Yes Project Name: Project #: Sampler(s): Same as above Street Address: City, State, Zip: Work Order #: ā Phone: Email: Attn: K Address Client: P.O. #: Attu: Ġ

Report ID: 1000771306 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page



Chain of Custody and Cooler Receipt Form for 1727761 Page 3 of 7 Chain of Custody Form ☐STD ☐5 Day** ☐2 Day** ☐1 Day** Result Request "Surcharge 4/24/13 SUB-OUT BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com System 4 Sample Matrix Vaste Water Ground Waater Drinking Water HEAD Analysis Requested Global ID (Needed for EDF) BB: 05 10:00 58:45 08:55 10:05 Project #: 1858/524/29.300.0006 Project Name: Former North 08:05 08:20 08:30 0:10 500 08,00 01:80 7,0 Send Copy to State of CA? (EDT) EDF Required? ° □ Yes | No 1711121111 Geotracker Sampled ABORATORIES, INC. Date Ity, State, Zip: San List Obispage 9940 Sampler(s): Jem □ Yes SwiteA mail: Kirk, Henning@ Stantecocom Same as above ress Day 김 Description 44-48-8 HA-18-5 HA-32m HA-48-2 HA-45-8 Hermins HA-45-3 4A-45-5 eet Address: 3437 Eur. HA-48-1 hone:(805)250-289 Fax: 14-45-14-47-U ork Order #: Ŏ dress: ž Ë

Report ID: 1000771306 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 5 of 36



Chain of Custody and Cooler Receipt Form for 1727761 Page 4 of 7 Chain of Custody Form ☐ STD ☐ 5 Day** ☐ 2 Day** ☐ 1 Day* Result Request **Surcharge 4/14/14 BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfleld, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Sample Matrix Waste Water Ground Waater Drinking Water Analysis Requested 3500 13:08 Sampled 12:50 Project #: [AFS50429 300.cco.6 Project Name Conner Nevel Send Copy to State of CA? (EDT) SSO, CA CHO Sampler(s): Jim Rowey EDF Required? **ջ** □ Yes | No Geotracker 09/29/17 ABORATORIES, INC. □ Yes Suche Same as above mail: Kirk Henning@startec.com Zip Description X State, Zip: Jan Luis U none:(805)250-2894 Fax: reet Address: 3437 Em tr: Kick theoning ant Stanfe ork Order #: ă ling jent: خ

Page 6 of 36

Report ID: 1000771306 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com



Chain of Custody and Cooler Receipt Form for 1727761 Page 5 of 7

			COOL	R RECEIF	T FORM			Þa	ige]	of2
Submission #: 7-27	164					T			ge	017
SHIPPING INFOI Fed Ex UPS Ontra BC Lab Field Service Othe		and Deliv	ery 🗆	lce C	SHIPPING hest (Sp	None	INER Box 🗆		FREE LI	NO D
Refrigerant: Ice Blue Ice	□ No	ne 🗆	Other	□ Con	nments:					
Custody Seals Ice Chest □		iners 🛛	No	ne Z Co				The state of the s	Particular	
All samples received? Yes Ø No □	All sampl	es contain	ers intact?	Yes 🗹 N	lo'□	Descrit	otion(s) mat	-h 0003	. 4.	
COC Received	missivity Temperatur	7.48	Contain	er: Jlaszc	Jarhermo (C)	meter ID: 1	#174 °c	Date/Ti		9/17/63
SAMPLE CONTAINERS					SAMPL	E NUMBERS				
OT PE UNPRES	1	71	152	16/16	5	6	7	8	9	10
oz/8oz/16oz PE UNPRES		1	1 7	4.77	-	+	17,	-	-	
oz Cr*f				1	-	-		-	+	-
YT INORGANIC CHEMICAL METALS NORGANIC CHEMICAL METALS 402/502/16	to.				,					
T CYANIDE T NITROGEN FORMS	-	-			-					1
T TOTAL SULFIDE	_	_	-	-	 	-				
DZ. NITRATE / NITRITE			-	+	+	-				
T TOTAL ORGANIC CARBON .			_	+		 	-	-	-	
T CHEMICAL OXYGEN DEMAND					 			-	_	-
A PHENOLICS									-	-
mi voa vial travel blank										+
mi VOA VIAL										
T EPA 1664	-	-								
ODOR			-	-						
ADIOLOGICAL ACTERIOLOGICAL	-	+	+	-	-					
ml VOA VIAL- 504	-	-	-	-	-	-				
CEPA 508/605/8080		+	+	-	-					
F EPA 515.1/8150			1	-	-					
EPA 525		1			-		ja.881			
EPA 525 TRAVEL BLANK							-			
ni EPA 547										
ni EPA 531.I										
EPA 548										
EPA 549	-								-	
EPA 801504	-	-	· .							
EPA 8270	-		<u> </u>	-						
/ 160z / 320z AMBER / 160z (320z JAR	_		-	-						
IL SLEEVE	A	-		-						
SVIAL		-	-	-						
ASTIC BAG		1	-	-						
DLAR BAG										
TROUS IRON										
CORE			7,							
ART KIT										
IMA CANISTER										



Chain of Custody and Cooler Receipt Form for 1727761 Page 6 of 7

BC LABORATORIES INC.			COOLER	RECEIPT	FORM			Page	_Z_0	of 3
Submission #: 17-27	lal			THE CENT	. 01			, ug		
SHIPPING INFORM	MATION				UIDDING	CONTA	INCO	1	CDET 110	
	Han	d Deliver	rv 🗇	lce Ch	HIPPING	None □	Box □		FREE LIO /ES 🗆 N	
BC Lab Field Service Other I	☐ (Specif	y)	, –	Oth	er ☐ (Spe	cify)	B0X C	11 '	w /	
									VV ,	3
Refrigerant: Ico Blue Ice	Non	e 🗆 .	Other 🗆	Com	ments:			-	NAME OF TAXABLE PARTY.	
Custody Seals Ice Chest □			1							
All samples received? Yes □ No □ #	II samples	containe	rs intact?	Yes D No	'n.	Descri	ption(s) match	COC? Y	es [] No	п
SOO D 1 1 1	entuttus (198	Contolnor	عده اه.	of glass	Normal De	71717		D/11/	2.17-
COC Received Emi	ssivity: S	20.0	Container	. Anno	A Identifica	meter ID: _	1001	Date/Tim	10 11/2	1112
Y)YES □ NO Te	mperature	(A)2	۲,۲	°C /	1013	is	*c .	Analyst I	nit <u>U</u>	116
	T					E NUMBERS				
SAMPLE CONTAINERS	16	1 -2	- 88	19		T 6	, ,	8	1	_
QT PE UNPRES	1 7	+ - 7	100	1	1	1 -	+	8	9	10
402 / 802 / 1602 PE UNPRES	1						1			
2oz Craf	1		1				1 1			1
OT INORGANIC CHEMICAL METALS	 		1		 , 		+		<u> </u>	-
INORGANIC CHEMICAL METALS 40x / 80x / 160x	1		+	 		-	+			
PT CYANIDE	 	-	-	 		 	 			-
	1		-	1		 				-
PT NITROGEN FORMS	 	-	+	 	+	 	-			-
PT TOTAL SULFIDE	 	+	+	 	-	 	-			
201. NITRATE / NITRITE	 	+	+	+	-		1 - 1			
PT TOTAL ORGANIC CARBON .	 	-	-	 	-					
PT CHEMICAL OXYGEN DEMAND	 	+	+	 	 	-				-
PLA PHENOLICS		+		 	-		1			1
40ml VOA VIAL TRAVEL BLANK	-	+		-		 	 			
40ml VOA VIAL	1-	+			 					-
QT EPA 1664	 	+	-	-	 		+			
PTODOR		+		+ -	 		 			
RADIOLOGICAL					 		+			
BACTERIOLOGICAL				 	 	-				
40 ml VOA VIAL- 504		+	+	- A 200	-	 	+			
QT EPA 508/608/8080	 		-	 	-	 				
QT EPA 515.1/8150	<u> </u>		+			-				
OT EPA 525	-			400	Steren	4.2	-			
QT EPA 525 TRAVEL BLANK	╂					-	-			
40m1 EPA 547				-	_	-				
40ml EPA 531.1				-		-				$\perp \perp \parallel$
80x EPA 548		-		-		-				
QT EPA 549		-								
QT EPA 8015M	L		·	-						
QT EPA 8270				ļ						
801/1602/3202 AMBER										
802 / 1602 / 37 Ger TAR	A	A	A-	A						
SOIL SLEEVE		1	-							
PCB VIAL										
PLASTIC BAG										Ubeco
TEDLAR BAG								1		
FERROUS IRON										
ENCORE				1		1				
SMART KIT		1	1			1	 	-		
	1	-	-			 	 			
'UMMA CANISTER					1 -					



Chain of Custody and Cooler Receipt Form for 1727761 Page 7 of 7

C LABORATORIES INC.		CC	OLER R	ECEIPT F	ORM			Page	3 Of	2
Submission #: 17-277	10									
SHIPPING INFORM	AATION		Y	SH	PPING C	ONTAIN	ER		REE LIQUI	
		Delivery	п 1	Ice Ches		one 🗆	Box □	YE	S 🗆 NO	0
	☐ (Specify)			Other	🗆 (Speci	ify)			W / S	- 1
SC Lab Field Service	_ (-)//		N N					1		
Refrigerant: Ice Blue Ice	None	0 0	ther 🗆	Comme	nts:					
Tromger and	Containe	o Cl	None	Comm	ents:					i
Custody Seals Ice Chest	Container		Monday		iones.					
CHIMACOLLAND				7.					- / VI - C	
All samples received? Yes 🗹 No 🗅 .	All samples o	ontainers	intact? Ye	s No T	3			h COC? Ye	oc act	767
	issivity: ()10	78 c	ontainer:	lassito	Thermom	eter ID:	Gry	Date/Time	<u> હ્વિલ્</u> યા	1621
COC Received		17	٥.	°C / (2015	/ .	∘c I	Analyst In	it (PM)	14.5
SOYES □ NO T	emperature:	(A) U	18	°C / (61171)		Politing of In		
	T				SAMPLE	NUMBERS			-	
SAMPLE CONTAINERS	62	65	A.C.	410	11	12	113	814	12	10
OT PE UNPRES	1									
OT PE UNPRES										
OT INORGANIC CHEMICAL METALS					,					
INORGANIC CHEMICAL METALS 40z / 80z / 160										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
202. NITRATE / NITRITE PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS 40ml VOA VIAL TRAVEL BLANK										
40m) VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 mt VOA VIAL- 504										
OT EPA 508/608/8080										
QT EPA 515.1/8150										
OT EPA 525										
OT EPA 525 TRAVEL BLANK				1						
40ml EPA 547										
40ml EPA 531.1	7	1	1							
80z EPA 548		1								
QT EPA 549										
QT EPA 8015M			· ·							
OT EPA 8270		-	1							
802 / 1602 / 3202 AMBER	A	I A-	A	A	A-	A	A	A	A	
Sat / 160z / 32cd JAR	71	1		1	-	1	,		, ,	
SOIL SLEEVE	+	_	-		1					
PCB VIAL		-	+	1						
PLASTIC BAG		+	+	1						
TRDLAR BAG		-	-	+	+	1				
FERROUS IRON		-	+		+	1	1	1	-	
ENCORE			-	-	-	-	-	1		-
SMART KIT							-	-		-
SUMMA CANISTER					·		1			
SOMBLE CARGOTER	To be seen to the later	the second second		-	-			-	^	

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727761-01 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-47-1 Sampled By: SISL **Receive Date:** 09/29/2017 16:35 **Sampling Date:** 09/29/2017 00:00

Sample Depth: ---Lab Matrix: Solids

Sample Type: Soil Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-47

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727761-02 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-47-3 Sampled By: SISL **Receive Date:** 09/29/2017 16:35 **Sampling Date:** 09/29/2017 08:05

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-47

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727761-03 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-47-5
Sampled By: SISL

Receive Date: 09/29/2017 16:35 **Sampling Date:** 09/29/2017 08:10

Sample Depth:---Lab Matrix:SolidsSample Type:Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-47

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000771306

Page 10 of 36

3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1727761-04 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-47-8 Sampled By: SISL

09/29/2017 16:35 Receive Date: Sampling Date: 09/29/2017 08:20

Sample Depth: Lab Matrix: Solids Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-47

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727761-05 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location: HA-45-1 Sampling Point: SISL Sampled By:

09/29/2017 16:35 Receive Date: 09/29/2017 08:45 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-45

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727761-06 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location: Sampling Point: HA-45-3 SISL Sampled By:

Receive Date: 09/29/2017 16:35 09/29/2017 08:50 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-45

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1727761-07 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-45-5 Sampled By: SISL

09/29/2017 16:35 Receive Date: Sampling Date: 09/29/2017 08:55

Sample Depth: Lab Matrix: Solids Soil Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-45

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727761-08 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location: HA-45-8 Sampling Point: SISL Sampled By:

Receive Date: 09/29/2017 09:05 Sampling Date:

09/29/2017 16:35

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-45

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727761-09 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location: HA-48-1 Sampling Point: SISL Sampled By:

Receive Date: 09/29/2017 16:35 09/29/2017 10:00 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-48

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727761-10 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-48-3 Sampled By: SISL **Receive Date:** 09/29/2017 16:35 **Sampling Date:** 09/29/2017 10:05

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-48

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727761-11 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-48-5
Sampled By: SISL

Receive Date: 09/29/2017 16:35 **Sampling Date:** 09/29/2017 10:10

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-48

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727761-12 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --Sampling Point: HA-48-8
Sampled By: SISL

Receive Date: 09/29/2017 16:35 **Sampling Date:** 09/29/2017 10:21

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-48

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000771306 4100 At

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727761-13 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-32(a)-1 Sampled By: SISL **Receive Date:** 09/29/2017 16:35 **Sampling Date:** 09/29/2017 11:00

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order: Global ID:

Location ID (FieldPoint): HA-32

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727761-14 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-32(a)-3 Sampled By: SISL **Receive Date:** 09/29/2017 16:35 **Sampling Date:** 09/29/2017 00:00

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-32

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727761-15 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-32(b)-3 Sampled By: SISL **Receive Date:** 09/29/2017 16:35 **Sampling Date:** 09/29/2017 12:50

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-32

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Stantec - SLO Reported: 07/20/2018 15:51

3437 Empresa Drive, Suite A Project: Former Northern Landfill Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727761-16 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: --

Sampling Point: HA-32(b)-5 **Sampled By:** SISL

Receive Date: 09/29/2017 16:35 **Sampling Date:** 09/29/2017 13:00

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order: Global ID:

Location ID (FieldPoint): HA-32

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727761-17 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-32(b)-8
Sampled By: SISL

Receive Date: 09/29/2017 16:35 **Sampling Date:** 09/29/2017 13:08

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-32

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000771306 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 15 of 36



Misc Report For 1727761 PDF File Name: wo 1727761 misc EDT EMSLA.pdf Page 1 of 1



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order: 091800324 Customer ID: BCLA50 Customer PO: 1727761 Project ID:

Attention: Molly Meyers BC Laboratories, Inc. 4100 Atlas Court

Bakersfield, CA 93308

Phone: (661) 327-4911 Fax: (661) 327-1918 Received Date: 01/04/2018 12:30 PM

Analysis Date: 01/09/2018 Collected Date:

Project: 1727761

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Asbestos		
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1727761-03		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091800324-0001		Homogeneous			
Soil is a problem matrix.	Other analytical options are rec	ommended such as EPA	600 PLM/TEM with milling prep		
1727761-11		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091800324-0002		Homogeneous			
Spil is a problem matrix	Other analytical polions are rec	ommended such as EPA	600 Pt M/TEM with million pres		

Analyst(s) Adam C. Fink (2)

Matthew Batongbacai or Other Approved Signatory

Due to magnification limitations inherent in PLM, asbestos libers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional festing by TEM to confirm asbestos quantities. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 01/10/2018 03:00:19

ASB_PLM_0008_0001 - 1.78 Printed: 1/10/2018 12:00 AM

Page 1 of 1

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Report ID: 1000771306

Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-01	Client Sample Name:		Former Northern Landfill, HA-47-1, 9/29/2017 12:00:00AM					
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	70.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

		Run				QC		
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 13:00	10/15/17 18:55	AS1	GC-13	0.997	B[J1152	

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Page 17 of 36 Report ID: 1000771306

Stantec - SLO Reported: 07/20/2018 15:51

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-02	Client Sampl	e Name:	Former Northern Landfill, HA-47-3, 9/29/2017 8:05:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	81.6	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1	

			Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 13:00	10/15/17 18:09	AS1	GC-13	1	B[J1152	

Page 18 of 36 Report ID: 1000771306

Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-04	Client Sampl	e Name:	Former Northern Landfill, HA-47-8, 9/29/2017 8:20:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	86.4	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/09/17 13:00	10/15/17 18:32	AS1	GC-13	0.990	B[J1152		

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Report ID: 1000771306

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-05	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-45-1, 9/29/2017 8:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogate	e)	58.1	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 13:00	10/15/17 19:18	AS1	GC-13	1.007	B[J1152	

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Suite A

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San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-06	Client Sample Name:		Former N	Former Northern Landfill, HA-45-3, 9/29/2017 8:50:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogate	e)	64.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 13:00	10/15/17 19:41	AS1	GC-13	1.017	B[J1152	

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Suite A

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San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-08	Client Sampl	Client Sample Name:		Former Northern Landfill, HA-45-8, 9/29/2017 9:05:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		8.4	mg/kg	20	6.5	EPA-8015B/FFP	ND	J	1		
Tetracosane (Surrogat	re)	69.3	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

			Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 13:00	10/15/17 17:46	AS1	GC-13	0.997	B[J1152	

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Stantec - SLO Reported: 07/20/2018 15:51

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-09	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-48-1, 9/29/2017 10:00:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	te)	63.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run			QC		
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 13:00	10/15/17 20:51	AS1	GC-13	1.003	B[J1152	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-10	Client Sampl	Former N	lorthern La	ndfill, HA-48-3, 9/2	9/2017 10:0	5:00AM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	45.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/09/17 13:00	10/15/17 21:14	AS1	GC-13	1.003	B[J1152		

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Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-12	Client Sampl	Former N	Former Northern Landfill, HA-48-8, 9/29/2017 10:21:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	70.1	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

	Run						
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	10/09/17 13:00	10/15/17 21:37	AS1	GC-13	1	B[J1152

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Stantec - SLO Reported: 07/20/2018 15:51

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-13	Client Sampl	e Name:	Former N	orthern Laı	ndfill, HA-32(a)-1,	9/29/2017 1	1:00:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		290	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	48.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/09/17 13:00	10/15/17 23:09	AS1	GC-13	1.007	B[J1152			

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-14	Client Sampl	Former N	Former Northern Landfill, HA-32(a)-3, 9/29/2017 12:00:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	40	10	EPA-8015B/FFP	ND	A01	1	
TPH - Diesel (FFP)		ND	mg/kg	20	2.4	EPA-8015B/FFP	ND	A01	1	
TPH - Motor Oil		200	mg/kg	40	13	EPA-8015B/FFP	ND	A01	1	
Tetracosane (Surrogat	e)	33.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP		A01	1	

			Run				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/09/17 13:00	10/16/17 16:32	AS1	GC-13	2.013	B[J1152			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Page 27 of 36 Report ID: 1000771306



Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-15	Client Sampl	Former N	Former Northern Landfill, HA-32(b)-3, 9/29/2017 12:50:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		140	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	68.1	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1	

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/09/17 13:00	10/15/17 22:46	AS1	GC-13	0.987	B[J1152		

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-16	Client Sampl	Former N	Former Northern Landfill, HA-32(b)-5, 9/29/2017 1:00:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	57.6	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/09/17 13:00	10/15/17 22:00	AS1	GC-13	0.990	B[J1152		

Page 29 of 36 Report ID: 1000771306

Reported: 07/20/2018 15:51

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727761-17	Client Sampl	e Name:	Former N	orthern La	:08:00PM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		27	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	66.5	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/09/17 13:00	10/15/17 22:23	AS1	GC-13	0.987	B[J1152	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1152						
TPH - Gasoline	B[J1152-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[J1152-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[J1152-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[J1152-BLK1	51.9	%	20 - 145 (LCL - UCL)		

Report ID: 1000771306 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 31 of 36



Stantec - SLO Reported:

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

07/20/2018 15:51

Quality Control Report - Laboratory Control Sample

				0		D	Control Limits Percent Lab				
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Quals	
QC Batch ID: B[J1152											
TPH - Diesel (FFP)	B[J1152-BS1	LCS	56.185	83.893	mg/kg	67.0		64 - 124			
Tetracosane (Surrogate)	B[J1152-BS1	LCS	2.2159	3.3570	mg/kg	66.0		20 - 145			

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Report ID: 1000771306

Page 32 of 36

3437 Empresa Drive, Suite A

Stantec - SLO Reported: 07/20/2018 15:51

Project: Former Northern Landfill

Suite A Project Number: 185850429.300.0006
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1152	Use	d client samp	le: Y - Des	cription: HA	-47-1 09/29	/2017 00:0	00				
TPH - Diesel (FFP)	MS	1727761-01	ND	63.256	81.967	mg/kg		77.2		52 - 131	
	MSD	1727761-01	ND	62.114	84.175	mg/kg	1.8	73.8	30	52 - 131	
Tetracosane (Surrogate)	MS	1727761-01	ND	2.4318	3.2800	mg/kg		74.1		20 - 145	
	MSD	1727761-01	ND	2.4426	3.3684	mg/kg	0.4	72.5		20 - 145	

Report ID: 1000771306 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 33 of 36



Subcontract Report for 1727761 PDF File Name: wo_1727761_sub_all.pdf Page 1 of 2



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577
Tel/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order: 091719466 Customer ID: BCLA50 Customer PO: 1727761 Project ID:

Attention: Molly Meyers

BC Laboratories, Inc. 4100 Atlas Court Bakersfield, CA 93308 Phone: (661) 327-4911 Fax: (661) 327-1918 Received Date: 10/06/2017 10:45 AM

Analysis Date: 10/13/2017 Collected Date: 09/29/2017

Project: 1727761

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Non-Asbestos

			Non-Asbes	tos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1727761-01		Brown	2% Cellulose	60% Quartz	None Detected
		Non-Fibrous		38% Non-fibrous (Other)	
91719466-0001		Homogeneous			
Soil is a problem matri	x. Other analytical options are re	commended such as EPA 60	0 PLM/TEM with milling prep		
1727761-02		Brown	<1% Cellulose	60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
091719466-0002		Homogeneous			
Soil is a problem matrii	r. Other analytical options are re	commended such as EPA 60	O PLM/TEM with milling prep		
1727761-04		Brown	2% Cellulose	60% Quartz	None Detected
		Non-Fibrous		38% Non-fibrous (Other)	
091719466-0003		Homogeneous	0.01110001		
Sol/ is a prociem matri	x. Other analytical options are re				
1727761-05		Brown	2% Cellulose	60% Quartz	None Detected
		Non-Fibrous		38% Non-fibrous (Other)	
091719466-0004 Soil is a scoblam matri	Other applications are re-	Homogeneous	O DI MATCH with million near		
	r. Other analytical options are re		** '		
1727761-06		Brown	2% Cellulose	60% Quartz	None Detected
91719468-0005		Non-Fibrous		38% Non-fibrous (Other)	
	x. Other analytical options are re	Homogeneous	O DI M/TEM with million prop		
-	i. Other analytical upsuns are re		V PERVIEW WAI HAVING prep		
1727761-08		Brown Non-Fibrous		60% Quartz	None Detected
091719466-0006		Homogeneous		40% Non-fibrous (Other)	
	r. Other analytical options are re		O PLM/TEM with million area		
				60% Quartz	None Detected
1727761-09		Brown Non-Fibrous	2% Cellulose	38% Non-fibrous (Other)	None Detected
091719468-0007		Homogeneous		30 % Not Pillardus (Other)	
	x. Other analytical options are re		0 PLM/TEM with milling prep		
1727761-10		Brown	2,	60% Quartz	None Detected
1727761-10		Non-Fibrous		40% Non-fibrous (Other)	None Detected
091719466-0008		Homogeneous		To to Hotel Harons (Smary	
Soil is a problem matri	x. Other analytical options are re		0 PLM/TEM with milling prep		
1727761-12		Brown		60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	THE PERSONA
091719468-0009		Homogeneous			
Soil is a problem matri	r. Other analytical options are re	commended such as EPA 60	O PLM/TEM with milling prep		
1727761-13		Brown	2% Cellulose	60% Quartz	None Detected
		Non-Fibrous		38% Non-fibrous (Other)	
091719466-0010		Homogeneous			
Soil is a problem matri	r. Other analytical options are re	commended such as EPA 60	0 PLM/TEM with milling prep		
1727761-14		Brown/Gray/Pink	<u> </u>	45% Quartz	<1% Amosite
		Non-Fibrous		15% Ca Carbonate	<1% Chrysotile
091719466-0011		Heterogeneous		40% Non-fibrous (Other)	
Soil is a problem matri	r. Other analytical options are re	commanded such as EPA 60	O PLM/TEM with milling prop		
1727761-15		Brown/White/Black	·	50% Quartz	None Detected
		Non-Fibrous		10% Gypsum	
091719466-0012		Heterogeneous		40% Non-fibrous (Other)	
Soil is a problem matrix	v. Other analytical options are re-	commended such as EPA 60	0 PLM/TEM with milling prep		

Initial report from: 10/13/2017 12:42:05

ASB_PLM_0008_0001 - 1.78 Printed: 10/13/2017 12:42 PM

Page 1 of 2

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Report ID: 1000771306 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com



Subcontract Report for 1727761 PDF File Name: wo_1727761_sub_all.pdf Page 2 of 2



EMSL Order: 091719466 Customer ID: BCLA50 Customer PO: 1727761 Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-A	sbestos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1727761-16		Brown		50% Quartz	None Detected
		Non-Fibrous		50% Non-fibrous (Other)	
91719465-0013		Homogeneous			
Soil is a problem matrix.	Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep	p	
1727761-17		Brown		60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
91719466-0014		Homogeneous			
Soil is a problem matrix	Other analytical options are re-	commended such as EPA 6	OO PLIM/TEM with million pre-	n	

Analyst(s) Cecilia Yu (14)

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The limit of detection, as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 10/13/2017 12:42:05

ASB_PLM_0008_0001 - 1.78 Printed: 10/13/2017 12:42 PM

Page 2 of 2

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Stantec - SLO Reported: 07/20/2018 15:51

3437 Empresa Drive, Suite A Project: Former Northern Landfill

Suite A Project Number: 185850429.300.0006
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Notes And Definitions

PQL

J Estimated Value (CLP Flag)

MDL Method Detection Limit

ND Analyte Not Detected

A01 Detection and quantitation limits are raised due to sample dilution.

Practical Quantitation Limit

Report ID: 1000771306 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 36 of 36



Date of Report: 01/04/2018

Kirk Henning

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Client Project: 185850429.300.0006 Former Northern Landfill **BCL Project:**

1727871 BCL Work Order: B282366 Invoice ID:

Enclosed are the results of analyses for samples received by the laboratory on 10/2/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000660569

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Stuart Buttram **Technical Director**

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101





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	1727871-02 - HA-42-12.5	
	Total Petroleum Hydrocarbons	13
	1727871-03 - HA-42-15.0	
	Total Petroleum Hydrocarbons	14
	1727871-04 - HA-42-18.5	
	Total Petroleum Hydrocarbons	15
	1727871-05 - HA-42-20.0	
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	1727871-07 - HA-47-10.0	
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	Total Petroleum Hydrocarbons	19
	1727871-09 - HA-47-20.0	
	Total Petroleum Hydrocarbons	20
	1727871-10 - HA-47-23.0	
	Total Petroleum Hydrocarbons	21
	1727871-11 - HA-20-10.0	
	Total Petroleum Hydrocarbons	22
	1727871-12 - HA-20-15.0	
	Total Petroleum Hydrocarbons	23
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Chain of Custody and Cooler Receipt Form for 1727871 Page 1 of 4 Chain of Custody Form STD 5 Day" 2 Day" 1 Day 3 Result Request "Surcharge SUB-OUT System # (Needed for EDT) BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Other Comments Sample Matrix nateW steew Ground Waster Drinking Water Singae Analysis Requested Global ID (Needed for EDF) 14:25 12:50 12:30 2:40 04:45 14:20 Project Name: Fromer North Confler 1000 2:20 09:55 4:10 14:15 10:05 10:12 25190 MISS Send Copy to State of CA? (EDT) State, Zip San Luis Obispe, (A923) Sampler(S): Jim Raney EDF Required? ŝ ° | Geotracker Date Sampled Project #: 185850429 LABORATORIES, INC. □ Yes □ Yes eet Address: 3437 Empress Drive, Suite A Rick Hernica Ostartececom Ζib HA-42-12-515.0 1A-20-150 44-47-230 4A-20-10.0 X -44-20-18.0 Ct.A-47-20.0 HA-47-10.0 44-42-20.0 HA-47-150 HA-42-25.0 HA-42-10.0 HA-42-12.5 HA-42-185 1805) 250-2854 Fax: Kirk Henning ent: Stanker Ü rk Order #:

Report ID: 1000691054 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 3 of 30



Chain of Custody and Cooler Receipt Form for 1727871 Page 2 of 4 Chain of Custody Form ເລັກວ ⊟ 5 Day** ເລ 2 Day** ເລ 1 Day Result Request "Surcharge Date Date BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661,327,4911 - Fax: 661,327,1918 - www.bclabs.com Other Comments Sample Matrix 1918W 9385W Ground Waaler Drinding Water agbuig Analysis Requested Oato 009 Pranta . Relinquished By 2. Reinquished By Global ID (Needed for EDF) HOL Send Copy to State of CA? (EDT) EDF Required? % | 8 | Geotracker -ABORATORIES, INC. Yes □ Yes Project Name: Sampler(s): Project #: Description - 48-20.0 -47-10,0 19-42-10.0 -47 242 U Street Address: City, State, Zlp: Nork Order #; m Phone: Email: Attn: Address e ;o.

Report ID: 1000691054 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 4 of 30



Chain of Custody and Cooler Receipt Form for 1727871 Page 3 of 4

BC LABORATORIES INC.			COOLE	R RECEI	T FORM	i		P;	age	Of 2
Submission #: 17 - 2787								. ugo		
SHIPPING INFO	RMATIC	Hand Deliv	very 🗆	lce (SHIPPIN Chest 🖸 ther 🗀 (S	G CONTA None (pecify)	AINER Box [FREE L YES □	NO 🗆
Refrigerant: Ice Blue Ice		one 🗆	Other E	☐ Cor	nments:					
Custody Seals loe Chest □ Intact? Yes □ No □	Cont.	ainers. □ Yes. □ No	Nor	ne, Z Co	mments:					
All samples received? Yes 🔼 No □	All samp	oles contain	ers intact?	Yes 🎀 1	No 🗆	Descr	iption(s) ma	tch COC2	Ver De N	. 0
COC Received E	missivity:	0.95	Containe	r: 5510a	M Therm	ometer ID:	208	Date/T		7 2045
	T				TOTAL CONTRACTOR OF THE PARTY O	LE NUMBER		Analys	it init yev	
SAMPLE CONTAINERS	1	2	3	T 4	5 F	7	7		7	
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40x/80x/160x PE UNPRES								-		_
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OT INORGANIC CHEMICAL METALS								-		-
NORGANIC CHEMICAL METALS 402 / 802 / 160	ıε								_	
PT CYANIDE							1	1	_	_
PT NITROGEN FORMS								+	 	+
PT TOTAL SULFIDE								+	-	
DOZ. NITRATE / NITRITE									-	+
T TOTAL ORGANIC CARBON .						+	-	+	-	-
PT CHEMICAL OXYGEN DEMAND			-	1	-		-		+	
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TEPA 525 TRAVEL BLANK	-									
ml EPA 547										
ml EPA 531.1										
z RPA 548	4		_							
FRPA 549										
EPA 8015M										
EPA 8270						1				
t/160z/32oz AMBER									1	
1/160z/320z JAR	L.									
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B VIAL	1			7	1	 	1	A_	_/1	A
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DLAR BAG										
RROUS IRON		1								
CORE		1					-		-	
ART KIT	1		-							
		-								
MMA CANISTER		1	1							



Chain of Custody and Cooler Receipt Form for 1727871 Page 4 of 4

SHIPPING INFORMATION FREE LIQUID FREE LIQUID FREE LIQUID SCAPPING INFORMATION BILL UPS Ontrac Hand Dolivery Other Scheet None Box Other Secretive Other Other Secretive Other S	BC LABORATORIES INC. Submission #: \7 - 278-	11		COOLER	RECEIP	FORM			Pag	e 2	0f_2	
Fed Ex					7	HIDDING	CONTAI	MED		EDEC 11	NUD.	
Custody Seals Containers Co		ac □ Har	nd Delive	ry 🗆	Ice Cl	Ice Chest None Box YES NO						
Custody Seals Containers Co	Refrigerant: Ice. Blue Ice	□ Non	е П	Other 🗆	Com	ments:	-	,				
COC Received PYES NO Temperature: (A) 2.0 °C / (C) 2.0 °C Analyst Init 2016 SAMPLE NUMBERS SAMPLE NUMBERS SAMPLE NUMBERS OT PE INPRES 401 / 601 / 102 f	Custody Seals Ice Chest U	Contain	ers 🖸	None								
COC Received PYES NO Temperature: (A) 2.0 °C / (C) 2.0 °C Analyst Init 2016 SAMPLE NUMBERS SAMPLE NUMBERS SAMPLE NUMBERS OT PE INPRES 401 / 601 / 102 f	All samples received? Yes & No D	All sample:	containe	rs intact?	Yes 💋 N		Descrip	tion(s) mat	ch COC? Y	es Me No	п	
SAMPLE NUMBERS SAMPLE CONTAINERS SAMPLE NUMBERS SAMPLE NUMB												
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SAMPLE CONTAINERS	9.120	Temperature	: (A)	1220	°C /	(C) L	,0	°C	Analyst	Init_PER	<u> </u>	
OF PE UNPRES 402 / 502 / 102 PE UNPRES 403 / 502 / 102 PE UNPRES 404 / 502 / 102 PE UNPRES 405 / 502 / 102 PE UNPRES 405 / 502 PE UNPRES 406 / 502 PE UNPRES 406 / 502 PE UNPRES 407 PE UNPRES 408 / 502 PE UNPRES 409 PE UNPRES 400 / 502 PE UNPRES 400 / 502 PE UNPRES 400 PE UNPRES	SAMPLE CONTAINERS		1			SAMPLE	NUMBERS					
		_111/	121	13#	114/	5	6	7	8	9	10	
70 TRONGSANIC CHEMICAL METALS 70 TRONGSANIC CHEMICAL METALS 400 / 1600 PT CYTARIDE PT CYTARIDE PT TOTAL SULFIDE PT TOTAL SULFIDE PT TOTAL SULFIDE PT TOTAL ORGANIC CARBON PT CHEMICAL OXYGEN DEMAND PT C			-	-		-		 	ļ	ļ	-	
OT INORGANIC CHEMICAL METALS 400 / 807 / 1602 INORGANIC CHEMICAL METALS 400 / 807 / 1602 PT PT CYANIDE PT INTERGOEN FORMS PT TOTAL SULFIDE 200. NUTRATE / INTRITE PT TOTAL ORGANIC CARBON PT CHEMICAL OXYGEN DEMAND PT CHEMICAL OXYGEN DEMAND PA PHENOLICS 800 IN OA VIAL TRAVEL BLANK 100 IN OA VIAL 101 IN OR IN OA VIAL 102 IN OA VIAL 103 IN OA VIAL 103 IN OA VIAL 104 IN OA VIAL 105 IN OA VIAL 105 IN OA VIAL 105 IN OA VIAL 105 IN OA VIAL 106 IN OA VIAL 107 IN OA VIAL 108 IN OA VIAL 108 IN OA VIAL 109 IN OA VIAL 10			-	-		+	 		<u> </u>		-	
INORGANIC CHEMICAL METALS 40s / 80s / 160s FT CYANIDR FT TYTAL SILISEDB JOS. NUTRATE / NUTRITE / NUTRI			-		-	-					-	
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PT NITROGEN FORMS PT TOTAL SULFIDE 20a. NITRATE / NITRITE PT TOTAL ORGANIC CARBON PT CHEMICAL OXYGEN DEMAND PT CHEMICAL OXYGEN DEMAND PLA PHENOLICS 40an YOA VIAL TAVEL BLANK 40an YOA OXIAL TAVEL BLANK 40an YOA OXIAL TAVEL BLANK 40an YOA VIAL SAV 40an YOA VIAL SAV 50an YOA VIAL SAV 60an YOA VIA		200	1		1		-				-	
PT TOTAL SULFIDE Jon. NUTRATE / NUTRITE PT TOTAL ORGANIC CARBON PT CHEMICAL OXYGEN DEMAND PT CHEMICAL OXYGEN DEMAND PT CHEMICAL OXYGEN DEMAND PT GUA VIAL TRAVEL BLANK JONE VOA VIAL TRAVEL BLANK JONE VOA VIAL TRAVEL BLANK JONE VOA VIAL SM		+	1	1				-		-		
DET. NITRATE / NITRITE PT TOTAL ORGANIC CARBON PT CHEMICAL OXYGEN DEMAND PLA PHENOLICS SCHOOL VIAL TRAVEL BLANK OBIL VOA VIAL OT EPA 1664 PT OPDR RADIOLOGICAL BACTERIOLOGICAL BO IN VOA VIAL SM DI TEPA 585-18189 DT EPA 585-1819 DE EPA 581-1 DE EPA 5				1	 						-	
PT TOTAL ORGANIC CARBON PT CHEMICAL OXYGEN DEMAND PLA PHENOLICS Sensi YOA VIAL TRAVEL BLANK Soni YOA VIAL TRAVEL BLANK Soni YOA VIAL OT EPA 1664 PT ODOR RADIOLOGICAL BACTERIOLOGICAL BACTERIOLOGICAL BACTERIOLOGICAL BACTERIOLOGICAL DI WAA VIAL- SM OT EPA 515L/8159 PT EPA 515L/8159 PT EPA 515L/8159 PT EPA 515L/8159 PT EPA 515 FRAVEL BLANK Soni EPA 547 Soni EPA 488 PT EPA 488 PT EPA 499 PT EPA 499 PT EPA 5070 BE /1 668 / 3002 AMBER BE /				+	 	1				-	·	
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### ### ##############################												
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OT EPA 525 TRAVEL BLANK Ome EPA 547	OT EPA 515.1/8150 .											
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### ### ##############################	OT EPA 525 TRAVEL BLANK											
OT EPA 549 OT EPA 549 OT EPA 8270 OT /160x / 320x AMBER OT /160x / 320x IAR OT SLEEVE CB VIAL LASTIC BAG EDLAR BAG	10ml EPA 547											
OT EPA 549 OT EPA 8015M OT EPA 8270 OI / 160x / 320x AMBER OI / 160x / 320x IAR OIL SLEEVE CB VIAL LASTIC BAG EDLAR BAG	ómi EPA S31.1											
OT EPA 8015M OT EPA 8270 OIL/160x/320x AMBER OIL SLEEVE CB VIAL LASTIC BAG EDLAR BAG	02 EPA 548	1										
OT PA STO OT / 160x / 320x AMBER OT / 160x / 320x JAR OT SLEEVE AAA CB VIAL LASTIC BAG EDLAR BAG	OT EPA 549											
DE / 160x / 32ox AMBER DE / 160x / 32ox JAR DIL SLREVE A A A A CB VIAL LASTIC BAG EDLAR BAG	OT EPA 8015M			-								
OIL SLEEVE A A A A A A A A A A A A A A A A A A	VT EPA 8270							,				
OIL SLEEVE A A A A CB VIAL LASTIC BAG EDLAR BAG	oz/16oz/32oz AMBER											
CB VIAL LASTIC BAG EDLAR BAG	a / 160z / 320z JAR											
LASTIC BAG EDLAR BAG	OIL SLEEVE	I A	A	A	A							
EDLAR BAG	CB VIAL			,								
	LASTIC BAG											
PROIN IDON	EDLAR BAG											
The state of the s	ERROUS IRON											
NCORE	NCORE											
MART KIT	MART KIT			1								
MMA CANISTER	MMA CANISTER	1	1							-		

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:31

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1727871-01 COC Number:

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-42-10.0 Sampled By: SISL

Sampling Date: 10/02/2017 09:35 Sample Depth:

10/02/2017 20:45

Lab Matrix: Solids Soil Sample Type:

Delivery Work Order: Global ID:

Receive Date:

Location ID (FieldPoint): HA-42

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727871-02 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

HA-42-12.5 Sampling Point: SISL Sampled By:

10/02/2017 20:45 Receive Date: 10/02/2017 09:45 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-42

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Sampling Date:

1727871-03 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location:

HA-42-15.0 Sampling Point: SISL Sampled By:

Receive Date: 10/02/2017 20:45 10/02/2017 09:55

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-42

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000691054

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3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Reported: 01/04/2018 13:31 Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1727871-04 COC Number:

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-42-18.5 Sampled By: SISL

10/02/2017 20:45 Receive Date: Sampling Date: 10/02/2017 10:00

Sample Depth: Lab Matrix: Solids Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-42

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727871-05 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

HA-42-20.0 Sampling Point: SISL Sampled By:

10/02/2017 20:45 Receive Date: 10/02/2017 10:05 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-42

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727871-06 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location:

HA-42-25.0 Sampling Point: SISL Sampled By:

Receive Date: 10/02/2017 20:45 10/02/2017 10:12

Sampling Date: Sample Depth: Solids Lab Matrix:

Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-42

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:31

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727871-07 COC Number: --

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-47-10.0 Sampled By: SISL **Receive Date:** 10/02/2017 20:45 **Sampling Date:** 10/02/2017 12:20

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-47

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727871-08 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-47-15.0 Sampled By: SISL **Receive Date:** 10/02/2017 20:45 **Sampling Date:** 10/02/2017 12:30

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-47

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727871-09 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-47-20.0 Sampled By: SISL **Receive Date:** 10/02/2017 20:45 **Sampling Date:** 10/02/2017 12:40

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-47

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000691054

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:31

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1727871-10 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-47-23.0 Sampled By: SISL **Receive Date:** 10/02/2017 20:45 **Sampling Date:** 10/02/2017 12:50

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-47

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727871-11 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-20-10.0 Sampled By: SISL **Receive Date:** 10/02/2017 20:45 **Sampling Date:** 10/02/2017 14:10

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-20

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727871-12 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-20-15.0 Sampled By: SISL **Receive Date:** 10/02/2017 20:45 **Sampling Date:** 10/02/2017 14:15

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-20

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000691054 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 10 of 30

Stantec - SLO Reported: 01/04/2018 13:31

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1727871-13 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-20-18.0 Sampled By: SISL

Sampling Date: 10/02/2017 14:20 Sample Depth:

10/02/2017 20:45

Lab Matrix: Solids Soil Sample Type: Delivery Work Order:

Global ID:

Receive Date:

Location ID (FieldPoint): HA-20

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1727871-14 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

HA-20-20.0 Sampling Point: SISL Sampled By:

10/02/2017 20:45 Receive Date: 10/02/2017 14:25 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-20

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000691054 Page 11 of 30 Stantec - SLO Reported:

01/04/2018 13:31 Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-01	Client Sampl	e Name:	Former N	9:35:00AM	AM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		12	mg/kg	20	6.5	EPA-8015B/FFP	ND	J,A57	1
Tetracosane (Surrogat	re)	84.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/12/17 15:00	10/14/17 05:34	AS1	GC-2	1.010	B[J1411	

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3437 Empresa Drive, Suite A

Reported: 01/04/2018 13:31

Project: Former Northern Landfill

Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-02	Client Sampl	Client Sample Name:		Former Northern Landfill, HA-42-12.5, 10/2/2017 9:45:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	re)	78.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/12/17 15:00	10/14/17 05:57	AS1	GC-2	1.007	B[J1411			

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Page 13 of 30 Report ID: 1000691054

Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Reported: 01/04/2018 13:31 Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-03	Client Sampl	Client Sample Name:		Former Northern Landfill, HA-42-15.0, 10/2/2017 9:55:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	te)	89.2	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run				QC
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	10/12/17 15:00	10/14/17 06:20	AS1	GC-2	1.010	B[J1411

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4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Stantec - SLO Reported: 01/04/2018 13:31

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-04	Client Sampl	Client Sample Name:		Former Northern Landfill, HA-42-18.5, 10/2/2017 10:00:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	re)	82.1	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run				QC
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	10/12/17 15:00	10/14/17 06:43	AS1	GC-2	1	B[J1411

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Stantec - SLO Reported: 01/04/2018 13:31

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-05	Client Sampl	Client Sample Name:		Former Northern Landfill, HA-42-20.0, 10/2/2017 10:05:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	83.6	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run				QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/12/17 15:00	10/14/17 07:06	AS1	GC-2	1.007	B[J1411			

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3437 Empresa Drive, Suite A

Reported: 01/04/2018 13:31

Project: Former Northern Landfill

Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-06	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-42-25.0, 10/2/2017 10:12:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	91.9	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

			Run				QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID				
1	EPA-8015B/FFP	10/12/17 15:00	10/14/17 22:39	AS1	GC-2	1	B[J1411				

Page 17 of 30 Report ID: 1000691054

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:31

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-07	Client Sampl	e Name:	Former N	2:20:00PM				
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	re)	76.7	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

	Run					QC		
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/12/17 15:00	10/14/17 23:02	AS1	GC-2	1.010	B[J1411	



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:31

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-08	Client Sampl	e Name:	Former N					
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	97.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

	Run					QC		
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/12/17 15:00	10/14/17 23:24	AS1	GC-2	1.010	B[J1411	

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Reported: 01/04/2018 13:31

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-09	Client Sampl	e Name:	Former N	orthern Laı	2:40:00PM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	e)	89.9	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1

		Run					QC		
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/12/17 15:00	10/14/17 23:47	AS1	GC-2	1.014	B[J1411		

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Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Reported: 01/04/2018 13:31

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-10	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-47-23.0, 10/2/2017 12:50:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	re)	80.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/12/17 15:00	10/15/17 01:18	AS1	GC-2	1	B[J1411		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 21 of 30

Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:31

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-11	Client Sampl	e Name:	Former N	orthern Laı	2:10:00PM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	re)	73.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

		Run					QC		
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/12/17 15:00	10/15/17 00:10	AS1	GC-2	0.990	B[J1411		

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3437 Empresa Drive, Suite A

Reported: 01/04/2018 13:31

Project: Former Northern Landfill

Suite A Project Number: 185850429.300.0006 San Luis Obispo, CA 93401

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-12	Client Sampl	e Name:	Former N	orthern Laı	2:15:00PM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	63.4	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1

			Run			QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/12/17 15:00	10/15/17 00:33	AS1	GC-2	1.014	B[J1411		

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Stantec - SLO 3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/04/2018 13:31

Project: Former Northern Landfill Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-13	Client Sampl	e Name:	Former N	orthern Laı	ndfill, HA-20-18.0,	10/2/2017	2:20:00PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	68.1	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/12/17 15:00	10/15/17 00:56	AS1	GC-2	1.007	B[J1411	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:31

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1727871-14	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-20-20.0, 10/2/2017 2:25:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogat	e)	70.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1			

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/12/17 15:00	10/15/17 01:41	AS1	GC-2	0.993	B[J1411	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:31

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1411						
TPH - Gasoline	B[J1411-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[J1411-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[J1411-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[J1411-BLK1	93.1	%	20 - 14	5 (LCL - UCL)	

Report ID: 1000691054 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 26 of 30



Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:31

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

								Control Limits Percent Lab			
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Quals	
QC Batch ID: B[J1411											
TPH - Diesel (FFP)	B[J1411-BS1	LCS	80.774	84.746	mg/kg	95.3		64 - 124			
Tetracosane (Surrogate)	B[J1411-BS1	LCS	3.5188	3.3912	mg/kg	104		20 - 145			

Report ID: 1000691054 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 27 of 30



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:31

Project: Former Northern Landfill

Project Number: 185850429.300.0006

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

									Cont		
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1411	Use	d client samp	le: Y - Des	cription: HA	-47-20.0, 10	/02/2017	12:40				
TPH - Diesel (FFP)	─ MS	1727871-09	ND	76.307	83.612	mg/kg		91.3		52 - 131	
	MSD	1727871-09	ND	75.675	83.056	mg/kg	8.0	91.1	30	52 - 131	
Tetracosane (Surrogate)	MS	1727871-09	ND	3.2895	3.3458	mg/kg		98.3		20 - 145	
	MSD	1727871-09	ND	3.1867	3.3236	mg/kg	3.2	95.9		20 - 145	

Report ID: 1000691054 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 28 of 30



Subcontract Report for 1727871 PDF File Name: wo_1727871_sub_all.pdf Page 1 of 1



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com/sanleandrolab@emsl.com

EMSL Order: 091719468 Customer ID: BCLA50 Customer PO: 1727871 Project ID:

Phone:

Attention: Molly Meyers

BC Laboratories, Inc. 4100 Atlas Court Bakersfield, CA 93308

Fax: (661) 327-1918 Received Date: 10/06/2017 10:45 AM

(661) 327-4911

Analysis Date: 10/13/2017 Collected Date: 10/02/2017

Project: 1727871

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-A	Asbestos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1727871-01		Brown Non-Fibrous		60% Quartz 40% Non-fibrous (Other)	None Detected
G91719468-G001		Homogeneous			
Soil is a problem matri	ix. Other analytical options are re-	commended such as EPA 6	300 PLM/TEM with milling pre	p	
1727871-07		Brown		60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
091719468-0002		Homogeneous			
Soil is a problem matri	ir. Other analytical options are re-	commended such as EPA 6	000 PLM/TEM with milling pre	p	
1727871-11		Brown Non-Fibrous		60% Quartz 40% Non-fibrous (Other)	None Detected
G91719468-0003		Homogeneous		, , , , , , , , , , , , , , , , , , , ,	
Soil is a problem mate	iv. Other analytical polions are re-	-	300 PJ M/TEM with million pre	en .	

Analyst(s)	
Cecilia Yu (3)	

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The limit of detection, as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 10/13/2017 12:35:28

ASB_PLM_0008_0001 - 1.78 Printed: 10/13/2017 12:37 PM

Page 1 of 1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Stantec - SLO Reported: 01/04/2018 13:31

3437 Empresa Drive, Suite A Project: Former Northern Landfill Suite A Project Number: 185850429.300.0006

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Notes And Definitions

J Estimated Value (CLP Flag)

MDL Method Detection Limit

ND Analyte Not Detected

PQL Practical Quantitation Limit

A57 Chromatogram not typical of motor oil.

Report ID: 1000691054 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 30 of 30



Date of Report: 01/19/2018

Kirk Henning

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Client Project: 185850429.300.0007
BCL Project: Former Northern Landfill

BCL Work Order: 1728533

Invoice ID: B282739, B289269

Enclosed are the results of analyses for samples received by the laboratory on 10/4/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000691055

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Stuart Buttram

Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101



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Total Petroleum Hydrocarbons	
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1728533-05 - HA-34-25.0	
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Total Petroleum Hydrocarbons	24
1728533-09 - HA-48-20.0	
Total Petroleum Hydrocarbons	25
1728533-10 - HA-37-9.0	20
Total Petroleum Hydrocarbons	26
1728533-11 - HA-32(b)-10.0	20
Total Petroleum Hydrocarbons	27
•	
1728533-12 - HA-32(b)-15.0	0.0
Total Petroleum Hydrocarbons	28
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Total Petroleum Hydrocarbons	29
1728533-14 - HA-32(b)-20.0	
Total Petroleum Hydrocarbons	30
1728533-15 - HA-36-8.0	
Total Petroleum Hydrocarbons	31
1728533-16 - HA-36-10.0	
Total Petroleum Hydrocarbons	32
1728533-17 - HA-36-15.0	
Total Petroleum Hydrocarbons	
1728533-18 - HA-36-20.0	
Total Petroleum Hydrocarbons	34
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Chain of Custody and Cooler Receipt Form for 1728533 Page 1 of 5 Chain of Custody Form ☐ STD ☐ 5 Day** ☐ 2 Day** ☐ 1 Day* 38 Result Request "Surcharge lo 4-17 System # (Needed for EDT) BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com gher Sample Matrix Vaste Water Ground Waater Drinking Water Analysis Requested Project Name: Former Northern 00:00 09:00 CD8: 20 09:25 08:10 08.35 10:45 Project #: (\$58574/24,3cp.co.07 08:15 08:35 1000 01:11 Send Copy to State of CA? (EDT) City, State, Zip: NonLuis Doispo, CA 9340 (Sampler(8);); n. (Rune) EDF Required? **ջ** □ □ Yes □ No 11 20 0 Sampled Geotracker Date ABORATORIES, INC. □ Yes Street Address: 3437 Emars Drive Suite A Emall: Kick, Herming@Stanteccon 32 (h)-20,C HA-3260-19.0 Description A-3263-10.0 -48-20.0 14-48-10.0 4A-34-20.0 44-24-10.0 14-34-25.D 14-48-18, O State 1A-34-18.0 -34-15.0 0.51-87 1A-37-90 Attn: Kick Henning Phone (\$65)250-28-54 Fax: Niente Stante Nork Order #: M Sample Address Client:

Report ID: 1000697616 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 4 of 42



Chain of Custody and Cooler Receipt Form for 1728533 Page 2 of 5 Chain of Custody Form STD 05 Day** 02 Day** 01 Day Result Request "Surcharge ъ 740 BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Other Comments Sample Matrix Waste Water Ground Waster Drinking Water Analysis Requested ed for EDF Global ID 13:40 Project Name: Former Northern 13:35 3.50 13:45 Project #: 1858,504.29.300.0007 牙红 되 430 Samp Send Copy to State of CA? (EDT) City, State, ZipiSon Luis Obispo, CA9340 Sampleris): Jim Raney EDF Required? C180 0 ° O Date Sampled □ Yes □ No Geotracker -ABORATORIES, INC. □ Yes Street Address: 3437 Endpress Drive, Suite A Same as above Email: Mick. Henring Stante com HA-36-15.0 4A-36-20.0 HA-36-100 Description HA-36-8.0 X Phone (\$05) 250 - 2854 Fax: attrick Heaning lient: Stante Vork Order #: Ø aldui g ddress llent: Ë څ

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com



Chain of Custody and Cooler Receipt Form for 1728533 Page 3 of 5

BC LABORATORIES INC. Submission #:\\ \tag{VSPM}			COOLER	RECEIP	T FORM			Pa	ige	of _3_
				-						,
SHIPPING INFORI	□ Ha	nd Deliv	ery 🗆	Ice C	SHIPPING hest	None [□ Box E		FREE LIC	
BC Lab Field Service Other	□ (Speci	fy)		Ot	her □ (Sp	ecify}		_	W /(
Refrigerant: Ice Blue Ice	Contract of the last of the la	ne 🗆	Other 🗆	Con	ments:					
Custody Seals lice Chest 🗆	Contail			Con	nments:					
All samples received? Yes No 🗆 /	All sample	s contain	ers intact?	Yes to N	0 🗆	Descr	ription(s) ma	atch COC?	Yes No	
COC Received Emi	ssivity:	3.95	Container	Soil S	Thermo	meter ID:	206	1	ime (0/4) 1	
MAYES CINO	mperature				(0)		°C			
	T	7. (7.7	2	<u> </u>				Analys	t Init PN	_
SAMPLE CONTAINERS			<u> </u>	17	1700	E NUMBER	is		,	
OT PÈ UNPRES	10	43) (D	100	(è)	6) (3) ()	10
40z/80z/160z PR UNPRES				-	1	-	-	1	1	
202 Cr ¹⁶			+		-	+	-	+	-	-
OT INORGANIC CHEMICAL METALS	1			<u> </u>		-	-	-	-	-
NORGANIC CHEMICAL METALS 40z / 80z / 160z	1	1		 	-	-		-		
PT CYANIDE	1				+	-	-	-	-	-
T NITROGEN FORMS		1				-		-	-	-
T TOTAL SULFIDE		1			-	-	_	-		-
or NITRATE/NITRITE		-	-	-	-	 	-	+	-	-
T TOTAL ORGANIC CARBON .					 		-	-	-	
T CHEMICAL OXYGEN DEMAND		1				-	_		-	-
TA PHENOLICS		1			-	 		+		-
0ml VOA VIAL TRAVEL BLANK			1				-	-		<u> </u>
Omi VOA VIAL							_	-	 	
T EPA 1664						-		-		-
TODOR (1		-		-	
ADIOLOGICAL			1		1		1	-	-	
ACTERIOLOGICAL		1			-		-	 	-	
ml VOA VIAL- 504		1	_				-	 		
T RPA 508/608/8080							-	 	-	
T EPA 515.1/8150							_		-	
Γ EPA 525		1	1				+	 	_	
FEPA 525 TRAVEL BLANK							-	 		
ml EPA 547			1				 		-	
mi EPA 531.1		1						-		
2 EPA 548			+ +				-	-		
EPA 549			1							
PEPA 8015M			1				-			
EPA \$270			 		-					
1/1602 (320) AMBER							-			
			1 -			A	-			
1/1602/3202 JAR IL SLEEVE XDZ	A	A	Δ.		-					
	14	-	A	A	A		A	A	A	
BYIAL			 							
ASTICBAG			-							
DLAR BAG .				-,						
RROUS IRON						-				
CORE										
ART KIT										
MA CANISTER										
										- 1



Chain of Custody and Cooler Receipt Form for 1728533 Page 4 of 5

BC LABORATORIES INC.		С	OOLER	RECEIPT	FORM			Page	20	f <u>3</u>
Submission #: \n - \V6533										,
SHIPPING INFORM			-		HIPPING	CONTAI	NER		FREE LIQ	
Fed Ex □ UPS □ Ontrac □		I Delivery	, D	Ice Che		None 🗆		'	YES D N	۵ ⊏
BC Lab Field Service D Other	(Specify)		Oth	er 🗆 (Spe	cify)		-	w y_	s)
Refrigerant: Ice ☐ Blue Ice ☐	None	0 0	Other 🗆	Comn	nents:					
	Containe	re (ii)	None	Com	ments:					
Hitracity Yes [] No []	tact? Yes	No FI	110110							
All samples received? Yes Ø No □ Al	l samples	containers	intact? Y	es V No	0	Descrip	tion(s) mat			
COC Received Emis	șivity: <u>O</u>	. <u>9J</u>	Container	1011 10	Thermon	neter ID: _	106	Date/Tin	101411-	T 2100
r YES □ NO Ten	perature:	{A}	7.8	°C /	(C) 9	-B	*C .	Analyst	nit 12/01/	_
	Ī					NUMBERS				
SAMPLE CONTAINERS	10	114	112	13	14	15	110	In	183	10
QT PÊ UNFRES										
4az/8az/16az PE UNPRES			-				7	<u> </u>		
2oz Cr ⁺⁴		-	-	-			-		*	-
OT INORGANIC CHEMICAL METALS				-						
INORGANIC CHEMICAL METALS 402 / 802 / 1602		-	 	 	 					-
PT CYANIDE		 	 		 			-	-	
PT NITROGEN FORMS		 	-		-		-	-		
PT TOTAL SULFIDE		-	 		 				 	
20z. NITRATE / NITRITE			 	1	-			-		
PT TOTAL ORGANIC CARBON		-		1				-	-	
PT CHEMICAL OXYGEN DEMAND			-		<u> </u>			1		
PIA PHENOLICS 40ml VOA VIAL TRAVEL BLANK				1						
10ml VOA VIAL				1					-	
OT EPA 1664										
PT ODOR										1
RADIOLOGICAL			- 6r							
BACTERIOLOGICAL				0						
40 ml VOA VIAL- 504										<u> </u>
QT EPA 508/608/8080										
QT EPA 515.1/8150 .										
QT EPA 525							ļ			
QT EPA 525 TRAVEL BLANK							ļ			
40ml EPA 547										
40ml EPA 531.1								-		
802 EPA 548					·					
QT EPA 549							<u> </u>			
QT EPA 8015M	-	ļ		ļ						
QT EPA 8270		-	<u> </u>							
Soz/16cz/32cz AMBER										
Sox/160x/320xJAR		10	10	10	A	10	14	A		
SOIL SLEEVE XOZ	A	A	14-	A	P-3	A		12	4	
PCB VIAL		-								
PLASTIC BAG			-							
TEDLAR BAG		-								-
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										
			W							



Chain of Custody and Cooler Receipt Form for 1728533 Page 5 of 5

on #:	m			COOL	ER REC	EIPT	FORM				Pag	e_3:	Of 3
Account to the second s													
SHIPPING INFO						SI	IPPIN	G CONT	AINER			FREE LIC	MIID
Field Service D Ott	er 🗆 (Sp	Hand (ecify)	Delive	y D	lo	e Che	it Ø	None i	□ Box		١ ١	YES []	NO 🗆
i i		7,				Otne	(Sp	pecify)	·		1	WJ	
gerant: Ice Blue Ice		Vone [)	Other	0 (Comm	ents:		-			_	
ody Seals lice Chest II-	Con Intact?	fainers Yes III	C) No co	No		Comn							
samples received? Yes 10 No 🗆	All sam	ples cor	ntainers	intact	Yest	/ 2/- 5						-	
COC Received	missivity	0.0	15	Cantalu		Tele		meter ID:	iption(s)	match Co	OC? Y	98 D No	
YES □ NO	_		<u>,</u> '	Contain	er: 🖂	100	Thermo	meter ID:	706	L Da	te/Time	10/4/1-	7 2100
	Temperat	ure: (/	A) ,	5:0	*C	/ {	1 3	30	*C	An	alvst In	it 10101	
SAMPLE CONTAINERS								E NUMBER	s				
QT PÈ UNPRES		9	2()	14			6.	6	7			-	1
foz/8oz/16oz PE UNPRES	-	-							T /		8	-	10
Boz Cr*F	_	-			-	_							
OT INORGANIC CHEMICAL METALS		e7:1				-		-					
NORGANIC CHEMICAL METALS 402 / E02 / 160	2	-	-		+	-	14.4	- 1 T	-				
TCYANIDE		_			-	-		7.7	1		-	-1	-
T NITROGEN FORMS					1	-			-	-		7, .	
T TOTAL SULFIDE						+					-		
DZ. NITRATE / NITRITE	-								_		-		
T TOTAL ORGANIC CARBON T CHEMICAL OXYGEN DRMAND	-	-								+	-		
A PHENOLICS	-		_			-		-		_	+	_	
IN YOA VIAL TRAVEL BLANK	-	-	-		-						_	-	
ml VOA VIAL	╁──	-	-	-	-	_							
EPA 1664	1-	-	-		-								
ODOR (_	_		-	+	-						
DIOLOGICAL			_		-	+				-			
CTERIOLOGICAL			_		-	+				-	-		
ni VOA VIAL- 504						+					_	_	
EPA 508/608/8080					-	+	-			-	+		
EPA 515.1/6150					-	1	_			+	-		
EPA 525							_			+	+		
EPA 525 TRAVEL BLANK										+	_	-	
EPA 547 EPA 531.1											+	-	
EPA 531.1 IPA 548		-	_								+	-	
PA 549		-									+	-	
PA 8015M			-									-	
PA \$270	-	-	+-								1	_	
1602/3202 AMBER		-	+-	_		_							
602/3202 JAR		-	-	-									
SLEEVE X02	A	A	1	+		-							
TAL		1	1	1		-	_						
TCBAG			+-	-		-							
AR BAG			-	-		-	-				-		
DUSTRON		-	1	-	3		-		-		-		
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PKIT				_			+	-					
A CANISTER			+-	-			-						
		-					1						-

3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1728533-01 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-34-10.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/03/2017 08:00

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-34

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728533-02 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-34-15.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/03/2017 08:05

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-34

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728533-03 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-34-18.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/03/2017 08:10

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-34

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000697616 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1728533-04 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-34-20.0 Sampled By: SISL

10/04/2017 21:00 Receive Date: Sampling Date: 10/03/2017 08:15

Sample Depth: Lab Matrix: Solids Soil Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-34

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728533-05 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

HA-34-25.0 Sampling Point: SISL Sampled By:

10/04/2017 21:00 Receive Date: 10/03/2017 08:20 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-34

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728533-06 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location:

HA-48-10.0 Sampling Point: SISL Sampled By:

Receive Date: 10/04/2017 21:00 10/03/2017 08:55 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-48

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1728533-07 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-48-15.0 Sampled By: SISL

Sample Depth: --5.0 Lab Matrix: Solids

Sample Type: Soil
Delivery Work Order:

Global ID:

Receive Date: Sampling Date:

Location ID (FieldPoint): HA-48

10/04/2017 21:00

10/03/2017 09:00

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728533-08 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-48-18.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/03/2017 09:25

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-48

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728533-09 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-48-20.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00

Sampling Date: 10/03/2017 09:35

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-48

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000697616

Page 11 of 42

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1728533-10 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-37-9.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/03/2017 10:45

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-37

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728533-11 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-32(b)-10.0

Sampled By:

Receive Date: 10/04/2017 21:00 **Sampling Date:** 10/03/2017 11:00

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-32

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728533-12 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-32(b)-15.0

Sampled By: SISL

Receive Date:

10/04/2017 21:00

Sampling Date:

10/03/2017 11:10

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-32

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000697616 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1728533-13 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-32(b)-19.0

Sampled By:

SISL

10/04/2017 21:00 Receive Date: Sampling Date: 10/03/2017 11:25

Sample Depth: Lab Matrix: Solids Soil Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-32

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728533-14 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

HA-32(b)-20.0 Sampling Point:

Sampled By:

10/04/2017 21:00 Receive Date: 10/03/2017 11:30 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-32

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728533-15 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location:

HA-36-8.0 Sampling Point: SISL Sampled By:

Receive Date: 10/04/2017 21:00

10/03/2017 13:35 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-36

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Project: Former Northern Landfill Project Number: 185850429.300.0007

01/19/2018 12:25

Project Manager: Kirk Henning

Reported:

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1728533-16 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-36-10.0 Sampled By: SISL

Sample Depth:

Lab Matrix: Solids Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-36

Matrix: SO

Receive Date: Sampling Date:

Sample QC Type (SACode): CS

Cooler ID:

1728533-17 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

HA-36-15.0 Sampling Point: SISL Sampled By:

10/04/2017 21:00 Receive Date: 10/03/2017 13:45 Sampling Date:

10/04/2017 21:00

10/03/2017 13:40

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-36

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728533-18 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location:

HA-36-20.0 Sampling Point: SISL Sampled By:

Receive Date: 10/04/2017 21:00 10/03/2017 13:50 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-36

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation. 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1728533-19 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-46-10.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/03/2017 14:19

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-46

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728533-20 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-46-15.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/03/2017 14:30

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-46

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728533-21 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-46-20.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/03/2017 14:40

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-46

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000697616

Page 15 of 42



Misc Report For 1728533 PDF File Name: wo 1728533 misc EDT EMSLA.pdf Page 1 of 1



EMSL Analytical, Inc.

Bakersfield, CA 93308

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order: 091800321 Customer ID: BCLA50 Customer PO: 1728533 Project ID:

Attention: Molly Meyers Phone: (661) 327-4911 BC Laboratories, Inc. Fax: (661) 327-1918 4100 Atlas Court Received Date: 01/06/2018 9:30 AM

Analysis Date: 01/09/2018

Collected Date: Project: 1728533

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-A	sbestos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1728533-12		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091800321-0001		Homogeneous			
Soil is a problem matrix	x. Other analytical options are rec	commended such as EPA 6	00 PLM/TEM with milling prep)	
1728533-16		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
091800321-0002		Homogeneous			
Soil is a problem matrix	x. Other analytical options are rec	commended such as EPA 6	00 PLM/TEM with milling prep	,	
1728533-20		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous		, ,	
091800321-0003		Homogeneous			
Soil is a problem matrix	x. Other analytical options are rec	commended such as EPA 6	00 PLM/TEM with milling pres		

Analyst(s))		_
Adam C E	Verde 1994		

Matthew Batongbacai or Other Approved Signatory

Due to magnification limitations inherent in PLM, asbestos libers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional festing by TEM to confirm asbestos quantities. The limit of detection, as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 01/10/2018 02:58:38

ASB_PLM_0008_0001 - 1.78 Printed: 1/9/2018 11:58 PM

Page 1 of 1

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Stantec - SLO Reported: 01/19/2018 12:25

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0007

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-01	Client Sampl	le Name:	Former N	lorthern La	ndfill, HA-34-10.0,	8:00:00AM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	re)	71.6	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run			QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 16:35	AS1	GC-2	1.007	B[J1714		

Page 17 of 42 Report ID: 1000697616

Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-02	Client Sampl	e Name:	Former N	lorthern La	ndfill, HA-34-15.0,	10/3/2017	8:05:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	71.1	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 16:57	AS1	GC-2	1.007	B[J1714		

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3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-03	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-34-18.0, 10/3/2017 8:10:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogat	e)	64.9	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1			

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 17:20	AS1	GC-2	1.010	B[J1714		

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Reported: 01/19/2018 12:25

Project: Former Northern Landfill Project Number: 185850429.300.0007

Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-04	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-34-20.0,	10/3/2017	3:15:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	te)	83.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run			QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 17:43	AS1	GC-2	0.993	B[J1714		

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-05	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-34-25.0,	10/3/2017	3:20:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	72.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 18:06	AS1	GC-2	0.997	B[J1714	

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Reported: 01/19/2018 12:25 Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: 185850429.300.0007 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-06	Client Sampl	e Name:	Former N	lorthern La	ndfill, HA-48-10.0,	10/3/2017	3:55:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		15	mg/kg	20	6.5	EPA-8015B/FFP	ND	J,A57	1
Tetracosane (Surrogat	e)	70.5	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 18:28	AS1	GC-2	0.990	B[J1714	

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Stantec - SLO Reported: 01/19/2018 12:25

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: 185850429.300.0007 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-07	Client Sampl	e Name:	Former N	lorthern La	ndfill, HA-48-15.0,	10/3/2017	9:00:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	te)	74.4	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 19:36	AS1	GC-2	1	B[J1714

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Suite A

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San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Manager: Kirk Henning

Project Number: 185850429.300.0007

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-08	Client Sampl	e Name:	Former N	orthern Laı	ndfill, HA-48-18.0,	10/3/2017	9:25:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate)		53.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			QC				
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 19:59	AS1	GC-2	1.010	B[J1714

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-09	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-48-20.0,	10/3/2017	9:35:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	56.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 20:22	AS1	GC-2	1.014	B[J1714	

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Reported: 01/19/2018 12:25

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: 185850429.300.0007 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-10	Client Sampl	e Name:	Former N	orthern Laı	ndfill, HA-37-9.0, 1	0/3/2017 10	:45:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		22	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	e)	37.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 23:00	AS1	GC-2	1.010	B[J1714	

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Report ID: 1000697616

Stantec - SLO Reported: 01/19/2018 12:25

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0007

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-11	Client Sampl	e Name:	Former N	lorthern La	ndfill, HA-32(b)-10.	0, 10/3/2017	7 11:00:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	62.5	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 20:44	AS1	GC-2	1.014	B[J1714	

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Stantec - SLO Reported: 01/19/2018 12:25

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0007

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-12	Client Sampl	e Name:	Former N	lorthern La	ndfill, HA-32(b)-15.	.0, 10/3/2017	′ 11:10:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		23	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	60.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 21:29	AS1	GC-2	1.003	B[J1714	

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Suite A

3437 Empresa Drive, Suite A

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007 San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-13	Client Sampl	e Name:	Former N	orthern Lai	ndfill, HA-32(b)-19.	0, 10/3/2017	′ 11:25:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate))	59.7	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run						
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 21:07	AS1	GC-2	1.010	B[J1714		

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Report ID: 1000697616

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

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Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-14	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-32(b)-20.0, 10/3/2017 11:30:00AM					
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	te)	65.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 21:52	AS1	GC-2	0.984	B[J1714		

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-15	Client Sampl	Former N	Former Northern Landfill, HA-36-8.0, 10/3/2017 1:35:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		25	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	72.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 22:37	AS1	GC-2	1.014	B[J1714			

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-16	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-36-10.0, 10/3/2017 1:40:00PM				
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	re)	87.5	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run			QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/13/17 08:00	10/15/17 22:15	AS1	GC-2	0.987	B[J1714		

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-17	Client Sampl	Client Sample Name:		Former Northern Landfill, HA-36-15.0, 10/3/2017 1:45:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogate	e)	42.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/13/17 08:00	10/16/17 00:53	AS1	GC-2	0.997	B[J1714			

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Report ID: 1000697616

Stantec - SLO Reported: 01/19/2018 12:25

Project: Former Northern Landfill 3437 Empresa Drive, Suite A Suite A Project Number: 185850429.300.0007

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-18	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-36-20.0, 10/3/2017 1:50:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	96.5	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1		

			Run				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/13/17 08:00	10/16/17 01:16	AS1	GC-2	0.997	B[J1714			

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-19	Client Sampl	e Name:	Former No	Former Northern Landfill, HA-46-10.0, 10/3/2017 2:19:00PM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		6.9	mg/kg	20	6.5	EPA-8015B/FFP	ND	J,A57	1		
Tetracosane (Surrogat	e)	94.8	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

			Run				QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/13/17 08:00	10/16/17 01:39	AS1	GC-2	1.010	B[J1714			

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Suite A

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Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-20	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-46-15.0,	10/3/2017	2:30:00PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	69.4	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:00	10/16/17 02:02	AS1	GC-2	1	B[J1714	

Page 36 of 42 Report ID: 1000697616

Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728533-21	Client Sampl	e Name:	Former N	orthern La	ndfill, HA-46-20.0,	10/3/2017 2	2:40:00PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	76.2	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/12/17 15:00	10/14/17 05:12	AS1	GC-2	1.007	B[J1411	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 37 of 42

Report ID: 1000697616

Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1411						
TPH - Gasoline	B[J1411-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[J1411-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[J1411-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[J1411-BLK1	93.1	%	20 - 14	5 (LCL - UCL)	
QC Batch ID: B[J1714						
TPH - Gasoline	B[J1714-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[J1714-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[J1714-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[J1714-BLK1	65.2	%	20 - 14	5 (LCL - UCL)	

Report ID: 1000697616 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 38 of 42

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401 Reported: 01/19/2018 12:25
Project: Former Northern Landfill

Project Number: 185850429.300.0007

Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

								Control I	imits	
				Spike		Percent		Percent		Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: B[J1411										
TPH - Diesel (FFP)	B[J1411-BS1	LCS	80.774	84.746	mg/kg	95.3		64 - 124		
Tetracosane (Surrogate)	B[J1411-BS1	LCS	3.5188	3.3912	mg/kg	104		20 - 145		
QC Batch ID: B[J1714										
TPH - Diesel (FFP)	B[J1714-BS1	LCS	72.708	83.893	mg/kg	86.7		64 - 124		
Tetracosane (Surrogate)	B[J1714-BS1	LCS	3.0878	3.3570	mg/kg	92.0		20 - 145		

Report ID: 1000697616 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 39 of 42

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401 Reported: 01/19/2018 12:25

Project: Former Northern Landfill

Project Number: 185850429.300.0007 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1411	Use	d client samp	ole: Y - Des	cription: HA	-47-20.0, 10	/02/2017	12:40				
TPH - Diesel (FFP)	— MS	1727871-09	ND	76.307	83.612	mg/kg		91.3		52 - 131	
	MSD	1727871-09	ND	75.675	83.056	mg/kg	0.8	91.1	30	52 - 131	
Tetracosane (Surrogate)	MS	1727871-09	ND	3.2895	3.3458	mg/kg		98.3		20 - 145	
	MSD	1727871-09	ND	3.1867	3.3236	mg/kg	3.2	95.9		20 - 145	
QC Batch ID: B[J1714	Use	ed client samp	le: Y - Des	cription: HA	-48-18.0, 10	/03/2017	09:25				
TPH - Diesel (FFP)	MS	1728533-08	ND	83.019	83.056	mg/kg		100		52 - 131	
	MSD	1728533-08	ND	57.538	83.333	mg/kg	36.3	69.0	30	52 - 131	
Tetracosane (Surrogate)	MS	1728533-08	ND	3.1106	3.3236	mg/kg		93.6		20 - 145	
	MSD	1728533-08	ND	2.2677	3.3347	mg/kg	31.3	68.0		20 - 145	

Report ID: 1000697616 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 40 of 42



Subcontract Report for 1728533 PDF File Name: wo_1728533_sub_all.pdf Page 1 of 1



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com/sanleandrolab@emsl.com

EMSL Order: 091719925 Customer ID: BCLA50 Customer PO: 1728533 Project ID:

Attention: Molly Meyers

BC Laboratories, Inc. 4100 Atlas Court Bakersfield, CA 93308

Fax: (661) 327-1918 Received Date: 10/12/2017 10:00 AM

(661) 327-4911

Analysis Date: 10/18/2017 Collected Date: 10/03/2017

Phone:

Project: 1728533

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbes	tos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1728533-01		Tan		35% Quartz	None Detected
		Non-Fibrous		65% Non-fibrous (Other)	
091719925-0001		Homogeneous			
Soil is a problem matr	ix. Other analytical options are re	commended such as EPA 60	00 PLM/TEM with milling prep		
1728533-06		Tan	2% Cellulose	35% Quartz	None Detected
		Non-Fibrous		63% Non-fibrous (Other)	
91719925-0002		Homogeneous			
Soil is a problem matr	riv. Other analytical options are re	commended such as EPA 60	IO PLM/TEM with milling prep		
1728533-10		Brown	2% Cellulose	35% Quartz	None Detected
		Non-Fibrous		63% Non-fibrous (Other)	
191719925-0003		Homogeneous			
Soil is a problem matr	ix. Other analytical options are re	commended such as EPA 60	00 PLM/TEM with milling prep		
1728533-11		Gray		35% Quartz	None Detected
		Non-Fibrous		65% Non-fibrous (Other)	
091719925-0004		Homogeneous			
Soil is a problem matr	ilir. Other analytical options are re	commended such as EPA 60	O PLM/TEM with milling prep		
1728533-15		Brown	3% Cellulose	35% Quartz	None Detected
		Non-Fibrous		62% Non-fibrous (Other)	
91719925-0005		Homogeneous			
Soil is a problem matr	ix. Other analytical options are re	commended such as EPA 60	00 PLM/TEM with milling prep		
1728533-19		Brown		35% Quartz	None Detected
		Non-Fibrous		65% Non-fibrous (Other)	
091719925-0006		Homogeneous		,	
Soil is a problem matr	iv. Other analytical options are re	commended such as EPA 60	O PLM/TEM with milling prep		

Analyst(s)
red Martin (6)

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The limit of detection, as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 10/18/2017 12:40:21

ASB_PLM_0008_0001 - 1.78 Printed: 10/18/2017 12:40 PM

Page 1 of 1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation. Stantec - SLO Reported: 01/19/2018 12:25

3437 Empresa Drive, Suite A Project: Former Northern Landfill Suite A Project Number: 185850429.300.0007

San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Notes And Definitions

J Estimated Value (CLP Flag)

MDL Method Detection Limit

ND Analyte Not Detected

PQL Practical Quantitation Limit

A57 Chromatogram not typical of motor oil.

Report ID: 1000697616 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 42 of 42



Date of Report: 04/02/2018

Kirk Henning

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Client Project:

[none]

BCL Project:

Former Northern Landfill

BCL Work Order:

1728588

Invoice ID:

B285059, B289270, B297104

Enclosed are the results of analyses for samples received by the laboratory on 10/4/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000726013

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Stuart Buttram
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101



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Total Petroleum Hydrocarbons	10
Total Concentrations (TTLC)	
· · · · · · · · · · · · · · · · · · ·	20
1728588-02 - HA-37(a)-15.0 Total Petroleum Hydrocarbons	24
·	∠ I
1728588-03 - HA-37(a)-20.0 Total Petroleum Hydrocarbons	22
1728588-04 - HA-43-9.0	22
	22
Total Petroleum Hydrocarbons	
1728588-06 - HA-43-15.0 Total Petroleum Hydrocarbons	24
1728588-07 - HA-43-20.0	24
	25
Total Petroleum Hydrocarbons	25
1728588-08 - HA-37(a)-1.0	00
Total Petroleum Hydrocarbons	20
1728588-09 - HA-37(a)-3.0	07
Total Petroleum Hydrocarbons	
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Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)	
Chlorinated Herbicides (EPA Method 8151A)	
Volatile Organic Analysis (EPA Method 8260B) Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)	
Total Petroleum Hydrocarbons	
Chemical Analysis	
Total Concentrations (TTLC)	
1728588-11 - HA-44-10.0	31
Total Petroleum Hydrocarbons	20
1728588-12 - HA-44-15.0	
Total Petroleum Hydrocarbons	20
1728588-13 - HA-26-10.0	
Total Petroleum Hydrocarbons	40
1728588-14 - HA-26-13.0	40
Total Petroleum Hydrocarbons	41
1728588-15 - HA-26-15.0	
Total Petroleum Hydrocarbons	42
1728588-16 - HA-26-20.0	
Total Petroleum Hydrocarbons	43
1728588-17 - HA-49-1.0	40
Total Petroleum Hydrocarbons	11
1728588-18 - HA-49-3.0	······ 1 7
Total Petroleum Hydrocarbons	45
1728588-19 - HA-49-5.0	40
Total Petroleum Hydrocarbons	4.0
· ·	40
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Report ID: 1000726020



Chain of Custody and Cooler Receipt Form for 1728588 Page 1 of 7 ☐ STD ☐ 5 Day" ☐ 2 Day" ☐ 1 Day* Chain of Custody Form Result Request "Surcharge DISTRIBUTION 44 R4 SUN JKB Notes System # (Nanded for EDT) BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Comments Sample Matrix Waste Water Ground Waater Drinking Water 200 Sludge ğ Analysis Requested 04:35 09:45 0750 11:40 Former Northern 5 09:25 08:35 OK:45 09:23 00:39 08:10 Sampled 125 10 04 17 08:25 11:15 Project #: 185850429,300.0007 Send Copy to State of CA? (EDT) EDF Required? s C □ Yes □ No Geotracker Date Sampled -ABORATORIES, INC. □ Yes Project Name: Sampler(s): Same as above treet Address: 3431 Empresa Orive, Suite A ity, State, Zin Buluis Obispo, C4 93101 Description NA-37(a)-6.0 A-37 (a)-20.0 4A-210-13.C 64-37 (a)-3.0 HA-44-10.0 1A-37ca)-1.0 AA -43-20.0 HA-37(a)-15.0 4A-43-10.0 X HA-37a)-10.0 hone: (25)250-2854 Fax: mail: Khrketherning th: Kirk Henring Stanter Ú ork Order #: ŏ mple Ë ä

Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 4 of 94



Chain of Custody and Cooler Receipt Form for 1728588 Page 2 of 7 Chain of Custody Form ☐ STD ☐ 5 Day** ☐ 2 Day** ☐ 1 Day* 200 Result Request **Surcharge 5 10-4-17 BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 -- www.bclabs.com Other Comments: Sample Matrix nateW stack Ground Waster Drinking Water Analysis Requested . Relinquished By Global ID (Nesded for EDF) Project Name: Former Norther 200 14:00 11:50 Project #: [85850424, \$00.0007 14:05 4:20 Sampled Send Copy to State of CA? (EDT) ity, State, Zip: Sen Lats Obis 29, (4934) Sampleris): Jin Roney EDF Required? ° □ £ □ 1004117 Geotracker Date Sampled -ABORATORIES, INC. □ Yes □ Yes reet Address: 3437 Enorsa Ork SuiteA Same as above MESTERNIEC. Ζį HA-26-20.0 Description HA-26-15,0 44-49-30 4-49-1.0 none: [05] 250-284 Fax: Mirk Henning ork Order #: dress: iing ស ž

Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 5 of 94



Chain of Custody and Cooler Receipt Form for 1728588 Page 3 of 7 Chain of Custody Form STD 5 Day" 0 2 Day" 0 1 Day Result Request "Surcharge Date System # (Needed for EDT) BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Comments: Sample Matrix Wasto Water Ground Waater Slodge **Analysis Requested** Sex Och ולפים נאימייוב Date å Date 201 Global ID (Needed for EDF) Send Copy to State of CA? (EDT) EDF Required? ŝ ŝ Date Sampled Geotracker LABORATORIES, INC. □ Yes □ Yes Project Name: Project #: Sampler(s): Same as above Ϋ́ -3761-20.0 44-37 W -5.0 -3742-3.0 HA-3741-15.0 -43-20.0 44-44-10,0 -43-10.0 14-43-15.0 HA-376)-10.0 14-43-9 -370) Fax: treet Address: Û Oty, State, Zip: Nork Order #: Phone: Email: Address 2 80 Client: Attn:

Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 6 of 94



Chain of Custody and Cooler Receipt Form for 1728588 Page 4 of 7 Chain of Custody Form ☐ STD ☐ 5 Day" ☐ 2 Day" ☐ 1 Day Result Request "Surcharge Date ä System # (Needed for EDT) BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Other Comments: Sample Matrix 2. Received By 3. Received By noteW edsaW Ground Waater Drinking Water Sludge lies Analysis Requested Dete Date Cc3 LottoM 3. Relinquished By Global ID (Needed for EDF) Send Copy to State of CA? (EDT) EDF Required? Geotracker Ñ. ŝ ABORATOBIES, INC. □ Yes □ Yes Project Name: Sampler(s): Project #: Same as above 14-26-150 State 1-66-4 Ë Street Address: City, State, Zip: Work Order #: ã Phone: (Attn: Email: Billing Address Client: P.O. #: Ċţċ. Attn:

Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 7 of 94



Chain of Custody and Cooler Receipt Form for 1728588 Page 5 of 7

BC LABORATORIES INC. Submission #:\7-2858	8		COOLER	RECEIP	PORIM	.		PE	ige	of 3
SHIPPING INFORI	MATION	nd Delive	ry 🗆	Ice C	SHIPPING hest 🗷 her 🗆 (Sp	None [INER Box C	I	FREE LIG YES D W /	NO 🗆
Refrigerant: Ice Blue Ice	Non	e 🗆	Other 🗆	Com	ments:		•			
Custody Seals lee Chest D	Contain		Non	e D Co	mments:					
All samples received? Yes ▶ No □	All samples	containe	rs intact?	Yes ₩ N	0 🗆	Descri	iption(s) ma	tch COC?	Yes YO No	
COC Received Em	issivity: <u>(</u> mperature	3.95	Container	:: \$161 1°C /	Thermo	meter ID:	706) °C	Date/I	rime <u>101411</u> et Init 1210	7 2100
-	1				SAMP	E NUMBER	s			
SAMPLE CONTAINERS	1	2	3	1 4	5	181	196	101	9	10
OT PÈ UNPRES		-		1						
40x/80x/160x PE UNPRES	1		-		1	ļ.,		. :		
20z Cr*6	-		-		.					9,15
QT INORGANIC CHEMICAL METALS		-		-	-		-			
INORGANIC CHEMICAL METALS 40z / 80z / 160z	 	-	-	-	-					
PT CYANIDE	-	+	-		-			-		
PT NITROGEN FORMS		-	-	-	-		-			
PT TOTAL SULFIDE	-		 	-	-		-	-		
20x_NITRATE/NITRITE .	├	-	-	-				+-		
PT TOTAL ORGANIC CARBON	 	 	-	-	-					
PT CHEMICAL OXYGEN DEMAND	 			-	ļ.	-	-	-	-	
PIA PHENOLICS	 		-				-			1
40ml VOA VIAL TRAVEL BLANK		-		 	-	-		+	-	
60ml VOA VIAL OT EPA 1664		-	+			 	1.	 	·	
PT ODOR	 	-			-	 	·		-	-
RADIOLOGICAL	_	 	-	 	-		-	-	+	-
BACTERIOLOGICAL		 	 	 	-	_	-	+	-	-
60 ml VOA VIAL- 504		1	 	-	-	 	 	 		
QT EPA 508/608/8080	i	1	 	-	-	-	+	+		
OT EPA 515.1/8150 .		-	 	-	 	-	+	+	+	
OT EPA 525		—	1	1	 		_	+	+	
OT EPA 525 TRAVEL BLANK			1				 	 	+	1
Omi EPA 547			 	- Communication		 	1	 	-	1
Oml EPA 531-1					1	-	-	-		-
oz EPA 548				-	1	 	-	_	1	
T EPA 549				 	·		·	 	1	
T EPA 3015M							 	1	-	
T EPA 8270							1	-		
1 EFA 62/0 24/1602/3202 AMBER			-		1	1	l		-	
02/1602/3202 AMBER	-				-	A	1	A	1	
OIL SLEEVE	1	A	Δ	A	A	1	1	1-	1	
CB VIAL	-/-	-	4		-			 		
ASTIC BAG									-	
SDLAR BAG								-		
ERROUS IRON				1				-	 	
NCORE		-								
					-					
MART KIT										
MMA CANISTER								1		

Report ID: 1000726020



Chain of Custody and Cooler Receipt Form for 1728588 Page 6 of 7

BC LABORATORIES INC.	A	(COOLER	RECEIPT	FORM			Pag	ge <u>Z</u>	0f <u>3.</u>
Submission #: 17 2858	X									
SHIPPING INFORM Fed Ex D UPS D Ontrac E BC Lab Field Service D Other I						Box 🗆	X D YES D NO D			
Refrigerant: Ice ☐ Blue Ice ☐	None	e D	Other 🗆	Com	nents:	-	•	• 4		
Custody Seals Ice Chest C	Contain		None	Con	ments:			X		
All samples received? Yes¶Q No□ A	ll samples	container	s intact? \	res 🌠 No		Descrip	otion(s) mat	tch COC?	Yes 📂 No	0
					(c) 3		706 °c	Date/Ti	me <u> 0 4 1</u> -	72100
SAMPLE CONTAINERS		SAMPLE NUM								.,
	10 *	77	117	124	134	144	115-	164	9	10
OT PÈ UNPRES 40z/80z/160z PE UNPRES	 	 	+	1		-	-	 .	-	
ROZ Cr ⁴⁴	1			1	1	1	-	 	 	
OT INORGANIC CHEMICAL METALS	~#e/:		1				+ / , .		1	-
NORGANIC CHEMICAL METALS	1	1			11	-C.E. 8.5	1	1		
PT CYANIDE				1				1		
T NITROGEN FORMS	1	1						1		
T TOTAL SULFIDE		1				l		1	1	100
OZ. NITRATÉ / NITRITE .	1		1			1			 	
T TOTAL ORGANIC CARBON .						1			1	
T CHEMICAL OXYGEN DEMAND					ŀ					
PLA PHENOLICS										
Omi VOA VIAL TRAVEL BLANK										
Omi VOA VIAL										
OT EPA 1664										
T ODOR										
MADIOLOGICAL		ļ					ļ			
BACTERIOLOGICAL										
0 ml VOA VIAL- 504	ļ									<u> </u>
YT EPA 508/608/8080	ļ									
T EPA 515.1/8150 .									-	
OT EPA 525								ļ		
OT EPA 525 TRAVEL BLANK		-	-							
0ml EPA 547							ļ	-		
Oml EPA 531.1										
0Z EPA 548		-								
T EPA 549							-	-		ļI
T EPA 8015M	-		-				<u> </u>	<u> </u>		
T EPA 8270								<u> </u>		-
0z/160z/320z AMBER										\vdash
0x/16az/32az JAR	1	A			4	7	A	- A		
OIL SLEEVE	14	A	A	A	А	4_	4	4		
CB VIAL	-									
LASTIC BAG		-								\vdash
EDLAR BAG										
ERROUS IRON										
NCORE										
MART KIT										
The state of the s					1					1 1
UMMA CANISTER										



Chain of Custody and Cooler Receipt Form for 1728588 Page 7 of 7

BC LABORATORIES INC.	O		COOLER	RECEIPT	FORM			Pag	e_3 (of 3
Submission #: 17-2858				-	,					,
	FORMATION ntrac				HIPPING est Ø er □ (Spe	None		FREE LIQUID YES D NO D W / S		
Refrigerant: Ice Blue Ice	Non	e 🗆	Other	Com	ments:					
Custody Seals tos Chest 🗆 -	Contain		None	Com	ments:					
All samples received? Yes 🔼 No 🗆	VII samples	containe	rs intect? \	Yesto No	Or .	Descrip	tion(s) mate	th COC? Y	(to-21 No	0
COC Received Em	ssivity: <u>C</u>	1.98	Container	(lear	Thermon	neter ID; _	70%	Date/Tim	10/4/1-	22100
/2.120 Tre	mperature	: (A)	30	*C /	(0) 2		*C	Analyst	nit PNY	
SAMPLE CONTAINERS	17 1	18 k	P &	T 4	1	NUMBERS	1		1	
OT PÈ UNPRES	i i	197	11.18	1	5	6	7	8	1 3	10
for/8ex/16ex PE UNPRES										
loz Cr*6										
OT INORGANIC CHEMICAL METALS				1			7			
NORGANIC CHEMICAL METALS 40x / 80x / 160x										- A
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
oz. NITRATE / NITRITE			,							
T TOTAL ORGANIC CARBON .										
T CHEMICAL OXYGEN DEMAND					-					
NA PHENOLICS										
Omi VOA VIAL TRAVEL BLANK										
Omi VOA VIAL										
T EPA 1664										
TODOR										
ADIOLOGICAL										
ACTERIOLOGICAL										
0 ml VOA VIAL-504										-
T EPA 508/608/8080										
T EPA 515.1/8150										
T EPA 525										
T EPA 525 TRAVEL BLANK										
mt EPA 547										
ml EPA 531.1									T	
2 KPA 548					-					
T EPA 549										
F EPA 8015M			-							
FEPA 8270			·							
z/160z/320z AMBER										
z/160z \$202 JAR	A_	_A_	A							
IL SLEEVE										
B VIAL										
ASTICBAG										
DLAR BAG										
RROUS IRON				,						
CORE										
ART KIT										
mma canister										
nments:	-									

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1728588-01 COC Number:

Project Number: Former Northern Landfill

SISL

Sampling Location: ---

Sampling Point: HA-37(a)-10.0

Sampled By:

Receive Date: 10/04/2017 21:00 **Sampling Date:** 10/04/2017 08:25

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-37(a)

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728588-02 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-37(a)-15.0

Sampled By:

Northern Landfill Sa

-15.0

SISL

Receive Date: 10/04/2017 21:00 **Sampling Date:** 10/04/2017 08:35

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-37(a)

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728588-03 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-37(a)-20.0

Sampled By: SISL

Receive Date: 10/04/2017 21:00

Sampling Date: 10/04/2017 08:45

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-37(a)

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Page 11 of 94

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1728588-04 COC Number:

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-43-9.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/04/2017 09:23

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-43

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728588-05 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-43-10.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/04/2017 09:25

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-43

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728588-06 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-43-15.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/04/2017 09:35

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-43

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1728588-07 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-43-20.0 Sampled By: SISL

10/04/2017 21:00 Receive Date: Sampling Date: 10/04/2017 09:45

Sample Depth: Lab Matrix: Solids Soil Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-43

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728588-08 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

HA-37(a)-1.0 Sampling Point: SISL

Sampled By:

10/04/2017 21:00 Receive Date: 10/04/2017 07:50 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-37(a)

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728588-09 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location:

HA-37(a)-3.0 Sampling Point: SISL Sampled By:

Receive Date:

10/04/2017 21:00

10/04/2017 08:00 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-37(a)

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1728588-10 COC Number: --

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-37(a)-5.0

Sampled By: SISL

Receive Date: 10/04/2017 21:00 **Sampling Date:** 10/04/2017 08:10

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-37(a)

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728588-11 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-44-10.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/04/2017 11:15

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-44

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728588-12 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-44-15.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/04/2017 11:25

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-44

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1728588-13 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-26-10.0 Sampled By: SISL **Sampling Date:** 10/04/2017 11:40 **Sample Depth:** ---

10/04/2017 21:00

Lab Matrix: Solids
Sample Type: Soil

Delivery Work Order:

Receive Date:

Global ID:

Location ID (FieldPoint): HA-26

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728588-14 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-26-13.0 Sampled By: SISL Receive Date: 10/04/2017 21:00 Sampling Date: 10/04/2017 11:47

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-26

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728588-15 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-26-15.0 Sampled By: SISL **Receive Date:** 10/04/2017 21:00 **Sampling Date:** 10/04/2017 11:50

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-26

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1728588-16 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-26-20.0 Sampled By: SISL

10/04/2017 21:00 Receive Date: Sampling Date: 10/04/2017 12:00

Sample Depth: Lab Matrix: Solids Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-26

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728588-17 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

HA-49-1.0 Sampling Point: SISL Sampled By:

10/04/2017 21:00 Receive Date: 10/04/2017 14:00 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-49

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728588-18 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location:

HA-49-3.0 Sampling Point: SISL Sampled By:

Receive Date: 10/04/2017 21:00

10/04/2017 14:05 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-49

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000726020

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Stantec - SLO Reported: 04/02/2018 11:34 3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Client Sample Information Laboratory

1728588-19 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-49-5.0 Sampled By: SISL

10/04/2017 21:00 Receive Date: Sampling Date: 10/04/2017 14:20

Sample Depth: Lab Matrix: Solids Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-49

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Page 17 of 94 Report ID: 1000726020



Misc Report For 1728588 PDF File Name: wo 1728588 misc EDT EMSLA.pdf Page 1 of 1



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order: 091800316 Customer ID: BCLA50 Customer PO: 1728588 Project ID:

Attention: Molly Meyers BC Laboratories, Inc. 4100 Atlas Court

Fax: (661) 327-1918 Received Date: 01/04/2018 12:30 PM

Phone: (661) 327-4911

Analysis Date: 01/09/2018 Bakersfield, CA 93308 Collected Date:

Project: 1728588

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-As	bestos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1728588-01		Brown Non-Fibrous		100% Non-fibrous (Other)	None Detected
91800316-0001		Homogeneous			
Soil is a problem matr	ix. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1728588-02		Brown Non-Fibrous		100% Non-fibrous (Other)	None Detected
291800316-0002		Homogeneous			
Soil is a problem matr	ix. Other analytical options are re	commended such as EPA 6	00 PLM/TEM with milling prep		
1728588-13		Brown Non-Fibrous		100% Non-fibrous (Other)	None Detected
391800316-0003		Homogeneous			
	ix. Other analytical options are re		OO ELM/TEM with million prop		
	in. Outer analytical appoint are re		OUT END TEN HAIT MEETING PARTY		
172858814		Brown Non-Fibrous		100% Non-fibrous (Other)	None Detected
191800316-0004		Homogeneous			
	to Other see below and sellens are		00.01.000000000000000000000000000000000		
Sov is a problem max	ix. Other analytical options are re	commended such as EPA 6	OO PLAVIEW WAS MUNICIPAL		
1728588-15		Brown Non-Fibrous		100% Non-fibrous (Other)	None Detected
191800316-0005		Homogeneous			
Soil is a problem mate	ix. Other analytical options are re	-	00 PLM/TEM with milling prep		

Analyst(s)	
Adam C. Fints (6)	

Matthew Batongbacai or Other Approved Signatory

Due to magnification limitations inherent in PLM, asbestos libers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional festing by TEM to confirm asbestos quantities. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 01/10/2018 02:55:32

ASB_PLM_0008_0001 - 1.78 Printed: 1/9/2018 11:55 PM

Page 1 of 1

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-01	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-37(a)-10.0, 10/4/2017 8:25:00AM					
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		14	mg/kg	20	6.5	EPA-8015B/FFP	ND	J	1	
Tetracosane (Surrogat	te)	95.5	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/15/17 13:32	AS1	GC-2	1.003	B[J1688	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Total Concentrations (TTLC)

BCL Sample ID:	1728588-01	Client Sampl	e Name:	Former N	orthern Lar	ndfill, HA-37(a)-1	0.0, 10/4/2017	8:25:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	ND		1
Arsenic		1.6	mg/kg	1.0	0.40	EPA-6010B	ND		1
Barium		11	mg/kg	0.50	0.18	EPA-6010B	ND		1
Beryllium		0.11	mg/kg	0.50	0.047	EPA-6010B	ND	J	1
Cadmium		0.077	mg/kg	0.50	0.052	EPA-6010B	ND	J	1
Chromium		8.0	mg/kg	0.50	0.050	EPA-6010B	0.15		1
Total Hexavalent Chro	mium	0.55	mg/kg	1.0	0.30	EPA-7199	ND	J,S05	2
Cobalt		1.1	mg/kg	2.5	0.098	EPA-6010B	ND	J	1
Copper		1.4	mg/kg	1.0	0.050	EPA-6010B	ND		1
Lead		1.6	mg/kg	2.5	0.28	EPA-6010B	ND	J	1
Mercury		ND	mg/kg	0.16	0.019	EPA-7471A	ND	S05	3
Molybdenum		0.20	mg/kg	2.5	0.050	EPA-6010B	0.055	J	1
Nickel		4.2	mg/kg	0.50	0.15	EPA-6010B	ND		1
Selenium		ND	mg/kg	1.0	0.98	EPA-6010B	ND		1
Silver		ND	mg/kg	0.50	0.067	EPA-6010B	ND		1
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	ND		1
Vanadium		7.4	mg/kg	0.50	0.11	EPA-6010B	ND		1
Zinc		6.8	mg/kg	2.5	0.087	EPA-6010B	1.0		1

			Run				QC
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-6010B	03/02/18 18:35	03/05/18 13:06	JCC	PE-OP3	0.935	B006562
2	EPA-7199	03/05/18 10:05	03/06/18 15:27	SAV	IC-4	1	B006616
3	EPA-7471A	03/02/18 10:55	03/05/18 14:12	JP1	CETAC2	0.977	B006519

Page 20 of 94 Report ID: 1000726020

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-02	Client Sampl	e Name:	Former N	lorthern La	ndfill, HA-37(a)-15.	0, 10/4/2017	7 8:35:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	62.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/15/17 05:54	AS1	GC-2	1	B[J1688	

Page 21 of 94 Report ID: 1000726020

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

3437 Empresa Drive, Suite A Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-03	Client Sampl	e Name:	Former N	lorthern La	ndfill, HA-37(a)-20.	0, 10/4/2017	7 8:45:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	te)	75.9	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/15/17 07:26	AS1	GC-2	1.007	B[J1688	

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Stantec - SLO Reported: 04/02/2018 11:34

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-04	Client Sampl	e Name:	Former N	orthern Lar	ndfill, HA-43-9.0, 1	0/4/2017 9	9:23:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		62	mg/kg	20	6.5	EPA-8015B/FFP	ND	A57	1
Tetracosane (Surrogat	e)	49.3	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/18/17 12:58	AS1	GC-2	1.010	B[J1688	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-06	Client Sampl	e Name:	Former N	orthern La	andfill, HA-43-15.0, 10/4/2017 9:35:00AM				
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	75.6	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1	

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/15/17 06:17	AS1	GC-2	1.017	B[J1688	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-07	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-43-20.0, 10/4/2017 9:45:00AM					
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogate	e)	73.4	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/15/17 07:50	AS1	GC-2	0.984	B[J1688	

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San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-08	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-37(a)-1.0, 10/4/2017 7:50:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#			
TPH - Gasoline		ND	mg/kg	710	180	EPA-8015B/FFP	ND	A01	1			
TPH - Diesel (FFP)		ND	mg/kg	350	42	EPA-8015B/FFP	ND	A01	1			
TPH - Motor Oil		5600	mg/kg	710	230	EPA-8015B/FFP	ND	A01	1			
Tetracosane (Surrogat	re)	50.9	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP		A01	1			

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/18/17 13:43	AS1	GC-2	35.294	B[J1688	

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Stantec - SLO Reported: 04/02/2018 11:34 Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-09	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-37(a)-3.0, 10/4/2017 8:00:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#			
TPH - Gasoline		ND	mg/kg	40	10	EPA-8015B/FFP	ND	A01	1			
TPH - Diesel (FFP)		ND	mg/kg	20	2.4	EPA-8015B/FFP	ND	A01	1			
TPH - Motor Oil		320	mg/kg	40	13	EPA-8015B/FFP	ND	A01	1			
Tetracosane (Surrogat	re)	70.5	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP		A01	1			

			Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/18/17 13:21	AS1	GC-2	2.027	B[J1688	

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3437 Empresa Drive, Suite A Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

BCL Sample ID:	1728588-10	Client Sampl	• Name: Former Northern Landfill, HA-37(a)-5.0, 10/4/2017 8:10:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
Aldrin		ND	mg/kg	0.050	0.0034	EPA-8080	ND	A10	1
alpha-BHC		ND	mg/kg	0.050	0.013	EPA-8080	ND	A10	1
beta-BHC		ND	mg/kg	0.050	0.015	EPA-8080	ND	A10	1
delta-BHC		ND	mg/kg	0.050	0.0047	EPA-8080	ND	A10	1
gamma-BHC (Lindane)		ND	mg/kg	0.050	0.0082	EPA-8080	ND	A10	1
Chlordane (Technical)		ND	mg/kg	5.0	0.17	EPA-8080	ND	A10	1
4,4'-DDD		ND	mg/kg	0.050	0.021	EPA-8080	ND	A10	1
4,4'-DDE		ND	mg/kg	0.050	0.0020	EPA-8080	ND	A10	1
4,4'-DDT		ND	mg/kg	0.050	0.0093	EPA-8080	ND	A10	1
Dieldrin		ND	mg/kg	0.050	0.0079	EPA-8080	ND	A10	1
Endosulfan I		ND	mg/kg	0.050	0.0022	EPA-8080	ND	A10	1
Endosulfan II		ND	mg/kg	0.050	0.014	EPA-8080	ND	A10	1
Endosulfan sulfate		ND	mg/kg	0.050	0.034	EPA-8080	ND	A10	1
Endrin		ND	mg/kg	0.050	0.0091	EPA-8080	ND	A10	1
Endrin aldehyde		ND	mg/kg	0.050	0.023	EPA-8080	ND	A10	1
Heptachlor		ND	mg/kg	0.050	0.0036	EPA-8080	ND	A10	1
Heptachlor epoxide		ND	mg/kg	0.050	0.0017	EPA-8080	ND	A10	1
Methoxychlor		ND	mg/kg	0.050	0.021	EPA-8080	ND	A10	1
Toxaphene		ND	mg/kg	5.0	0.94	EPA-8080	ND	A10	1
PCB-1016		ND	mg/kg	1.0	0.39	EPA-8080	ND	A10	1
PCB-1221		ND	mg/kg	1.0	0.72	EPA-8080	ND	A10	1
PCB-1232		ND	mg/kg	1.0	0.74	EPA-8080	ND	A10	1
PCB-1242		ND	mg/kg	1.0	0.42	EPA-8080	ND	A10	1
PCB-1248		ND	mg/kg	1.0	0.70	EPA-8080	ND	A10	1
PCB-1254		ND	mg/kg	1.0	0.32	EPA-8080	ND	A10	1
PCB-1260		ND	mg/kg	1.0	0.29	EPA-8080	ND	A10	1
Total PCB's (Summation)		ND	mg/kg	1.0	0.50	EPA-8080	ND	A10	1
TCMX (Surrogate)		67.7	%	20 - 130 (LC	CL - UCL)	EPA-8080		A10	1
Decachlorobiphenyl (Surr	rogate)	63.5	%	40 - 130 (LC	CL - UCL)	EPA-8080		A10	1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8080	10/11/17 20:30	10/12/17 20:45	HKS	GC-17	100	B[J1354	

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Stantec - SLO 3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 04/02/2018 11:34
Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

BCL Sample ID:	1728588-10	Client Sampl	e Name:	Former N	orthern Lar	ndfill, HA-37(a)-5	.0, 10/4/2017	8:10:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Azinphos methyl		ND	mg/kg	0.25	0.18	EPA-8141A	ND		1
Bolstar		ND	mg/kg	0.25	0.055	EPA-8141A	ND		1
Chlorpyrifos		ND	mg/kg	0.25	0.035	EPA-8141A	ND		1
Coumaphos		ND	mg/kg	0.25	0.20	EPA-8141A	ND		1
Demeton O/S		ND	mg/kg	0.25	0.085	EPA-8141A	ND		1
Diazinon		ND	mg/kg	0.25	0.060	EPA-8141A	ND		1
Dichlorvos		ND	mg/kg	0.25	0.023	EPA-8141A	ND		1
Disulfoton		ND	mg/kg	0.25	0.048	EPA-8141A	ND		1
Ethoprop		ND	mg/kg	0.25	0.030	EPA-8141A	ND		1
Fensulfothion		ND	mg/kg	0.25	0.14	EPA-8141A	ND		1
Fenthion		ND	mg/kg	0.25	0.052	EPA-8141A	ND		1
Merphos		ND	mg/kg	0.25	0.048	EPA-8141A	ND		1
Methyl parathion		ND	mg/kg	0.25	0.062	EPA-8141A	ND		1
Mevinphos		ND	mg/kg	0.25	0.060	EPA-8141A	ND		1
Naled		ND	mg/kg	0.25	0.11	EPA-8141A	ND		1
Phorate		ND	mg/kg	0.25	0.065	EPA-8141A	ND		1
Ronnel (Fenchlorphos)		ND	mg/kg	0.25	0.035	EPA-8141A	ND		1
Stirophos (Tetrachlorvinp	hos)	ND	mg/kg	0.25	0.050	EPA-8141A	ND		1
Tokuthion (Prothiofos)		ND	mg/kg	0.25	0.042	EPA-8141A	ND		1
Trichloronate		ND	mg/kg	0.25	0.032	EPA-8141A	ND		1
Triphenylphosphate (Surr	ogate)	101	%	40 - 120 (LC	L - UCL)	EPA-8141A			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8141A	10/13/17 18:20	10/16/17 23:04	RSM	GC-18	25	B[J1652	

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Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Suite A San Luis Obispo, CA 93401

Stantec - SLO

3437 Empresa Drive, Suite A

Chlorinated Herbicides (EPA Method 8151A)

BCL Sample ID:	1728588-10	Client Sampl	e Name:	Former No	Former Northern Landfill, HA-37(a)-5.0, 10/4/2017 8:10:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
2,4-D		ND	mg/kg	2.0	0.58	EPA-8151A	ND	A01	1		
2,4-DB		ND	mg/kg	4.0	1.7	EPA-8151A	ND	A01	1		
Dalapon		ND	mg/kg	5.0	3.4	EPA-8151A	ND	A01	1		
Dicamba		ND	mg/kg	0.20	0.16	EPA-8151A	ND	A01	1		
Dichloroprop		ND	mg/kg	2.0	0.55	EPA-8151A	ND	A01	1		
Dinoseb		ND	mg/kg	0.70	0.24	EPA-8151A	ND	A01	1		
2,4,5-T		ND	mg/kg	0.30	0.13	EPA-8151A	ND	A01	1		
2,4,5-TP (Silvex)		ND	mg/kg	0.30	0.12	EPA-8151A	ND	A01	1		
2,4-Dichlorophenylace (Surrogate)	etic acid	35.0	%	40 - 120 (LC	L - UCL)	EPA-8151A		A01,S09	1		

				QC				
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8151A	10/13/17 11:40	10/17/17 13:34	MSB	GC-8	100	B[J1645	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1728588-10	Client Sampl	e Name:	Former N	orthern Lan	dfill, HA-37(a)-5	.0, 10/4/2017	17 8:10:00AM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
Benzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
Bromobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
Bromochloromethane		ND	mg/kg	0.0050	0.00092	EPA-8260B	ND		1	
Bromodichloromethane		ND	mg/kg	0.0050	0.00084	EPA-8260B	ND		1	
Bromoform		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1	
Bromomethane		ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1	
n-Butylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1	
sec-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1	
ert-Butylbenzene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1	
Carbon tetrachloride		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1	
Chlorobenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
Chloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
Chloroform		ND	mg/kg	0.0050	0.00063	EPA-8260B	ND		1	
Chloromethane		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
2-Chlorotoluene		ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1	
1-Chlorotoluene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
Dibromochloromethane		ND	mg/kg	0.0050	0.00099	EPA-8260B	ND		1	
1,2-Dibromo-3-chloropropa	ine	ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1	
1,2-Dibromoethane		ND	mg/kg	0.0050	0.0010	EPA-8260B	ND		1	
Dibromomethane		ND	mg/kg	0.0050	0.0018	EPA-8260B	ND		1	
1,2-Dichlorobenzene		ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1	
1,3-Dichlorobenzene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
1,4-Dichlorobenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1	
Dichlorodifluoromethane		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
,1-Dichloroethane		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
1,2-Dichloroethane		ND	mg/kg	0.0050	0.00085	EPA-8260B	ND		1	
,1-Dichloroethene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1	
cis-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
rans-1,2-Dichloroethene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
,2-Dichloropropane		ND	mg/kg	0.0050	0.00081	EPA-8260B	ND		1	
1,3-Dichloropropane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1	
2,2-Dichloropropane		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
1,1-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1	

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Stantec - SLO

3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 **Reported:** 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1	728588-10	Client Sampl	e Name:	Former No	Former Northern Landfill, HA-37(a)-5.0, 10/4/2017 8:10:00AM					
• "				PQL	MDL		MB	Lab		
Constituent cis-1,3-Dichloropropene		Result ND	Units mg/kg	0.0050	0.0011	Method EPA-8260B	Bias ND	Quals	Run # 1	
trans-1,3-Dichloropropene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		<u>'</u> 1	
Ethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		<u>'</u> 1	
Hexachlorobutadiene		ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		<u>'</u> 1	
Isopropylbenzene		ND	mg/kg	0.0050	0.0017	EPA-8260B	ND		1 1	
p-Isopropyltoluene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1 1	
Methylene chloride		ND	mg/kg	0.010	0.0013	EPA-8260B	ND			
		0.00054		0.0050		EPA-8260B			1	
Methyl t-butyl ether			mg/kg		0.00050		ND	J	1	
Naphthalene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
n-Propylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
Styrene		ND	mg/kg	0.0050	0.0014	EPA-8260B	ND		1	
1,1,1,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1	
1,1,2,2-Tetrachloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1	
Tetrachloroethene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
Toluene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1	
1,2,3-Trichlorobenzene		ND	mg/kg	0.0050	0.0021	EPA-8260B	ND		1	
1,2,4-Trichlorobenzene		ND	mg/kg	0.0050	0.0020	EPA-8260B	ND		1	
1,1,1-Trichloroethane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1	
1,1,2-Trichloroethane		ND	mg/kg	0.0050	0.00077	EPA-8260B	ND		1	
Trichloroethene		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1	
Trichlorofluoromethane		ND	mg/kg	0.0050	0.0011	EPA-8260B	ND		1	
1,2,3-Trichloropropane		ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1	
1,1,2-Trichloro-1,2,2-trifluoro	oethane	ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
1,2,4-Trimethylbenzene		ND	mg/kg	0.0050	0.0013	EPA-8260B	ND		1	
1,3,5-Trimethylbenzene		ND	mg/kg	0.0050	0.0015	EPA-8260B	ND		1	
Vinyl chloride		ND	mg/kg	0.0050	0.0016	EPA-8260B	ND		1	
Total Xylenes		ND	mg/kg	0.010	0.0034	EPA-8260B	ND		1	
p- & m-Xylenes		ND	mg/kg	0.0050	0.0022	EPA-8260B	ND		1	
o-Xylene		ND	mg/kg	0.0050	0.0012	EPA-8260B	ND		1	
1,2-Dichloroethane-d4 (Sur	rogate)	83.3	%	70 - 121 (LCL	- UCL)	EPA-8260B			1	
Toluene-d8 (Surrogate)		97.4	%	81 - 117 (LCL	- UCL)	EPA-8260B			1	
4-Bromofluorobenzene (Sur	rogate)	88.2	%	74 - 121 (LCL	- UCL)	EPA-8260B			1	

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Stantec - SLO

Reported: 04/02/2018 11:34

3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Suite A Project Number: [none]
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID	1728588-10	Client San	nple Name:	Former Northern Landfill, HA-37(a)-5.0, 10/4/2017 8:10:00AM						
Run#	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID			
1	EPA-8260B	10/11/17 06:29	10/13/17 08:05	5 ADC	MS-V2	1	B[J1120			

Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 33 of 94

3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 **Reported:** 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1728588-10	Client Sampl	e Name:	Former No	orthern Lar	ndfill, HA-37(a)-5.0	8:10:00AM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
Acenaphthene		ND	mg/kg	0.64	0.26	EPA-8270C-SIM	ND	A01	1
Acenaphthylene		ND	mg/kg	0.64	0.24	EPA-8270C-SIM	ND	A01	1
Anthracene		5.8	mg/kg	0.64	0.26	EPA-8270C-SIM	ND	A01	1
Benzo[a]anthracene		14	mg/kg	0.64	0.24	EPA-8270C-SIM	ND	A01	1
Benzo[b]fluoranthene		9.9	mg/kg	0.64	0.20	EPA-8270C-SIM	ND	A01	1
Benzo[k]fluoranthene		1.3	mg/kg	0.64	0.24	EPA-8270C-SIM	ND	A01	1
Benzo[a]pyrene		8.9	mg/kg	1.6	0.51	EPA-8270C-SIM	ND	A01	2
Benzo[g,h,i]perylene		9.9	mg/kg	0.64	0.24	EPA-8270C-SIM	ND	A01	1
Chrysene		13	mg/kg	1.6	0.52	EPA-8270C-SIM	ND	A01	2
Dibenzo[a,h]anthracene	9	6.5	mg/kg	0.64	0.21	EPA-8270C-SIM	ND	A01	1
Fluoranthene		1.6	mg/kg	0.64	0.30	EPA-8270C-SIM	ND	A01	1
Fluorene		1.8	mg/kg	0.64	0.24	EPA-8270C-SIM	ND	A01	1
Indeno[1,2,3-cd]pyrene		3.3	mg/kg	0.64	0.20	EPA-8270C-SIM	ND	A01	1
Naphthalene		3.6	mg/kg	0.64	0.24	EPA-8270C-SIM	ND	A01	1
Phenanthrene		7.4	mg/kg	0.64	0.26	EPA-8270C-SIM	ND	A01	1
Pyrene		9.7	mg/kg	0.64	0.32	EPA-8270C-SIM	ND	A01	1
Nitrobenzene-d5 (Surrog	gate)	50.0	%	30 - 110 (LC	L - UCL)	EPA-8270C-SIM		A01	1
2-Fluorobiphenyl (Surrog	gate)	50.0	%	40 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01	1
p-Terphenyl-d14 (Surrog	ate)	50.0	%	30 - 120 (LC	L - UCL)	EPA-8270C-SIM		A01	1

			Run		QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8270C-SIM	10/11/17 21:00	10/13/17 23:05	MSB	MS-B7	214.29	B[J1535		
2	EPA-8270C-SIM	10/11/17 21:00	10/14/17 09:59	MSB	MS-B7	535.71	B[J1535		

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Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-10	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-37(a)-5.0, 10/4/2017 8:10:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #			
TPH - Gasoline		ND	mg/kg	330	83	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	170	20	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		3900	mg/kg	330	110	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogat	e)	28.2	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1			

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/18/17 14:06	AS1	GC-2	16.667	B[J1688	

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3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401

Stantec - SLO

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Chemical Analysis

BCL Sample ID:	1728588-10	Client Samp	le Name:	Former N	8:10:00AM				
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
Total Cyanide		0.20	mg/kg	0.50	0.15	EPA-9012	ND	J	1
pH		6.81	pH Units	0.05	0.05	EPA-9045D	ND	pH1:1	2
pH Measurement Tem	perature	25.0	С	0.1	0.1	EPA-9045D	ND		2

			Run		QC				
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-9012	10/13/17 09:58	10/17/17 11:48	RCC	KONE-1	0.943	B[J1417		
2	EPA-9045D	10/16/17 15:45	10/16/17 15:45	DIW	PH10	1	B[J1677		

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Total Concentrations (TTLC)

BCL Sample ID:	1728588-10	Client Sampl	e Name:	Former N	orthern Lar	ndfill, HA-37(a)-5	5.0, 10/4/2017	8:10:00AM		
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
Antimony		ND	mg/kg	5.0	0.33	EPA-6010B	ND ND	Quuis	1	
Arsenic		2.0	mg/kg	1.0	0.40	EPA-6010B	ND		1	
Barium		7.5	mg/kg	0.50	0.18	EPA-6010B	ND		1	
Beryllium		0.22	mg/kg	0.50	0.047	EPA-6010B	ND	J	1	
Cadmium		1.3	mg/kg	0.50	0.052	EPA-6010B	ND		1	
Chromium		19	mg/kg	0.50	0.050	EPA-6010B	0.078		1	
Total Hexavalent Chro	mium	1.5	mg/kg	2.5	0.75	EPA-7199	ND	J,A07	2	
Cobalt		3.4	mg/kg	2.5	0.098	EPA-6010B	ND		1	
Copper		7.9	mg/kg	1.0	0.050	EPA-6010B	ND		1	
Lead		3.8	mg/kg	2.5	0.28	EPA-6010B	ND		1	
Mercury		0.050	mg/kg	0.16	0.019	EPA-7471A	ND	J	3	
Molybdenum		23	mg/kg	2.5	0.050	EPA-6010B	0.28		1	
Nickel		110	mg/kg	0.50	0.15	EPA-6010B	ND		1	
Selenium		1.1	mg/kg	1.0	0.98	EPA-6010B	ND		1	
Silver		ND	mg/kg	0.50	0.067	EPA-6010B	ND		1	
Thallium		ND	mg/kg	5.0	0.64	EPA-6010B	ND		1	
Vanadium		170	mg/kg	0.50	0.11	EPA-6010B	ND		1	
Zinc		31	mg/kg	2.5	0.087	EPA-6010B	0.29		1	

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-6010B	10/20/17 10:25	10/21/17 20:15	JRG	PE-OP2	0.935	B[J1863	
2	EPA-7199	10/11/17 13:00	10/12/17 20:00	SAV	IC-4	2.500	B[J1201	
3	EPA-7471A	10/13/17 12:55	10/16/17 08:50	MEV	CETAC2	1.008	B[J1454	

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3437 Empresa Drive, Suite A

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-11	Client Sampl	e Name:	Former No	Former Northern Landfill, HA-44-10.0, 10/4/2017 11:15:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	83.0	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

			Run			QC				
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/13/17 08:50	10/15/17 08:13	AS1	GC-2	1	B[J1688			

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Stantec - SLO Reported: 04/02/2018 11:34

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-12	Client Sampl	e Name:	Former Northern Landfill, HA-44-15.0, 10/4/2017 11:25:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	70.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

	Run							
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/15/17 08:36	AS1	GC-2	1.014	B[J1688	

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Stantec - SLO Reported: 04/02/2018 11:34

Project: Former Northern Landfill

3437 Empresa Drive, Suite A Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-13	Client Sampl	e Name:	Former N	orthern Laı	ndfill, HA-26-10.0,	10/4/2017 1	1:40:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	78.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run			QC		
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/15/17 08:59	AS1	GC-2	1	B[J1688	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-14	Client Sampl	e Name:	Former N	lorthern La	ndfill, HA-26-13.0,	10/4/2017 1	1:47:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	63.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

		Run				QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/13/17 08:50	10/15/17 11:39	AS1	GC-2	0.993	B[J1688		

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-15	Client Sampl	e Name:	Former Northern Landfill, HA-26-15.0, 10/4/2017 11:50:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	e)	72.2	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

	Run						QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/15/17 12:01	AS1	GC-2	1.007	B[J1688	

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Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-16	Client Sampl	e Name:	Former No	orthern Lai	2:00:00PM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	78.8	%	20 - 145 (LCI	L - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/15/17 12:24	AS1	GC-2	1	B[J1688	

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Reported: 04/02/2018 11:34

Project: Former Northern Landfill

3437 Empresa Drive, Suite A Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-17	Client Sampl	e Name:	Former N	orthern Laı	ndfill, HA-49-1.0, 1	0/4/2017 2	:00:00PM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		27	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	72.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/18/17 12:36	AS1	GC-2	1	B[J1688	

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Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

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Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-18	Client Sampl	e Name:	ne: Former Northern Landfill, HA-49-3.0, 10/4/2017 2:05:00PM								
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogat	re)	82.4	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1			

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/15/17 12:47	AS1	GC-2	1.003	B[J1688	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728588-19	Client Sampl	e Name:	Former Northern Landfill, HA-49-5.0, 10/4/2017 2:20:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #		
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1		
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1		
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1		
Tetracosane (Surrogat	e)	70.8	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1		

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/13/17 08:50	10/15/17 13:10	AS1	GC-2	0.997	B[J1688	

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MU

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1354						
Aldrin	B[J1354-BLK1	ND	mg/kg	0.00050	0.000034	
alpha-BHC	B[J1354-BLK1	ND	mg/kg	0.00050	0.00013	
beta-BHC	B[J1354-BLK1	ND	mg/kg	0.00050	0.00015	
delta-BHC	B[J1354-BLK1	ND	mg/kg	0.00050	0.000047	
gamma-BHC (Lindane)	B[J1354-BLK1	ND	mg/kg	0.00050	0.000082	
Chlordane (Technical)	B[J1354-BLK1	ND	mg/kg	0.050	0.0017	
4,4'-DDD	B[J1354-BLK1	ND	mg/kg	0.00050	0.00021	
4,4'-DDE	B[J1354-BLK1	ND	mg/kg	0.00050	0.000020	
4,4'-DDT	B[J1354-BLK1	ND	mg/kg	0.00050	0.000093	
Dieldrin	B[J1354-BLK1	ND	mg/kg	0.00050	0.000079	
Endosulfan I	B[J1354-BLK1	ND	mg/kg	0.00050	0.000022	
Endosulfan II	B[J1354-BLK1	ND	mg/kg	0.00050	0.00014	
Endosulfan sulfate	B[J1354-BLK1	ND	mg/kg	0.00050	0.00034	
Endrin	B[J1354-BLK1	ND	mg/kg	0.00050	0.000091	
Endrin aldehyde	B[J1354-BLK1	ND	mg/kg	0.00050	0.00023	
Heptachlor	B[J1354-BLK1	ND	mg/kg	0.00050	0.000036	
Heptachlor epoxide	B[J1354-BLK1	ND	mg/kg	0.00050	0.000017	
Methoxychlor	B[J1354-BLK1	ND	mg/kg	0.00050	0.00021	
Toxaphene	B[J1354-BLK1	ND	mg/kg	0.050	0.0094	
PCB-1016	B[J1354-BLK1	ND	mg/kg	0.010	0.0039	
PCB-1221	B[J1354-BLK1	ND	mg/kg	0.010	0.0072	
PCB-1232	B[J1354-BLK1	ND	mg/kg	0.010	0.0074	
PCB-1242	B[J1354-BLK1	ND	mg/kg	0.010	0.0042	
PCB-1248	B[J1354-BLK1	ND	mg/kg	0.010	0.0070	
PCB-1254	B[J1354-BLK1	ND	mg/kg	0.010	0.0032	
PCB-1260	B[J1354-BLK1	ND	mg/kg	0.010	0.0029	
Total PCB's (Summation)	B[J1354-BLK1	ND	mg/kg	0.010	0.0050	
TCMX (Surrogate)	B[J1354-BLK1	77.2	%	20 - 13	0 (LCL - UCL)	
Decachlorobiphenyl (Surrogate)	B[J1354-BLK1	88.1	%	40 - 13	0 (LCL - UCL)	

Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 47 of 94

Reported: 04/02/2018 11:34 Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Laboratory Control Sample

							Control Limits		
QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
B[J1354-BS1	LCS	0.0038475	0.0049180	mg/kg	78.2		70 - 130		
B[J1354-BS1	LCS	0.0045141	0.0049180	mg/kg	91.8		60 - 140		
B[J1354-BS1	LCS	0.0049633	0.0049180	mg/kg	101		60 - 140		
B[J1354-BS1	LCS	0.0040702	0.0049180	mg/kg	82.8		70 - 130		
B[J1354-BS1	LCS	0.0041059	0.0049180	mg/kg	83.5		60 - 140		
B[J1354-BS1	LCS	0.0044223	0.0049180	mg/kg	89.9		60 - 140		
B[J1354-BS1	LCS	0.0073305	0.0098361	mg/kg	74.5		20 - 130		
B[J1354-BS1	LCS	0.015064	0.019672	mg/kg	76.6		40 - 130		
	B[J1354-BS1 B[J1354-BS1 B[J1354-BS1 B[J1354-BS1 B[J1354-BS1 B[J1354-BS1 B[J1354-BS1	B[J1354-BS1 LCS	B[J1354-BS1 LCS 0.0038475 B[J1354-BS1 LCS 0.0045141 B[J1354-BS1 LCS 0.0049633 B[J1354-BS1 LCS 0.0040702 B[J1354-BS1 LCS 0.0041059 B[J1354-BS1 LCS 0.0044223 B[J1354-BS1 LCS 0.0073305	QC Sample ID Type Result Level B[J1354-BS1 LCS 0.0038475 0.0049180 B[J1354-BS1 LCS 0.0045141 0.0049180 B[J1354-BS1 LCS 0.0049633 0.0049180 B[J1354-BS1 LCS 0.0040702 0.0049180 B[J1354-BS1 LCS 0.0041059 0.0049180 B[J1354-BS1 LCS 0.0044223 0.0049180 B[J1354-BS1 LCS 0.0073305 0.0098361	QC Sample ID Type Result Level Units B[J1354-BS1 LCS 0.0038475 0.0049180 mg/kg B[J1354-BS1 LCS 0.0045141 0.0049180 mg/kg B[J1354-BS1 LCS 0.0049633 0.0049180 mg/kg B[J1354-BS1 LCS 0.0040702 0.0049180 mg/kg B[J1354-BS1 LCS 0.0041059 0.0049180 mg/kg B[J1354-BS1 LCS 0.0044223 0.0049180 mg/kg B[J1354-BS1 LCS 0.0073305 0.0098361 mg/kg	QC Sample ID Type Result Level Units Recovery B[J1354-BS1 LCS 0.0038475 0.0049180 mg/kg 78.2 B[J1354-BS1 LCS 0.0045141 0.0049180 mg/kg 91.8 B[J1354-BS1 LCS 0.0049633 0.0049180 mg/kg 101 B[J1354-BS1 LCS 0.0040702 0.0049180 mg/kg 82.8 B[J1354-BS1 LCS 0.0041059 0.0049180 mg/kg 83.5 B[J1354-BS1 LCS 0.0044223 0.0049180 mg/kg 89.9 B[J1354-BS1 LCS 0.0073305 0.0098361 mg/kg 74.5	QC Sample ID Type Result Level Units Recovery RPD B[J1354-BS1 LCS 0.0038475 0.0049180 mg/kg 78.2 B[J1354-BS1 LCS 0.0045141 0.0049180 mg/kg 91.8 B[J1354-BS1 LCS 0.0049633 0.0049180 mg/kg 101 B[J1354-BS1 LCS 0.0040702 0.0049180 mg/kg 82.8 B[J1354-BS1 LCS 0.0041059 0.0049180 mg/kg 83.5 B[J1354-BS1 LCS 0.0044223 0.0049180 mg/kg 89.9 B[J1354-BS1 LCS 0.0073305 0.0098361 mg/kg 74.5	QC Sample ID Type Result Spike Level Units Percent Recovery RPD Percent Recovery B[J1354-BS1 LCS 0.0038475 0.0049180 mg/kg 78.2 70 - 130 B[J1354-BS1 LCS 0.0045141 0.0049180 mg/kg 91.8 60 - 140 B[J1354-BS1 LCS 0.0049633 0.0049180 mg/kg 101 60 - 140 B[J1354-BS1 LCS 0.0040702 0.0049180 mg/kg 82.8 70 - 130 B[J1354-BS1 LCS 0.0041059 0.0049180 mg/kg 83.5 60 - 140 B[J1354-BS1 LCS 0.0044223 0.0049180 mg/kg 89.9 60 - 140 B[J1354-BS1 LCS 0.0073305 0.0098361 mg/kg 74.5 20 - 130	QC Sample ID Type Result Level Units Recovery RPD Recovery RPD B[J1354-BS1 LCS 0.0038475 0.0049180 mg/kg 78.2 70 - 130 B[J1354-BS1 LCS 0.0045141 0.0049180 mg/kg 91.8 60 - 140 B[J1354-BS1 LCS 0.0049633 0.0049180 mg/kg 101 60 - 140 B[J1354-BS1 LCS 0.0040702 0.0049180 mg/kg 82.8 70 - 130 B[J1354-BS1 LCS 0.0041059 0.0049180 mg/kg 83.5 60 - 140 B[J1354-BS1 LCS 0.0044223 0.0049180 mg/kg 89.9 60 - 140 B[J1354-BS1 LCS 0.0073305 0.0098361 mg/kg 74.5 20 - 130

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Organochlorine Pesticides and PCB's (EPA Method 8080)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1354	Use	d client samp	ole: N								
Aldrin	MS	1724840-12	ND	0.0037960	0.0049834	mg/kg		76.2		50 - 140	
	MSD	1724840-12	ND	0.0038729	0.0050847	mg/kg	2.0	76.2	30	50 - 140	
gamma-BHC (Lindane)	MS	1724840-12	ND	0.0044987	0.0049834	mg/kg		90.3		50 - 140	
	MSD	1724840-12	ND	0.0044827	0.0050847	mg/kg	0.4	88.2	30	50 - 140	
4,4'-DDT	MS	1724840-12	ND	0.0049425	0.0049834	mg/kg		99.2		50 - 140	
	MSD	1724840-12	ND	0.0048339	0.0050847	mg/kg	2.2	95.1	30	50 - 140	
Dieldrin	MS	1724840-12	ND	0.0040259	0.0049834	mg/kg		80.8		40 - 140	
	MSD	1724840-12	ND	0.0040336	0.0050847	mg/kg	0.2	79.3	30	40 - 140	
Endrin	MS	1724840-12	ND	0.0040664	0.0049834	mg/kg		81.6		50 - 150	
	MSD	1724840-12	ND	0.0039898	0.0050847	mg/kg	1.9	78.5	30	50 - 150	
Heptachlor	MS	1724840-12	ND	0.0044482	0.0049834	mg/kg		89.3		60 - 140	
	MSD	1724840-12	ND	0.0043773	0.0050847	mg/kg	1.6	86.1	30	60 - 140	
TCMX (Surrogate)	MS	1724840-12	ND	0.0071365	0.0099668	mg/kg		71.6		20 - 130	
	MSD	1724840-12	ND	0.0073780	0.010169	mg/kg	3.3	72.6		20 - 130	
Decachlorobiphenyl (Surrogate)	MS	1724840-12	ND	0.015988	0.019934	mg/kg		80.2		40 - 130	
	MSD	1724840-12	ND	0.014750	0.020339	mg/kg	8.1	72.5		40 - 130	

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Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1652						
Azinphos methyl	B[J1652-BLK1	ND	mg/kg	0.010	0.0073	
Bolstar	B[J1652-BLK1	ND	mg/kg	0.010	0.0022	
Chlorpyrifos	B[J1652-BLK1	ND	mg/kg	0.010	0.0014	
Coumaphos	B[J1652-BLK1	ND	mg/kg	0.010	0.0081	
Demeton O/S	B[J1652-BLK1	ND	mg/kg	0.010	0.0034	
	B[J1652-BLK1	ND	mg/kg	0.010	0.0024	
Dichlorvos	B[J1652-BLK1	ND	mg/kg	0.010	0.00091	
Disulfoton	B[J1652-BLK1	ND	mg/kg	0.010	0.0019	
Ethoprop	B[J1652-BLK1	ND	mg/kg	0.010	0.0012	
Fensulfothion	B[J1652-BLK1	ND	mg/kg	0.010	0.0056	
Fenthion	B[J1652-BLK1	ND	mg/kg	0.010	0.0021	
Merphos	B[J1652-BLK1	ND	mg/kg	0.010	0.0019	
Methyl parathion	B[J1652-BLK1	ND	mg/kg	0.010	0.0025	
Mevinphos	B[J1652-BLK1	ND	mg/kg	0.010	0.0024	
Naled	B[J1652-BLK1	ND	mg/kg	0.010	0.0043	
Phorate	B[J1652-BLK1	ND	mg/kg	0.010	0.0026	
Ronnel (Fenchlorphos)	B[J1652-BLK1	ND	mg/kg	0.010	0.0014	
Stirophos (Tetrachlorvinphos)	B[J1652-BLK1	ND	mg/kg	0.010	0.0020	
Tokuthion (Prothiofos)	B[J1652-BLK1	ND	mg/kg	0.010	0.0017	
Trichloronate	B[J1652-BLK1	ND	mg/kg	0.010	0.0013	
Friphenylphosphate (Surrogate)	B[J1652-BLK1	96.6	%	40 - 12	0 (LCL - UCL)	

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Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

Quality Control Report - Laboratory Control Sample

			•		•		•				
								Control I	imits		
				Spike		Percent		Percent		Lab	
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals	
QC Batch ID: B[J1652											
Bolstar	B[J1652-BS1	LCS	0.065500	0.066667	mg/kg	98.2		50 - 130			
Chlorpyrifos	B[J1652-BS1	LCS	0.071833	0.066667	mg/kg	108		60 - 140			
Diazinon	B[J1652-BS1	LCS	0.069667	0.066667	mg/kg	104		40 - 120			
Methyl parathion	B[J1652-BS1	LCS	0.070333	0.066667	mg/kg	106		60 - 120			
Mevinphos	B[J1652-BS1	LCS	0.086500	0.066667	mg/kg	130		50 - 120		L07	
Ronnel (Fenchlorphos)	B[J1652-BS1	LCS	0.071000	0.066667	mg/kg	106		50 - 120			
Stirophos (Tetrachlorvinphos)	B[J1652-BS1	LCS	0.074000	0.066667	mg/kg	111		60 - 140			
Triphenylphosphate (Surrogate)	B[J1652-BS1	LCS	0.090333	0.083333	mg/kg	108		40 - 120			

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Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Organo-Phosphorus Pesticide Analysis (EPA Method 8141A)

Quality Control Report - Precision & Accuracy

									Cont	Control Limits		
		Source	Source		Spike			Percent		Percent	Lab	
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals	
QC Batch ID: B[J1652	Use	d client samp	ole: N									
Bolstar	MS	1724840-57	ND	0.071186	0.067797	mg/kg		105		40 - 140		
	MSD	1724840-57	ND	0.068605	0.066445	mg/kg	3.7	103	30	40 - 140		
Chlorpyrifos	MS	1724840-57	ND	0.073051	0.067797	mg/kg		108		40 - 130		
	MSD	1724840-57	ND	0.072093	0.066445	mg/kg	1.3	108	30	40 - 130		
Diazinon	MS	1724840-57	ND	0.078305	0.067797	mg/kg		116		40 - 120		
	MSD	1724840-57	ND	0.071761	0.066445	mg/kg	8.7	108	30	40 - 120		
Methyl parathion	MS	1724840-57	ND	0.076102	0.067797	mg/kg		112		40 - 125		
	MSD	1724840-57	ND	0.074086	0.066445	mg/kg	2.7	112	30	40 - 125		
Mevinphos	MS	1724840-57	ND	0.099492	0.067797	mg/kg		147		40 - 140	Q03	
	MSD	1724840-57	ND	0.095847	0.066445	mg/kg	3.7	144	30	40 - 140	Q03	
Ronnel (Fenchlorphos)	MS	1724840-57	ND	0.073729	0.067797	mg/kg		109		40 - 120		
	MSD	1724840-57	ND	0.075415	0.066445	mg/kg	2.3	114	30	40 - 120		
Stirophos (Tetrachlorvinphos)	MS	1724840-57	ND	0.075593	0.067797	mg/kg		112		40 - 140		
	MSD	1724840-57	ND	0.072924	0.066445	mg/kg	3.6	110	30	40 - 140		
Triphenylphosphate (Surrogate)	MS	1724840-57	ND	0.090678	0.084746	mg/kg		107		40 - 120		
	MSD	1724840-57	ND	0.088372	0.083056	mg/kg	2.6	106		40 - 120		

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1645						
2,4-D	B[J1645-BLK1	ND	mg/kg	0.020	0.0058	
2,4-DB	B[J1645-BLK1	ND	mg/kg	0.040	0.017	
Dalapon	B[J1645-BLK1	ND	mg/kg	0.050	0.034	
Dicamba	B[J1645-BLK1	ND	mg/kg	0.0020	0.0016	
Dichloroprop	B[J1645-BLK1	ND	mg/kg	0.020	0.0055	
Dinoseb	B[J1645-BLK1	ND	mg/kg	0.0070	0.0024	
2,4,5-T	B[J1645-BLK1	ND	mg/kg	0.0030	0.0013	
2,4,5-TP (Silvex)	B[J1645-BLK1	ND	mg/kg	0.0030	0.0012	
2,4-Dichlorophenylacetic acid (Surrogate)	B[J1645-BLK1	74.5	%	40 - 120 (LCL - UCL)		

Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 53 of 94

3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Laboratory Control Sample

								Control I	imits	
		_		Spike		Percent		Percent		Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: B[J1645										
2,4-D	B[J1645-BS1	LCS	0.054967	0.079470	mg/kg	69.2		50 - 120		
2,4-DB	B[J1645-BS1	LCS	0.13477	0.17881	mg/kg	75.4		50 - 120		
Dicamba	B[J1645-BS1	LCS	0.016225	0.019868	mg/kg	81.7		50 - 120		
Dichloroprop	B[J1645-BS1	LCS	0.056291	0.079470	mg/kg	70.8		50 - 120		
Dinoseb	B[J1645-BS1	LCS	0.032781	0.039735	mg/kg	82.5		50 - 120		
2,4,5-T	B[J1645-BS1	LCS	0.013907	0.019868	mg/kg	70.0		30 - 120		
2,4,5-TP (Silvex)	B[J1645-BS1	LCS	0.015232	0.019868	mg/kg	76.7		50 - 120		
2,4-Dichlorophenylacetic acid (Surroga	te) B[J1645-BS1	LCS	0.10132	0.13245	mg/kg	76.5		40 - 120		

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Report ID: 1000726020

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Chlorinated Herbicides (EPA Method 8151A)

Quality Control Report - Precision & Accuracy

	·								Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1645	Use	d client samp	ole: N								
2,4-D	MS	1724840-82	ND	0.049153	0.081356	mg/kg		60.4		40 - 120	
	MSD	1724840-82	ND	0.061873	0.080268	mg/kg	22.9	77.1	30	40 - 120	
2,4-DB	MS	1724840-82	ND	0.12441	0.18305	mg/kg		68.0		50 - 120	
	MSD	1724840-82	ND	0.15284	0.18060	mg/kg	20.5	84.6	30	50 - 120	
Dicamba	MS	1724840-82	ND	0.014915	0.020339	mg/kg		73.3		50 - 120	
	MSD	1724840-82	ND	0.016722	0.020067	mg/kg	11.4	83.3	30	50 - 120	
Dichloroprop	MS	1724840-82	ND	0.053559	0.081356	mg/kg		65.8		40 - 120	
	MSD	1724840-82	ND	0.067224	0.080268	mg/kg	22.6	83.8	30	40 - 120	
Dinoseb	MS	1724840-82	ND	0.031525	0.040678	mg/kg		77.5		40 - 130	
	MSD	1724840-82	ND	0.037458	0.040134	mg/kg	17.2	93.3	30	40 - 130	
2,4,5-T	MS	1724840-82	ND	0.012881	0.020339	mg/kg		63.3		30 - 120	
	MSD	1724840-82	ND	0.014716	0.020067	mg/kg	13.3	73.3	30	30 - 120	
2,4,5-TP (Silvex)	MS	1724840-82	ND	0.013559	0.020339	mg/kg		66.7		40 - 120	
	MSD	1724840-82	ND	0.017057	0.020067	mg/kg	22.8	85.0	30	40 - 120	
2,4-Dichlorophenylacetic acid (Surro	gate MS	1724840-82	ND	0.10305	0.13559	mg/kg		76.0		40 - 120	
. ,	MSD	1724840-82	ND	0.10535	0.13378	mg/kg	2.2	78.7		40 - 120	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported:

04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1120						
Benzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0013	
Bromobenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0013	
Bromochloromethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.00092	
Bromodichloromethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.00084	
Bromoform	B[J1120-BLK1	ND	mg/kg	0.0050	0.0015	
Bromomethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0016	
n-Butylbenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0015	
sec-Butylbenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0012	
tert-Butylbenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0012	
Carbon tetrachloride	B[J1120-BLK1	ND	mg/kg	0.0050	0.0011	
Chlorobenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0013	
Chloroethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0014	
Chloroform	B[J1120-BLK1	ND	mg/kg	0.0050	0.00063	
Chloromethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0014	
2-Chlorotoluene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0018	
4-Chlorotoluene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0014	
Dibromochloromethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.00099	
1,2-Dibromo-3-chloropropane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0017	
1,2-Dibromoethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0010	
Dibromomethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0018	
1,2-Dichlorobenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.00081	
1,3-Dichlorobenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0014	
1,4-Dichlorobenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0015	
Dichlorodifluoromethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0013	
1,1-Dichloroethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0014	
1,2-Dichloroethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.00085	
1,1-Dichloroethene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0012	
cis-1,2-Dichloroethene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0013	
trans-1,2-Dichloroethene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0014	
1,2-Dichloropropane	B[J1120-BLK1	ND	mg/kg	0.0050	0.00081	
1,3-Dichloropropane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0011	
2,2-Dichloropropane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0013	
1,1-Dichloropropene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0012	
cis-1,3-Dichloropropene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0011	

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 56 of 94 Report ID: 1000726020

Stantec - SLO Reported:

3437 Empresa Drive, Suite A Project: Former Northern Landfill Suite A Project Number: [none]
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

04/02/2018 11:34

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1120						
trans-1,3-Dichloropropene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0012	
Ethylbenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0015	
Hexachlorobutadiene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0017	
Isopropylbenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0013	
p-Isopropyltoluene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0013	
Methylene chloride	B[J1120-BLK1	ND	mg/kg	0.010	0.0024	
Methyl t-butyl ether	B[J1120-BLK1	ND	mg/kg	0.0050	0.00050	
Naphthalene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0014	
n-Propylbenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0013	
Styrene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0014	
1,1,1,2-Tetrachloroethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2,2-Tetrachloroethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0011	
Tetrachloroethene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0013	
Toluene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0012	
1,2,3-Trichlorobenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0021	
1,2,4-Trichlorobenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0020	
1,1,1-Trichloroethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0011	
1,1,2-Trichloroethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.00077	
Trichloroethene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0011	
Trichlorofluoromethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0011	
1,2,3-Trichloropropane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0016	
1,1,2-Trichloro-1,2,2-trifluoroethane	B[J1120-BLK1	ND	mg/kg	0.0050	0.0013	
1,2,4-Trimethylbenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0013	
1,3,5-Trimethylbenzene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0015	
Vinyl chloride	B[J1120-BLK1	ND	mg/kg	0.0050	0.0016	
Total Xylenes	B[J1120-BLK1	ND	mg/kg	0.010	0.0034	
p- & m-Xylenes	B[J1120-BLK1	ND	mg/kg	0.0050	0.0022	
o-Xylene	B[J1120-BLK1	ND	mg/kg	0.0050	0.0012	
1,2-Dichloroethane-d4 (Surrogate)	B[J1120-BLK1	92.7	%	70 - 12	1 (LCL - UCL)	
Toluene-d8 (Surrogate)	B[J1120-BLK1	95.4	%	81 - 11		
4-Bromofluorobenzene (Surrogate)	B[J1120-BLK1	104	%	74 - 12	1 (LCL - UCL)	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401 Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Laboratory Control Sample

								Control I	imits	
Constituent	QC Sample ID	Tuno	Result	Spike	Units	Percent Recovery	RPD	Percent	RPD	Lab Quals
Constituent	QC Sample ID	Туре	Resuit	Level	UIIIIS	Recovery	KPD	Recovery	KPD	Quais
QC Batch ID: B[J1120										
Benzene	B[J1120-BS1	LCS	0.10298	0.12500	mg/kg	82.4		70 - 130		
Bromodichloromethane	B[J1120-BS1	LCS	0.12757	0.12500	mg/kg	102		70 - 130		
Chlorobenzene	B[J1120-BS1	LCS	0.12842	0.12500	mg/kg	103		70 - 130		
Chloroethane	B[J1120-BS1	LCS	0.10285	0.12500	mg/kg	82.3		70 - 130		
1,4-Dichlorobenzene	B[J1120-BS1	LCS	0.13511	0.12500	mg/kg	108		70 - 130		
1,1-Dichloroethane	B[J1120-BS1	LCS	0.10361	0.12500	mg/kg	82.9		70 - 130		
1,1-Dichloroethene	B[J1120-BS1	LCS	0.11447	0.12500	mg/kg	91.6		70 - 130		
Toluene	B[J1120-BS1	LCS	0.12145	0.12500	mg/kg	97.2		70 - 130		
Trichloroethene	B[J1120-BS1	LCS	0.12129	0.12500	mg/kg	97.0		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	B[J1120-BS1	LCS	0.045330	0.050000	mg/kg	90.7		70 - 121		
Toluene-d8 (Surrogate)	B[J1120-BS1	LCS	0.048620	0.050000	mg/kg	97.2		81 - 117		
4-Bromofluorobenzene (Surrogate)	B[J1120-BS1	LCS	0.050870	0.050000	mg/kg	102		74 - 121		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1120	Use	d client samp	le: N								
Benzene	MS MS	1728746-03	ND	0.10481	0.12500	mg/kg		83.8		70 - 130	
	MSD	1728746-03	ND	0.093550	0.12500	mg/kg	11.4	74.8	20	70 - 130	
Bromodichloromethane	MS	1728746-03	ND	0.13505	0.12500	mg/kg		108		70 - 130	
	MSD	1728746-03	ND	0.12645	0.12500	mg/kg	6.6	101	20	70 - 130	
Chlorobenzene	MS	1728746-03	ND	0.12816	0.12500	mg/kg		103		70 - 130	
	MSD	1728746-03	ND	0.12785	0.12500	mg/kg	0.2	102	20	70 - 130	
Chloroethane	MS	1728746-03	ND	0.10287	0.12500	mg/kg		82.3		70 - 130	
	MSD	1728746-03	ND	0.095520	0.12500	mg/kg	7.4	76.4	20	70 - 130	
1,4-Dichlorobenzene	MS	1728746-03	ND	0.14221	0.12500	mg/kg		114		70 - 130	
	MSD	1728746-03	ND	0.13986	0.12500	mg/kg	1.7	112	20	70 - 130	
1,1-Dichloroethane	MS	1728746-03	ND	0.10800	0.12500	mg/kg		86.4		70 - 130	
	MSD	1728746-03	ND	0.10512	0.12500	mg/kg	2.7	84.1	20	70 - 130	
1,1-Dichloroethene	MS	1728746-03	ND	0.11730	0.12500	mg/kg		93.8		70 - 130	
	MSD	1728746-03	ND	0.10796	0.12500	mg/kg	8.3	86.4	20	70 - 130	
Toluene	MS	1728746-03	ND	0.12884	0.12500	mg/kg		103		70 - 130	
	MSD	1728746-03	ND	0.11569	0.12500	mg/kg	10.8	92.6	20	70 - 130	
Trichloroethene	MS	1728746-03	ND	0.13151	0.12500	mg/kg		105		70 - 130	
	MSD	1728746-03	ND	0.11586	0.12500	mg/kg	12.7	92.7	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1728746-03	ND	0.048790	0.050000	mg/kg		97.6		70 - 121	
	MSD	1728746-03	ND	0.045210	0.050000	mg/kg	7.6	90.4		70 - 121	
Toluene-d8 (Surrogate)	MS	1728746-03	ND	0.050870	0.050000	mg/kg		102		81 - 117	
	MSD	1728746-03	ND	0.048990	0.050000	mg/kg	3.8	98.0		81 - 117	
4-Bromofluorobenzene (Surrogate)	MS	1728746-03	ND	0.052760	0.050000	mg/kg		106		74 - 121	
	MSD	1728746-03	ND	0.055900	0.050000	mg/kg	5.8	112		74 - 121	

Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 59 of 94

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Stantec - SLO 3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1535						
Acenaphthene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0012	
Acenaphthylene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0011	
Anthracene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0012	
Benzo[a]anthracene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0011	
Benzo[b]fluoranthene	B[J1535-BLK1	ND	mg/kg	0.0030	0.00095	
Benzo[k]fluoranthene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0011	
Benzo[a]pyrene	B[J1535-BLK1	ND	mg/kg	0.0030	0.00095	
Benzo[g,h,i]perylene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0011	
Chrysene	B[J1535-BLK1	ND	mg/kg	0.0030	0.00097	
Dibenzo[a,h]anthracene	B[J1535-BLK1	ND	mg/kg	0.0030	0.00099	
Fluoranthene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0014	
Fluorene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0011	
Indeno[1,2,3-cd]pyrene	B[J1535-BLK1	ND	mg/kg	0.0030	0.00092	
Naphthalene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0011	
Phenanthrene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0012	
Pyrene	B[J1535-BLK1	ND	mg/kg	0.0030	0.0015	
Nitrobenzene-d5 (Surrogate)	B[J1535-BLK1	58.3	%	30 - 11	0 (LCL - UCL)	
2-Fluorobiphenyl (Surrogate)	B[J1535-BLK1	58.8	%	40 - 120 (LCL - UCL)		
p-Terphenyl-d14 (Surrogate)	B[J1535-BLK1	63.6	%	30 - 12	0 (LCL - UCL)	

Report ID: 1000726020 4100 Atlas Court Bakerstield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 60 of 94

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Laboratory Control Sample

					<u> </u>		1	<u></u>			
				·				Control I	imits	·	
				Spike		Percent		Percent		Lab	
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals	
QC Batch ID: B[J1535											
Acenaphthene	B[J1535-BS1	LCS	0.022953	0.033557	mg/kg	68.4		60 - 130			
Acenaphthylene	B[J1535-BS1	LCS	0.022953	0.033557	mg/kg	68.4		60 - 130			
Anthracene	B[J1535-BS1	LCS	0.025185	0.033557	mg/kg	75.0		60 - 130			
Benzo[a]anthracene	B[J1535-BS1	LCS	0.026779	0.033557	mg/kg	79.8		60 - 130			
Benzo[b]fluoranthene	B[J1535-BS1	LCS	0.029966	0.033557	mg/kg	89.3		50 - 130			
Benzo[k]fluoranthene	B[J1535-BS1	LCS	0.023909	0.033557	mg/kg	71.3		60 - 130			
Benzo[a]pyrene	B[J1535-BS1	LCS	0.022953	0.033557	mg/kg	68.4		60 - 130			
Benzo[g,h,i]perylene	B[J1535-BS1	LCS	0.024866	0.033557	mg/kg	74.1		50 - 130			
Chrysene	B[J1535-BS1	LCS	0.023909	0.033557	mg/kg	71.3		50 - 130			
Dibenzo[a,h]anthracene	B[J1535-BS1	LCS	0.026141	0.033557	mg/kg	77.9		50 - 130			
Fluoranthene	B[J1535-BS1	LCS	0.026141	0.033557	mg/kg	77.9		60 - 130			
Fluorene	B[J1535-BS1	LCS	0.026779	0.033557	mg/kg	79.8		50 - 130			
Indeno[1,2,3-cd]pyrene	B[J1535-BS1	LCS	0.025185	0.033557	mg/kg	75.0		50 - 130			
Naphthalene	B[J1535-BS1	LCS	0.022315	0.033557	mg/kg	66.5		50 - 130			
Phenanthrene	B[J1535-BS1	LCS	0.024866	0.033557	mg/kg	74.1		50 - 130			
Pyrene	B[J1535-BS1	LCS	0.024228	0.033557	mg/kg	72.2		50 - 130			
Nitrobenzene-d5 (Surrogate)	B[J1535-BS1	LCS	0.070453	0.13423	mg/kg	52.5		30 - 110			
2-Fluorobiphenyl (Surrogate)	B[J1535-BS1	LCS	0.067584	0.13423	mg/kg	50.3		40 - 120			
p-Terphenyl-d14 (Surrogate)	B[J1535-BS1	LCS	0.067265	0.13423	mg/kg	50.1		30 - 120			

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1535	Use	ed client samp	ole: N								
Acenaphthene	─ MS	1724840-19	ND	0.025654	0.033223	mg/kg		77.2		50 - 130	
	MSD	1724840-19	ND	0.021557	0.033841	mg/kg	17.4	63.7	30	50 - 130	
Acenaphthylene	MS	1724840-19	ND	0.025654	0.033223	mg/kg		77.2		50 - 130	
,	MSD	1724840-19	ND	0.021888	0.033841	mg/kg	15.8	64.7	30	50 - 130	
Anthracene	MS	1724840-19	ND	0.027299	0.033223	mg/kg		82.2		50 - 130	
	MSD	1724840-19	ND	0.024210	0.033841	mg/kg	12.0	71.5	30	50 - 130	
Benzo[a]anthracene	MS	1724840-19	ND	0.028944	0.033223	mg/kg		87.1		50 - 130	
	MSD	1724840-19	ND	0.025205	0.033841	mg/kg	13.8	74.5	30	50 - 130	
Benzo[b]fluoranthene	MS	1724840-19	ND	0.032890	0.033223	mg/kg		99.0		40 - 130	
2020[0]	MSD	1724840-19	ND	0.029848	0.033841	mg/kg	9.7	88.2	30	40 - 130	
Benzo[k]fluoranthene	MS	1724840-19	ND	0.026312	0.033223	mg/kg		79.2		40 - 130	
261126[K]IIIGFGHIAIONE	MSD	1724840-19	ND	0.023878	0.033841	mg/kg	9.7	70.6	30	40 - 130	
Benzo[a]pyrene	MS	1724840-19	ND	0.023023	0.033223	mg/kg		69.3		40 - 130	
Denzo[a]pyrene	MSD	1724840-19	ND	0.023023	0.033223	mg/kg	2.1	66.6	30	40 - 130	
Benzo[a,h,i]perylene		1724840-19	ND	0.026312	0.033223			79.2		40 - 130	
Berizo[g,ii,i]peryiene	MS MSD	1724840-19	ND	0.020312	0.033223	mg/kg mg/kg	9.7	79.2	30	40 - 130	
Chrysons				0.025983			0.1				
Chrysene	MS MSD	1724840-19 1724840-19	ND ND	0.025963	0.033223 0.033841	mg/kg mg/kg	14.1	78.2 66.6	30	40 - 130 40 - 130	
Dibaaaala blaathaaaaa							17.1				
Dibenzo[a,h]anthracene	MS	1724840-19 1724840-19	ND ND	0.027299 0.025536	0.033223 0.033841	mg/kg mg/kg	6.7	82.2 75.5	30	40 - 130 40 - 130	
	MSD						0.1				
Fluoranthene	MS	1724840-19	ND	0.027957	0.033223	mg/kg	15.7	84.2	20	40 - 130	
	MSD	1724840-19	ND	0.023878	0.033841	mg/kg	15.7	70.6	30	40 - 130	
Fluorene	MS	1724840-19	ND	0.028944	0.033223	mg/kg	44.0	87.1		40 - 130	
	MSD	1724840-19	ND	0.025868	0.033841	mg/kg	11.2	76.4	30	40 - 130	
Indeno[1,2,3-cd]pyrene	MS	1724840-19	ND	0.026641	0.033223	mg/kg		80.2		30 - 130	
	MSD	1724840-19	ND	0.024210	0.033841	mg/kg	9.6	71.5	30	30 - 130	
Naphthalene	MS	1724840-19	ND	0.024010	0.033223	mg/kg		72.3		50 - 130	
	MSD	1724840-19	ND	0.021225	0.033841	mg/kg	12.3	62.7	30	50 - 130	
Phenanthrene	MS	1724840-19	ND	0.027299	0.033223	mg/kg		82.2		40 - 130	
	MSD	1724840-19	ND	0.023215	0.033841	mg/kg	16.2	68.6	30	40 - 130	
Pyrene	MS	1724840-19	ND	0.026970	0.033223	mg/kg		81.2		40 - 130	
	MSD	1724840-19	ND	0.022552	0.033841	mg/kg	17.8	66.6	30	40 - 130	
Nitrobenzene-d5 (Surrogate)	MS	1724840-19	ND	0.073017	0.13289	mg/kg		54.9		30 - 110	
	MSD	1724840-19	ND	0.060359	0.13536	mg/kg	19.0	44.6		30 - 110	
2-Fluorobiphenyl (Surrogate)	MS	1724840-19	ND	0.074990	0.13289	mg/kg		56.4		40 - 120	
· · · · · · · · · · · · · · · · · · ·	MSD	1724840-19	ND	0.063012	0.13536	mg/kg	17.4	46.6		40 - 120	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Stantec - SLO Reported: 04/02/2018 11:34 Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
OO Detel ID: DEMESE	Lise	d client samp	olo: N								
QC Batch ID: B[J1535		d Cheffit Sairip	JIC. IN								
p-Terphenyl-d14 (Surrogate)	MS	1724840-19	ND	0.075977	0.13289	mg/kg		57.2		30 - 120	
	MSD	1724840-19	ND	0.063675	0.13536	mg/kg	17.6	47.0		30 - 120	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1688						
TPH - Gasoline	B[J1688-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[J1688-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[J1688-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[J1688-BLK1	71.8	%	20 - 14	5 (LCL - UCL)	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

								Control Limits			
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals	
QC Batch ID: B[J1688											
TPH - Diesel (FFP)	B[J1688-BS1	LCS	76.459	83.333	mg/kg	91.8		64 - 124			
Tetracosane (Surrogate)	B[J1688-BS1	LCS	3.0583	3.3347	mg/kg	91.7		20 - 145			

Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 65 of 94



Stantec - SLO Reported:

04/02/2018 11:34 Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1688	Use	d client samp	le: Y - Des	cription: HA	-26-13.0, 10	/04/2017	11:47				
TPH - Diesel (FFP)	MS	1728588-14	ND	64.351	84.746	mg/kg		75.9		52 - 131	
	MSD	1728588-14	ND	52.383	84.175	mg/kg	20.5	62.2	30	52 - 131	
Tetracosane (Surrogate)	MS	1728588-14	ND	2.4642	3.3912	mg/kg		72.7		20 - 145	
	MSD	1728588-14	ND	2.2673	3.3684	mg/kg	8.3	67.3		20 - 145	

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Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Chemical Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1417						
Total Cyanide	B[J1417-BLK1	ND	mg/kg	0.50	0.15	
QC Batch ID: B[J1677						
рН	B[J1677-BLK1	ND	pH Units	0.05	0.05	
pH Measurement Temperature	B[J1677-BLK1	ND	С	0.1	0.1	

Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 67 of 94



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Chemical Analysis

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Control L Percent Recovery	<u>imits</u>	Lab Quals
QC Batch ID: B[J1417										
Total Cyanide	B[J1417-BS1	LCS	13.591	13.889	mg/kg	97.9		80 - 120		
QC Batch ID: B[J1677										
рН	B[J1677-BS1	LCS	4.0170	4.0000	pH Units	100		95 - 105		

Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 68 of 94



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San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Chemical Analysis

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1417	Use	d client samp	ole: Y - Des	cription: HA	-37(a)-5.0,	10/04/2017	08:10				
Total Cyanide	DUP	1728588-10	0.20434	0.25890		mg/kg	23.6		20		J,A02
	MS	1728588-10	0.20434	7.0581	9.2593	mg/kg		74.0		80 - 120	Q03
	MSD	1728588-10	0.20434	6.6068	9.6154	mg/kg	6.6	66.6	20	80 - 120	Q03
QC Batch ID: B[J1677	Use	d client samp	ole: N								
pH	DUP	1728273-01	12.634	12.634		pH Units	0		20		

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Stantec - SLO 3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1201						
Total Hexavalent Chromium	B[J1201-BLK1	ND	mg/kg	1.0	0.30	
QC Batch ID: B[J1454						
Mercury	B[J1454-BLK1	ND	mg/kg	0.16	0.019	
QC Batch ID: B[J1863						
Antimony	B[J1863-BLK1	ND	mg/kg	5.0	0.33	
Arsenic	B[J1863-BLK1	ND	mg/kg	1.0	0.40	
Barium	B[J1863-BLK1	ND	mg/kg	0.50	0.18	
Beryllium	B[J1863-BLK1	ND	mg/kg	0.50	0.047	
Cadmium	B[J1863-BLK1	ND	mg/kg	0.50	0.052	
Chromium	B[J1863-BLK1	0.083387	mg/kg	0.50	0.050	J
Cobalt	B[J1863-BLK1	ND	mg/kg	2.5	0.098	
Copper	B[J1863-BLK1	ND	mg/kg	1.0	0.050	
Lead	B[J1863-BLK1	ND	mg/kg	2.5	0.28	
Molybdenum	B[J1863-BLK1	0.30320	mg/kg	2.5	0.050	J
Nickel	B[J1863-BLK1	ND	mg/kg	0.50	0.15	
Selenium	B[J1863-BLK1	ND	mg/kg	1.0	0.98	
Silver	B[J1863-BLK1	ND	mg/kg	0.50	0.067	
Thallium	B[J1863-BLK1	ND	mg/kg	5.0	0.64	
	B[J1863-BLK1	ND	mg/kg	0.50	0.11	
Zinc	B[J1863-BLK1	0.30539	mg/kg	2.5	0.087	J
QC Batch ID: B006519						
Mercury	B006519-BLK1	ND	mg/kg	0.16	0.019	
QC Batch ID: B006562						
Antimony	B006562-BLK1	ND	mg/kg	5.0	0.33	
Arsenic	B006562-BLK1	ND	mg/kg	1.0	0.40	
Barium	B006562-BLK1	ND	mg/kg	0.50	0.18	
Beryllium	B006562-BLK1	ND	mg/kg	0.50	0.047	
Cadmium	B006562-BLK1	ND	mg/kg	0.50	0.052	
Chromium	B006562-BLK1	0.15707	mg/kg	0.50	0.050	J
Cobalt	B006562-BLK1	ND	mg/kg	2.5	0.098	
Copper	B006562-BLK1	ND	mg/kg	1.0	0.050	
 Lead	B006562-BLK1	ND	mg/kg	2.5	0.28	

Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 70 of 94

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Concentrations (TTLC)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B006562						
Molybdenum	B006562-BLK1	0.058736	mg/kg	2.5	0.050	J
Nickel	B006562-BLK1	ND	mg/kg	0.50	0.15	
Selenium	B006562-BLK1	ND	mg/kg	1.0	0.98	
Silver	B006562-BLK1	ND	mg/kg	0.50	0.067	
Thallium	B006562-BLK1	ND	mg/kg	5.0	0.64	
Vanadium	B006562-BLK1	ND	mg/kg	0.50	0.11	
Zinc	B006562-BLK1	1.1125	mg/kg	2.5	0.087	J
QC Batch ID: B006616						
Total Hexavalent Chromium	B006616-BLK1	ND	mg/kg	1.0	0.30	

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Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34
Project: Former Northern Landfill

Project Number: [none]

Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Laboratory Control Sample

	Quality 0		Торого		.,					
								Control L	<u>imits</u>	Lab
Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	
		.,,,,,			20					
QC Batch ID: B[J1201 Total Hexavalent Chromium	_ B[J1201-BS1	LCS	41.856	40.000	mg/kg	105		80 - 120		
QC Batch ID: B[J1454 Mercury	DI 11454 DS1	1.00	0.86848	0.90000	ma/ka	100		80 - 120		
	B[J1454-BS1	LCS	0.00040	0.80000	mg/kg	109		60 - 120		
QC Batch ID: B[J1863										
Antimony	B[J1863-BS1	LCS	98.984	100.00	mg/kg	99.0		75 - 125		
Arsenic	B[J1863-BS1	LCS	11.235	10.000	mg/kg	112		75 - 125		
Barium	B[J1863-BS1	LCS	107.03	100.00	mg/kg	107		75 - 125		
Beryllium	B[J1863-BS1	LCS	10.696	10.000	mg/kg	107		75 - 125		
Cadmium	B[J1863-BS1	LCS	9.8942	10.000	mg/kg	98.9		75 - 125		
Chromium	B[J1863-BS1	LCS	101.56	100.00	mg/kg	102		75 - 125		
Cobalt	B[J1863-BS1	LCS	102.88	100.00	mg/kg	103		75 - 125		
Copper	B[J1863-BS1	LCS	101.52	100.00	mg/kg	102		75 - 125		
Lead	B[J1863-BS1	LCS	105.40	100.00	mg/kg	105		75 - 125		
Molybdenum	B[J1863-BS1	LCS	104.00	100.00	mg/kg	104		75 - 125		
Nickel	B[J1863-BS1	LCS	105.98	100.00	mg/kg	106		75 - 125		
Selenium	B[J1863-BS1	LCS	8.6412	10.000	mg/kg	86.4		75 - 125		
Silver	B[J1863-BS1	LCS	8.8562	10.000	mg/kg	88.6		75 - 125		
Thallium	B[J1863-BS1	LCS	108.62	100.00	mg/kg	109		75 - 125		
Vanadium	B[J1863-BS1	LCS	98.453	100.00	mg/kg	98.5		75 - 125		
Zinc	B[J1863-BS1	LCS	99.207	100.00	mg/kg	99.2		75 - 125		
QC Batch ID: B006519										
Mercury	B006519-BS1	LCS	0.80624	0.80000	mg/kg	101		80 - 120		
QC Batch ID: B006562										
Antimony	B006562-BS1	LCS	102.63	100.00	mg/kg	103		75 - 125		
Arsenic	B006562-BS1	LCS	9.4294	10.000	mg/kg	94.3		75 - 125		
Barium	B006562-BS1	LCS	102.36	100.00	mg/kg	102		75 - 125		
Beryllium	B006562-BS1	LCS	9.9327	10.000	mg/kg	99.3		75 - 125		
Cadmium	B006562-BS1	LCS	9.8321	10.000	mg/kg	98.3		75 - 125		
Chromium	B006562-BS1	LCS	105.80	100.00	mg/kg	106		75 - 125		
Cobalt	B006562-BS1	LCS	102.51	100.00	mg/kg	103		75 - 125		
Copper	B006562-BS1	LCS	98.262	100.00	mg/kg	98.3		75 - 125		
Lead	B006562-BS1	LCS	101.72	100.00	mg/kg	102		75 - 125		
Molybdenum	B006562-BS1	LCS	101.20	100.00	mg/kg	101		75 - 125		
• • • • • • • • • • • • • • • • • • • •					33					

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Laboratory Control Sample

							Control Limits			
Comptituent	OC Samula ID	Time	Decult	Spike	Heita	Percent	DDD	Percent	DDD	Lab
Constituent	QC Sample ID	Туре	Result	Level	Units	Recovery	RPD	Recovery	RPD	Quals
QC Batch ID: B006562										
Nickel	B006562-BS1	LCS	103.96	100.00	mg/kg	104		75 - 125		
Selenium	B006562-BS1	LCS	8.6322	10.000	mg/kg	86.3		75 - 125		
Silver	B006562-BS1	LCS	9.3710	10.000	mg/kg	93.7		75 - 125		
Thallium	B006562-BS1	LCS	114.14	100.00	mg/kg	114		75 - 125		
Vanadium	B006562-BS1	LCS	103.83	100.00	mg/kg	104		75 - 125		
Zinc	B006562-BS1	LCS	98.961	100.00	mg/kg	99.0		75 - 125		
QC Batch ID: B006616										
Total Hexavalent Chromium	B006616-BS1	LCS	41.778	40.000	mg/kg	104		80 - 120		

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Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
00 B-4-1- ID: B114004	Llee	d client samp	ole: N								
QC Batch ID: B[J1201 Total Hexavalent Chromium	_	1728353-57	3.3800	3.4000		ma/ka	0.6		20		J
Total Hexavalent Chromium	DUP	1728353-57	3.3800	42.220	40.000	mg/kg	0.0	97.1	20	75 - 125	J
	MS MSD	1728353-57	3.3800	42.462	40.000	mg/kg mg/kg	0.6	97.7	20	75 - 125 75 - 125	
	INISD	1720303-07	3.3600	42.402	40.000	IIIg/kg	0.0	91.1	20	75 - 125	
QC Batch ID: B[J1454	Use	d client samp	ole: N								
Mercury	DUP	1728837-01	0.14554	0.040308		mg/kg	113		20		J,A02
	MS	1728837-01	0.14554	0.96585	0.76923	mg/kg		107		80 - 120	
	MSD	1728837-01	0.14554	0.82231	0.76923	mg/kg	16.1	88.0	20	80 - 120	
QC Batch ID: B[J1863	Use	d client samp	ole: N								
Antimony	DUP	1728337-03	1.2502	ND		mg/kg			20		
	MS	1728337-03	1.2502	22.918	100.00	mg/kg		21.7		16 - 119	
	MSD	1728337-03	1.2502	20.514	100.00	mg/kg	11.1	19.3	20	16 - 119	
Arsenic	DUP	1728337-03	6.6190	5.2440		mg/kg	23.2		20		Q01
	MS	1728337-03	6.6190	16.495	10.000	mg/kg		98.8		75 - 125	
	MSD	1728337-03	6.6190	13.923	10.000	mg/kg	16.9	73.0	20	75 - 125	Q03
Barium	DUP	1728337-03	120.61	124.57		mg/kg	3.2		20		
	MS	1728337-03	120.61	217.13	100.00	mg/kg		96.5		75 - 125	
	MSD	1728337-03	120.61	216.22	100.00	mg/kg	0.4	95.6	20	75 - 125	
Beryllium	DUP	1728337-03	0.33091	0.33669		mg/kg	1.7		20		J
	MS	1728337-03	0.33091	9.5756	10.000	mg/kg		92.4		75 - 125	
	MSD	1728337-03	0.33091	9.7413	10.000	mg/kg	1.7	94.1	20	75 - 125	
Cadmium	DUP	1728337-03	0.055926	0.11055		mg/kg	65.6		20		J,A02
	MS	1728337-03	0.055926	8.7012	10.000	mg/kg		86.5		75 - 125	
	MSD	1728337-03	0.055926	8.7280	10.000	mg/kg	0.3	86.7	20	75 - 125	
Chromium	DUP	1728337-03	31.268	31.588		mg/kg	1.0		20		
	MS	1728337-03	31.268	120.66	100.00	mg/kg		89.4		75 - 125	
	MSD	1728337-03	31.268	122.46	100.00	mg/kg	1.5	91.2	20	75 - 125	
Cobalt	DUP	1728337-03	8.6705	9.1856		mg/kg	5.8		20		
	MS	1728337-03	8.6705	95.272	100.00	mg/kg		86.6		75 - 125	
	MSD	1728337-03	8.6705	96.895	100.00	mg/kg	1.7	88.2	20	75 - 125	
Copper	DUP	1728337-03	12.830	13.422		mg/kg	4.5		20		
	MS	1728337-03	12.830	105.36	100.00	mg/kg		92.5		75 - 125	
	MSD	1728337-03	12.830	107.03	100.00	mg/kg	1.6	94.2	20	75 - 125	
Lead	DUP	1728337-03	4.5777	4.8221		mg/kg	5.2		20		
	MS	1728337-03	4.5777	92.402	100.00	mg/kg		87.8		75 - 125	
	MSD	1728337-03	4.5777	92.341	100.00	mg/kg	0.1	87.8	20	75 - 125	
Molybdenum	DUP	1728337-03	1.6750	1.4682		mg/kg	13.2		20		J
	MS	1728337-03	1.6750	82.672	100.00	mg/kg		81.0		75 - 125	
	MSD	1728337-03	1.6750	82.508	100.00	mg/kg	0.2	80.8	20	75 - 125	

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Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
	—	-1 -1:4	.I NI								
QC Batch ID: B[J1863		d client samp				_					
Nickel	DUP	1728337-03	50.481	52.272		mg/kg	3.5		20		
	MS	1728337-03	50.481	141.71	100.00	mg/kg		91.2		75 - 125	
	MSD	1728337-03	50.481	141.37	100.00	mg/kg	0.2	90.9	20	75 - 125	
Selenium	DUP	1728337-03	5.8753	4.6208		mg/kg	23.9		20		Q01
	MS	1728337-03	5.8753	10.536	10.000	mg/kg		46.6		75 - 125	Q03
	MSD	1728337-03	5.8753	12.960	10.000	mg/kg	20.6	70.9	20	75 - 125	Q02,Q 03
Silver	DUP	1728337-03	ND	ND		mg/kg			20		
	MS	1728337-03	ND	8.0951	10.000	mg/kg		81.0		75 - 125	
	MSD	1728337-03	ND	8.2671	10.000	mg/kg	2.1	82.7	20	75 - 125	
 Thallium	DUP	1728337-03	ND	ND		mg/kg			20		
· · · · · · · · · · · · · · · · · · ·	MS	1728337-03	ND	87.364	100.00	mg/kg		87.4	_0	75 - 125	
	MSD	1728337-03	ND	86.964	100.00	mg/kg	0.5	87.0	20	75 - 125	
 /anadium											
vanadium	DUP	1728337-03 1728337-03	29.774 29.774	29.955 116.64	100.00	mg/kg	0.6	86.9	20	75 - 125	
	MS	1728337-03	29.774	118.55	100.00	mg/kg mg/kg	1.6	88.8	20	75 - 125 75 - 125	
	MSD				100.00			00.0		73-123	
Zinc	DUP	1728337-03	32.674	33.989		mg/kg	3.9		20		
	MS	1728337-03	32.674	117.42	100.00	mg/kg		84.7		75 - 125	
	MSD	1728337-03	32.674	118.87	100.00	mg/kg	1.2	86.2	20	75 - 125	
QC Batch ID: B006519	Use	d client samp	ole: N								
Mercury	DUP	1806528-01	ND	ND		mg/kg			20		
	MS	1806528-01	ND	0.76046	0.76923	mg/kg		98.9		80 - 120	
	MSD	1806528-01	ND	0.75415	0.76923	mg/kg	0.8	98.0	20	80 - 120	
QC Batch ID: B006562	Use	d client samp	ole: Y - Des	cription: HA	-26-3, 09/25	/2017 09:	50				
Antimony	DUP	1727086-09	ND	ND		mg/kg			20		
	MS	1727086-09	ND	43.321	100.00	mg/kg		43.3		16 - 119	
	MSD	1727086-09	ND	43.436	100.00	mg/kg	0.3	43.4	20	16 - 119	
	DUP	1727086-09	1.8491	1.9970		mg/kg	7.7		20		
	MS	1727086-09	1.8491	11.450	10.000	mg/kg		96.0		75 - 125	
	MSD	1727086-09	1.8491	10.762	10.000	mg/kg	6.2	89.1	20	75 - 125	
 Barium	DUP	1727086-09	15.199	14.837		mg/kg	2.4		20		
	MS	1727086-09	15.199	116.95	100.00	mg/kg		102		75 - 125	
	MSD	1727086-09	15.199	106.59	100.00	mg/kg	9.3	91.4	20	75 - 125	
Beryllium	DUP	1727086-09	0.12619	0.11818		mg/kg	6.6		20		
jdiii	MS	1727086-09	0.12619	9.5686	10.000	mg/kg	5.0	94.4	_0	75 - 125	Ū
	MSD	1727086-09	0.12619	9.3158	10.000	mg/kg	2.7	91.9	20	75 - 125 75 - 125	
										=-	
Cadmium	DUP	1727086-09	0.20526	0.23397	10.000	mg/kg	13.1	02.0	20	75 125	J
	MS	1727086-09	0.20526	9.5803	10.000	mg/kg	2.0	93.8	20	75 - 125	
	MSD	1727086-09	0.20526	9.2790	10.000	mg/kg	3.2	90.7	20	75 - 125	

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B006562	Use	d client samp	ole: Y - Des	cription: HA	-26-3, 09/25	5/2017 09:	50				
Chromium	DUP	1727086-09	8.7689	10.117		mg/kg	14.3		20		
	MS	1727086-09	8.7689	110.59	100.00	mg/kg		102		75 - 125	
	MSD	1727086-09	8.7689	108.25	100.00	mg/kg	2.1	99.5	20	75 - 125	
Cobalt	DUP	1727086-09	1.2854	1.4551		mg/kg	12.4		20		J
Cobail	MS	1727086-09	1.2854	96.730	100.00	mg/kg	12.7	95.4	20	75 - 125	Ü
	MSD	1727086-09	1.2854	96.139	100.00	mg/kg	0.6	94.9	20	75 - 125 75 - 125	
					100.00			34.3		75-125	
Copper	DUP	1727086-09	2.4479	2.7428		mg/kg	11.4		20		
	MS	1727086-09	2.4479	96.584	100.00	mg/kg		94.1		75 - 125	
	MSD	1727086-09	2.4479	92.927	100.00	mg/kg	3.9	90.5	20	75 - 125	
Lead	DUP	1727086-09	2.3324	2.7673		mg/kg	17.1		20		
	MS	1727086-09	2.3324	104.31	100.00	mg/kg		102		75 - 125	
	MSD	1727086-09	2.3324	96.345	100.00	mg/kg	7.9	94.0	20	75 - 125	
Molybdenum	DUP	1727086-09	2.7621	3.7865		mg/kg	31.3		20		A02
	MS	1727086-09	2.7621	94.873	100.00	mg/kg		92.1		75 - 125	
	MSD	1727086-09	2.7621	93.832	100.00	mg/kg	1.1	91.1	20	75 - 125	
Nickel	DUP	1727086-09	7.6138	17.564		mg/kg	79.0		20		A02
	MS	1727086-09	7.6138	104.77	100.00	mg/kg		97.2		75 - 125	
	MSD	1727086-09	7.6138	103.39	100.00	mg/kg	1.3	95.8	20	75 - 125	
Selenium	DUP	1727086-09	ND	ND		mg/kg			20		
	MS	1727086-09	ND	8.9597	10.000	mg/kg		89.6		75 - 125	
	MSD	1727086-09	ND	8.8997	10.000	mg/kg	0.7	89.0	20	75 - 125	
Silver	DUP	1727086-09	ND	ND		mg/kg			20		
	MS	1727086-09	ND	8.6293	10.000	mg/kg		86.3		75 - 125	
	MSD	1727086-09	ND	8.4972	10.000	mg/kg	1.5	85.0	20	75 - 125	
Thallium	DUP	1727086-09	ND	ND		mg/kg			20		
	MS	1727086-09	ND	101.50	100.00	mg/kg		102		75 - 125	
	MSD	1727086-09	ND	99.397	100.00	mg/kg	2.1	99.4	20	75 - 125	
Vanadium	DUP	1727086-09	13.863	32.126		mg/kg	79.4		20		Q01
	MS	1727086-09	13.863	117.08	100.00	mg/kg		103		75 - 125	
	MSD	1727086-09	13.863	114.85	100.00	mg/kg	1.9	101	20	75 - 125	
Zinc	DUP	1727086-09	14.650	15.496		mg/kg	5.6		20		
	MS	1727086-09	14.650	108.99	100.00	mg/kg	5.0	94.3	_0	75 - 125	
	MSD	1727086-09	14.650	108.47	100.00	mg/kg	0.5	93.8	20	75 - 125 75 - 125	
										-	
QC Batch ID: B006616		d client samp		0.46555					0.5		
Total Hexavalent Chromium	DUP	1806115-20	0.51400	0.49000		mg/kg 	4.8		20		J
	MS	1806115-20	0.51400	40.804	40.000	mg/kg		101		75 - 125	
	MSD	1806115-20	0.51400	40.360	40.000	mg/kg	1.1	99.6	20	75 - 125	

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EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com/sanleandrolab@emsl.com

EMSL Order: 091719931 Customer ID: BCLA50 Customer PO: 1728588 Project ID:

Attention: Molly Meyers

BC Laboratories, Inc. 4100 Atlas Court Bakersfield, CA 93308

Fax: (661) 327-1918 Received Date: 10/13/2017 10:30 AM

(661) 327-4911

Ashestos

Analysis Date: 10/19/2017 Collected Date: 10/04/2017

Phone:

Project: 1728588

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Non-Asbestos

			NON-ASDES	005	Aspestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1728588-08		Tan/Black		50% Quartz	2% Chrysotile
		Non-Fibrous		15% Matrix	
91719931-0001		Homogeneous		33% Non-fibrous (Other)	
Soil is a problem matri	x. Other analytical options are re	commended such as EPA 60	00 PLM/TEM with milling prep		
1728588-09		Brown		60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
91719931-0002		Homogeneous			
Soll is a problem matri	x. Other analytical options are re	commended such as EPA 60	00 PLM/TEM with milling prep		
1728588-10		Black		40% Quartz	<1% Chrysotile
		Non-Fibrous		25% Matrix	
091719931-0003		Homogeneous		35% Non-fibrous (Other)	
Soil is a problem matri	 Other analytical options are re 	commended such as EPA 60	00 PLM/TEM with milling prep		
1728588-11		Brown		60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
091719931-0004		Homogeneous			
Soil is a problem matri	v. Other analytical options are re	commended such as EPA 60	00 PLM/TEM with milling prep		
1728588-13		Brown		60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
91719931-0005		Homogeneous			
Soil is a problem matri	 Other analytical options are re 	commended such as EPA 60	00 PLM/TEM with milling prep		
1728588-17		Brown	<1% Cellulose	60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
091719931-0006		Homogeneous			
Soil is a problem matri	v. Other analytical options are re	commended such as EPA 60	00 PLM/TEM with milling prep		
1728588-18		Brown	<1% Cellulose	60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
091719931-0007		Homogeneous		, ,	
Soil is a problem matri	x. Other analytical options are re	commended such as EPA 60	00 PLM/TEM with milling prep		
1728588-19		Brown	<1% Cellulose	60% Quartz	None Detected
		Non-Fibrous		40% Non-fibrous (Other)	
091719931-0008		Homogeneous		The state of the s	
Soil is a problem matri	y. Other analytical options are re	-	00 PLM/TEM with million prep		

Analyst(s)	Martin & Sulsylle-
Cecilia Yu (8)	Matthew Batongbacal
	or Other Approved Signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional Testing by TEM to confirm asbestos quantities. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 10/19/2017 13:55:22

ASB_PLM_0008_0001 - 1.78 Printed: 10/19/2017 1:55 PM

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation. 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Report ID: 1000726020



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November 8, 2017

FAL Project: 10997

Ms. Molly Meyers BC Laboratories 4100 Atlas Court Bakersfield, CA 93308

Dear Ms. Meyers,

The following results are associated with Frontier Analytical Laboratory project 10997. This corresponds to your subcontract order number 1728588. One solid sample was received on 10/13/2017. This sample was extracted and analyzed by EPA Method 8290 for tetra through octa chlorinated dibenzo dioxins and furans. The Toxic Equivalency (TEQ) for your sample has been calculated using the 2005 World Health Organization's (WHO's) toxic equivalency factors (TEFs). BC Laboratories requested a turnaround time of fifteen business days for project 10997.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains our sample tracking log and the analytical results. The Sample Receipt section contains your chain of custody, our sample login form and a sample photo. The attached results are specifically for the sample referenced in this report only. These results meet all National Environmental Laboratory Accreditation Program (NELAP) requirements and shall not be reproduced except in full. Frontier Analytical Laboratory's State of Oregon NELAP certificate number is 4041 and our State of California ELAP certificate number is 2934. This report has been emailed to you as a portable document format (PDF) file. A hardcopy will not be sent to you unless specifically requested.

If you have any questions regarding project 10997, please contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Thomas C. Crabtree Director

FRONTIER ANALYTICAL LABORATORY

5172 Hillsdale Circle * El Dorado Hills, CA 95762 Tel (916) 934-0900 * Fax (916) 934-0999 www.frontieranalytical.com

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Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 10997

Received on: 10/13/2017 Project Due: 11/06/2017 Storage: R3

 FAL
 Client
 Client Sample ID
 Client Sample ID
 Requested Method
 Sampling Method
 Sampling Date
 Sampling Date
 Mode Time
 Due Date

 10997-001-SA
 0
 1728588
 1728588-10
 EPA 8290 D/F
 Solid
 10/04/2017
 08:10 am
 11/03/2017

000002 of 000008

5172 Hillsdale Circle * El Dorado Hills, CA 95762 * Tel (916) 934-0900 * Fax (916) 934-0999 * www.frontieranalytical.com

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EPA Method 8290 PCDD/F



FAL ID: 10997-001-MB Client ID: Method Blank Matrix: Solid Batch No: X4291	Date	Extracted: 11-0 Received: NA unt: 3,00 g	02-2017	ICal: PCDI GC Colum Units: pg/g		2	oquired: 11- 005 WHO TI asis: Dry Wi	EQ: 0.0	
Compound	Con	ic DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2.3.7,8-TCDD 1,2.3.7,8-PsCDD 1,2.3.4,7.8-HsCDD 1,2.3.6,7.8-HsCDD 1,2.3.7,8.9-HsCDD 0CDD 2,3.7,8-TCDF 1,2.3.7,8-PsCDF 2,3.4,7.8-PsCDF 1,2.3.4,7.8-HsCDF 1,2.3.4,6.7,8-HsCDF 1,2.3.4,6.7,8-HsCDF 1,2.3.4,6.7,8-HsCDF 1,2.3,4.6,7.8-HsCDF 1,2.3,4.6,7.8-HsCDF 1,2.3,4.6,7.8-HsCDF 1,2.3,4.6,7.8-HsCDF 1,2.3,4.6,7.8-HsCDF	N N N N N N N N N N N N N N N N N N N	0 0.391 0 0.598 0 0.692 0 0.674 0 0.603 0 1.52 0 0.285 0 0.242 0 0.244 0 0.244 0 0.244 0 0.244 0 0.345 0 0.345 0 0.385			0.0315 0.0468 0.0503 0.0490 0.0488 0.0541 0.0888 0.0243 0.0295 0.0255 0.0253 0.0279 0.0367 0.0321 0.0396 0.0843	Total TCDD Total PeCDD Total HxCDD Total HpCDD Total TCDF Total PeCDF Total HxCDF Total HxCDF Total HxCDF	ND ND ND ND ND	0.204 0.391 0.602 0.603 0.152 0.285 0.341 0.385	
Internal Standards 13C-2.3,7,8-TCDD 13C-1.2,3,47,8-HxCDD 13C-1.2,3,47,8-HxCDD 13C-1.2,3,4,6,7,8-HxCDD 13C-1.2,3,4,6,7,8-HxCDD 13C-2,3,7,8-TCDF 13C-1.2,3,7,8-PcCDF 13C-1.2,3,4,7,8-HxCDF 13C-1.2,3,4,7,8-HxCDF 13C-1.2,3,4,7,8-HxCDF 13C-1.2,3,4,6,7,8-HxCDF 13C-1.2,3,4,6,7,8-HxCDF 13C-1.2,3,4,6,7,8-HxCDF 13C-1.2,3,4,6,7,8-HxCDF 13C-1.2,3,4,7,8-HxCDF 13C-1.2,3,4,7,8-HxCDF 13C-1.2,3,4,7,8-HxCDF 13C-1.2,3,4,7,8-HxCDF 13C-1.2,3,4,7,8-HxCDF 13C-1.2,3,4,7,8-HxCDF	% Rec 88.5 86.7 81.8 87.7 80.5 67.4 86.4 80.9 85.6 91.8 92.2 89.0 91.6 82.4 84.9 73.2	QC Limits 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135	Qual		B An C CP D P DNQ An E An J An M Ma ND An NP No S Sa X Ma	otopic Labeled Sis- inal to noise ratio salyte is present in lemical Interferen- esence of Diphen- alyte concentratio salyte concentratio aximum possible of salyte Not Detected to Provided e-filtered through- imple acceptance atrix interferences issult taken from di	is >10:1 Method Bla be yel Ethers in is below o in is above o i on seconda in is below o concentration d at Detectio a Whatman i criteria not re	nik alibration ra alibration ra ny column alibration ra n un Limit Lew 2.7um GF/F	nge inge nge

Reviewed By: ∂f√

Date: 11/8/2017

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EPA Method 8290 PCDD/F



JL ID: 10997-001-OPR ent ID: OPR ent ID: Solid toh No: X4291	Date Extracted: 11-02-2011 Date Received: NA Amount: 3.00 g	7	ICal: PCDDFAL3-10-20-17 GC Column: DB5MS Units: ng/ml	Acquired: 11-03-2017 2005 WHO TEQ: NA
Compound	Conc QC Limits	Qual		
2,3.7.8-TCDD 1,2.3.47,8-HxCDD 1,2.3.47,8-HxCDD 1,2.3.67,8-HxCDD 1,2.3.7.8,9-HxCDD 1,2.3.4.6.7.8-HpCDD 0CDD 2,3.7.8-TCDF 1,2.3.4.7.8-HpCDF 1,2.3.4.7.8-HpCDF 1,2.3.4.7.8-HxCDF 1,2.3.6.7.8-HxCDF 1,2.3.4.6.7.8-HxCDF 1,2.3.4.6.7.8-HxCDF 1,2.3.4.6.7.8-HxCDF 1,2.3.4.6.7.8-HxCDF 1,2.3.4.6.7.8-HxCDF 1,2.3.4.6.7.8-HxCDF	10.2 7.00 - 13.0 48.7 35.0 - 65.0 49.9 35.0 - 65.0 51.6 35.0 - 65.0 52.5 35.0 - 65.0 98.3 70.0 - 13.0 10.1 7.00 - 13.0 51.3 35.0 - 65.0 48.8 35.0 - 65.0 48.8 35.0 - 65.0 49.0 35.0 - 65.0 49.0 35.0 - 65.0 49.3 35.0 - 65.0 49.3 35.0 - 65.0			
1,2,3,4,7,8,9-HpCDF OCDF	48.1 35.0 - 65.0 94.5 70.0 - 130	Qual		
13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,6,7,8-HxCDD 13C-1,2,3,4,6,7,8-HpCDD 13C-0,2,3,4,6,7,8-TCDD	90.1 40.0 - 135 88.4 40.0 - 135 83.6 40.0 - 135 88.9 40.0 - 135 84.0 40.0 - 135 71.4 40.0 - 135 90.4 40.0 - 135		A signal to no B Analyte is C Chemical I D Presence of	ibeled Standard outside QC range but olse ratio is >10:1 present in Method Blank interference of Diphenyl Ethers incentration is below calibration range
13C-1,2,3,7,8-PeCDF 13C-1,2,3,4,7,8-HeCDF 13C-1,2,3,6,7,8-HxCDF 13C-1,2,3,6,7,8-HxCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4,6,7,8-HpCDF 13C-1,2,3,4,6,7,8-HpCDF 13C-1,2,3,4,7,8,9-HpCDF	84.6 40.0 - 135 89.3 40.0 - 135 91.8 40.0 - 135 92.7 40.0 - 135 89.8 40.0 - 135 91.8 40.0 - 135 85.0 40.0 - 135 90.4 40.0 - 135 75.0 40.0 - 135		F Analyte co J Analyte co M Maximum ND Analyte No NP Not Provid P Pre-filtered	f through a Whatman 0.7um GF/F filter ceptance criteria not met
Cleanup Surrogate 37Cl-2,3,7,8-TCDD	81.6 50.0 - 150			en from dilution or reinjection

Reviewed By:___&\f\

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EPA Method 8290 PCDD/F



FAL ID: 10997-001-SA Client ID: 1728588-10 Matrix: Solid Batch No: X4291	Date Amo	Extracted: 11- Received: 10- unt 3.01 g blids: 76.27		ICal: PCDI GC Colum Units: pg/g		2	oquired: 11- 005 WHO Ti asis: Dry Wi	EQ: 29.0	
Compound	Con	ic DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2.3.7,8-TCDD 1,2.3.7,8-PsCDD 1,2.3.4,7.8-HsCDD 1,2.3.6,7.8-HsCDD 1,2.3.7,8,9-HsCDD 0CDD 2,3,7.8-TCDF 1,2.3.7,8-PsCOF 2,3.4,7.8-PsCOF 1,2.3.4,7.8-HsCDF 1,2.3.6,7.8-HsCDF 1,2.3.4,6,7.8-HsCDF 1,2.3.4,6,7.8-HsCDF 1,2.3.4,6,7.8-HsCDF 1,2.3.4,7,8,9-HsCDF	4.9 9.3 5.9 19 18 63 704 N N N N 2.3 3.2 3.3 57,6.0	55 - 99 - 33 - 944 - 90 - 9144 - 915	1	4.94 9.35 0.999 1.93 1.89 6.34 2.11 	0.0315 0.0468 0.0503 0.0490 0.0488 0.0541 0.0288 0.0243 0.0285 0.0255 0.0253 0.0279 0.0321 0.0386 0.03843	Total TCDD Total PeCDD Total HxCDD Total HpCDD Total TCDF Total PeCDF Total HxCDF Total HxCDF Total HxCDF	27.3 59.4 144 1150 ND 520 57.5 319	1.14	M
Internal Standards 13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDD 13C-0,2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-1,2,3,4,7,8-HxCDF Cleanup Surrogate 37CH-2,3,7,8-TCDD	% Rec 97.1 96.6 78.9 78.4 62.3 62.0 77.9 86.6 85.4 82.3 80.8 80.8 80.8 83.8 77.0 85.3 84.8	QC Limits 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135	Qual		A sign B Ans C Ch D Pre DNQ Ans F Ans J Ans M Ma ND Ans NP Not S Sai	topic Labeled Sta nal to noise ratio alyte is present in sence of Diphen alyte concentratio alyte concentratio alyte concentratio alyte concentratio ximum possible o alyte Not Detecte Provided -filtered through imple acceptance trix interferences sult taken from di	is > 10:1 Method Bla be yet Ethers in is below o in is above o in seconda in is below o concentration d at Detection a Whatman criteria not r	nik alibration ra salibration ra salibration ra alibration ra n on Limit Lev 0.7um GF/F	inge ange inge

Reviewed By:___&\f\

000005 of 000008

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Subcontract Report for 1728588 PDF File Name: wo_1728588_sub_FRNTL.pdf Page 6 of 8

SUBCONTRACT ORDER **BC** Laboratories 1728588

SENDING LABORATORY:

BC Laboratories 4100 Atlas Court Bakersfield, CA 93308 Phone: 661-327-4911 FAX: 661-327-1918

Project Manager: Molly Meyers

RECEIVING LABORATORY:

Frontier Analytical Laboratory 5172 Hillsdale Circle El Dorado Hills, CA 95762 Phone: (916) 934-0900 FAX: (916) 934-0999

FRNTL

Analysis

Due

10/18/17 17:00

Expires

Comments

Sample ID: 1728588-10 EPA 8290 - CDDs & CDFs Solids

Sampled: 10/04/17 08:10

11/03/17 08:10

Containers supplied:

Date

Received By

Date

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FRNTL

Released By

Page 1 of 1

Report ID: 1000726020

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Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: 10997

Client:	BC Laboratories, Inc
Client Project ID:	
Date Received:	10/13/2017
Time Received:	10:35 am
Received By:	KZ
Logged In By:	KZ
# of Samples Received:	1
Duplicates:	0
Storage Location:	R3

Method of Delivery:	California Overnight
Tracking Number:	C11235900271062
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	0
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test aqueous sample for residual Chlorine	No
Sodium Thiosulfate Added	No
Adequate Sample Volume	Yes
Appropriate Sample Container	No
pH Range of Aqueous Sample	N/A

Anomalies or additional comments:

Please note that the sample was received in a clear glass jar. NELAP requires samples be received in amber glass bottles or jars. Although this anomaly will not affect your results, we are required by NELAP to make a note of it. We will proceed with analysis unless directed otherwise by you.

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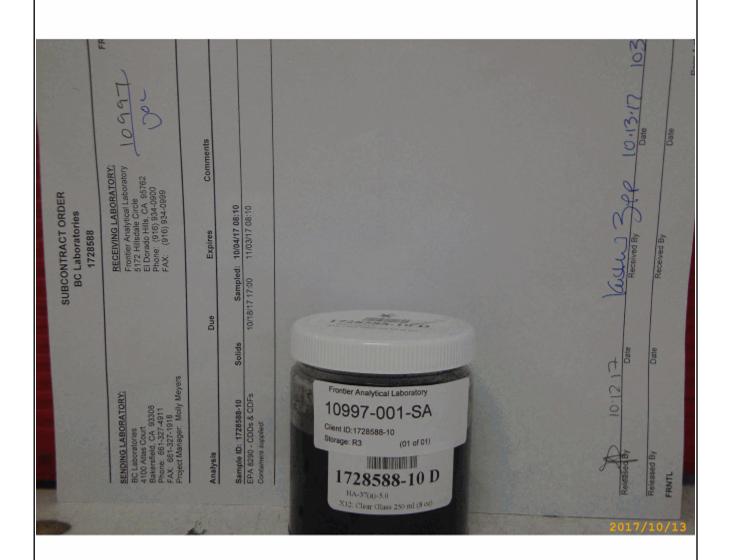
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Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 85 of 94

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March 30, 2018

Ms. Molly Meyers BC Laboratories 4100 Atlas Court Bakersfield, CA 93308

Dear Ms. Meyers,

The following results are associated with Frontier Analytical Laboratory project 11341. This corresponds to your subcontract order 1728588. One solid sample was received on 03/02/2018 in good condition. This sample was extracted and analyzed by EPA Method 8290 for tetra through octa chlorinated dibenzo dioxin and furans. The Toxic Equivalency (TEQ) for your sample has been calculated using the 2005 World Health Organization's (WHO's) toxic equivalency factors (TEFs). BC Laboratories requested a turnaround time of fifteen business days for project 11341.

Please note that this sample was received past the method recommended hold time of thirty days. However EPA Method 8290 states, (Section 6.4); "Storage and holding times-All samples, except fish and adipose tissue samples, must be stored at 4°C in the dark, and should be extracted within 30 days and completely analyzed within 45 days of extraction. Note: The holding times listed in Sec. 6.4 are recommendations. PCDDs and PCDFs are very stable in a variety of matrices, and holding times under the conditions listed in Sec. 6.4 may be as high as a year for certain matrices." We can confirm your sample has been stored at the required method conditions since its receipt on 03/02/2018.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains our sample tracking log and the analytical results. The Sample Receipt section contains your chain of custody, our sample login form and a sample photo. The enclosed results are specifically for the sample referenced in this report only. These results shall not be reproduced except in full. Frontier Analytical Laboratory's State of Oregon NELAP certificate number is 4041. Our State of California ELAP certificate number is 2934. This report has been emailed to you. A hardcopy of this report will not be sent to you unless specifically requested.

If you have any questions regarding project 11341, please feel free to contact me at 916-934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Thomas C. Crabtree

Director

FRONTIER ANALYTICAL LABORATORY

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11/03/2017

Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 11341

Received on: 03/02/2018 Project Due: 03/26/2018

Due Date

EPA 8290 D/F

Solid

10/04/2017

08:25 am

FAL Sample ID

1728588

Notes

11341-001-SA

11341-001-SA Please note that the sample was received past its hold time. We will proceed with analysis unless directed otherwise by you

1728588-01

000002 of 000008

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Report ID: 1000726020





Subcontract Report for 1728588 PDF File Name: wo_1728588_sub_FRNTL_addn.pdf Page 3 of 8

EPA Method 8290 PCDD/F



FAL ID: 11341-001-MB Client ID: Method Blank Matrix: Solid Batch No: X4445	Date	Extracted: 03- Received: NA unt: 5.00 g			DFAL4-12-; n: DB5MS	20	oquired: 03- 105 WHO Ti asis: Dry Wi	EQ: 0.0	
Compound	Cor	no DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL.	Qual
2,3,7,8-TCDD 1,2,3,7,8-PsCDD 1,2,3,4,7,8-HsCDD 1,2,3,6,7,8-HsCDD 1,2,3,7,8,9-HsCDD 0CDD 2,3,7,8-TCDF 1,2,3,7,8-PsCDF 2,3,4,7,8-PsCDF 1,2,3,4,7,8-HsCDF 1,2,3,4,6,7,8-HsCDF 1,2,3,4,6,7,8-HsCDF 1,2,3,4,6,7,8-HsCDF 1,2,3,4,6,7,8-HsCDF 1,2,3,4,6,7,8-HsCDF 1,2,3,4,6,7,8-HsCDF 1,2,3,4,7,8,9-HsCDF 0CDF	N N N N N N N N N N N N N N N N N N N	D 0.182 D 0.271 D 0.271 D 0.303 D 0.354 D 0.303 D 0.500 D 0.148 D 0.145 D 0.149 D 0.156 D 0.145 D 0.147 D 0.156 D 0.148 D 0.145 D 0.149			0.0273 0.0570 0.0793 0.0940 0.0823 0.0842 0.172 0.0259 0.0449 0.0468 0.0437 0.0574 0.0574 0.0657	Total TCDD Total PeCDD Total HxCDD Total HyCDD Total HpCDD Total TCDF Total PeCDF Total HxCDF Total HxCDF Total HyCDF	ND ND ND ND	0.182 0.271 0.354 0.370 0.133 0.152 0.187 0.292	
Internal Standards 13C-2.3,7,8-TCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDD 13C-0,2,3,7,8-TCDF 13C-1,2,3,7,8-TCDF 13C-1,2,3,4,7,8-HxCDF % Rec 96.5 103 102 104 99.1 99.2 98.9 101 103 96.2 102 102 101 101 101 101 101 101 101	QC Limits 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135	Qual		B A C C C D P DNQ A F A A J A NP N P P P S S X N	iotopic Labeled Stati gnal to noise ratio is nalyte is present in themical Interference resence of Dipheny nalyte concentration nalyte concentration nalyte concentration taximum possible or nalyte Not Detected tot Provided re-filtered through a ample acceptance of tatrix interferences	s > 10:1 Method Bla e I Ethers n is below on is above on seconda n is below on contration I at Detection	nk alibration ra salibration ra say column alibration ra n on Limit Lev	ange ange ange	
Cleanup Surrogate 37Cl-2,3,7,8-TCDD	92.5	50.0 - 150			* R	tesult taken from dil	ution or rein	jection	

Analyst: 3/28/2018

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Subcontract Report for 1728588 PDF File Name: wo_1728588_sub_FRNTL_addn.pdf Page 4 of 8

EPA Method 8290 PCDD/F



FAI, ID: 11341-001-OPR Client ID: OPR Matrix: Solid Batch No: X4445	Date Extracted: 03-21-20 Date Received: NA Amount 5.00 g	18	ICal: PCDDFAL4-12-20-17 GC Column: DB5MS Units: ng/ml	Acquired: 03-23-2018 2005 WHO TEQ: NA
Compound	Conc QC Limits	Qual		
2,3,7,8-TCDD 1,23,7,8-PeCDO 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8-HxCDD 1,2,3,4,8,7,8-HyCDD 0CDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF	10.4 7.00 - 13.0 53.1 35.0 - 65.0 49.1 35.0 - 65.0 45.1 35.0 - 65.0 45.1 35.0 - 65.0 52.9 35.0 - 65.0 99.8 70.0 - 130 10.6 7.00 - 13.0 53.1 35.0 - 65.0 52.6 35.0 - 65.0 52.0 35.0 - 65.0 52.0 35.0 - 65.0			
1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,5,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	51.3 35.0 - 65.0 53.6 35.0 - 65.0 52.9 35.0 - 65.0 52.6 35.0 - 65.0 104 70.0 - 130			
Internal Standards	% Rec QC Limits	Qual		
13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,6,7,8-HxCDD 13C-1,2,3,4,6,7,8-HpCDD 13C-0CDD	89.8 40.0 - 135 98.1 40.0 - 135 91.8 40.0 - 135 93.2 40.0 - 135 76.6 40.0 - 135 53.3 40.0 - 135		A signal to n B Analyte is C Chemical i D Presence	abeled Standard outside QC range but oise ratio is >10:1 present in Method Blank Interference of Diphenyl Ethers incentration is below calibration range
13C-2.3.7.8-TCDF 13C-1.2.3.7.8-PeCDF 13C-2.3.4.7.8-PeCDF 13C-1.2.3.4.7.8-HxCDF 13C-1.2.3.6.7.8-HxCDF 13C-1.2.3.4.6.7.8-HxCDF 13C-1.2.3.4.6.7.8-HpCDF 13C-1.2.3.4.7.8.9-HpCDF 13C-1.2.3.4.7.8.9-HpCDF 13C-1.2.3.4.7.8.9-HpCDF	91.8 40.0 - 135 96.4 40.0 - 135 86.4 40.0 - 135 88.3 40.0 - 135 80.5 40.0 - 135 81.8 40.0 - 135 81.8 40.0 - 135 79.7 40.0 - 135 80.9 40.0 - 135 80.1 40.0 - 135		E Analyte co F Analyte co J Analyte co M Maximum ND Analyte No NP Not Provid	ncentration is above calibration range infirmation on secondary column incentration is below calibration range possible concentration of Detected at Detection Limit Level
Cleanup Surrogate			S Sample ad X Matrix inte	cceptance criteria not met
37CI-2,3,7,8-TCDD	80.5 50.0 - 150			-

3/30/2018

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EPA Method 8290 PCDD/F



FAI, ID: 11341-001-SA Client ID: 1728588-01 Matrix: Solid Batch No: X4445	Date Extracted: 03-21-2018 Date Received: 03-02-2018 Amount: 5.00 g % Solids: 97.28				DFAL4-12-20 n: DB5MS		Acquired: 03-24-2018 2005 WHO TEQ: 0.0100 Basis: Dry Weight		
Compound	Con	c DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DI.	Qual
2.3.7.8-TCDD 1,2.3.7.8-PeCDD 1,2.3.4.7.8-HxCDD 1,2.3.6.7,8-HxCDD 1,2.3.7.8.9-HxCDD 1,2.3.7.8.9-HxCDD 0CDD	NI NI NI 0.84 5.2	0.218 0.291 0.309 0.275 7	j	0.00847 0.00158	0.0273 0.0570 0.0793 0.0940 0.0823 0.0842 0.172	Total TCDD Total PeCDD Total HxCDD Total HpCDD	ND ND ND 1.77	0.187 0.218 0.309	1
2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HyCDF 1,2,3,4,7,8,9-HyCDF 0CDF	NI NI NI NI NI NI NI	0 0.196 0 0.206 0 0.360 0 0.346 0 0.357 0 0.387 0 0.335 0 0.322		:	0.0269 0.0449 0.0468 0.0437 0.0417 0.0574 0.0657 0.0747 0.0883 0.170	Total TCDF Total PeCDF Total HxCDF Total HpCDF	ND ND ND ND	0.138 0.206 0.387 0.335	
Internal Standards 13C-2.3,7,8-TCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,4,6,7,8-HxCDD 13C-1,2,3,4,6,7,8-HxCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PcCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF 13C-1,2,3,4,7,8-HxCDF	% Rec 88.2 97.2 91.7 94.7 89.0 74.4 93.9 99.5 98.6 90.9 92.0 89.6 94.1 90.4 96.4 78.0	QC Limits 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135 40.0 - 135	Qual		A sign B Ans C Ch D Pre DNQ Ans E Ans F Ans J Ans M Ma ND Ans NP Not P Pre S Sar	topic Labeled St. all to noise ratio allyte is present in emical Interferen isence of Diphen alyte concentratio alyte concentratio alyte concentratio alyte concentratio alyte concentratio in the concentration in the co	is >10:1 n Method Bla ce lyl Ethers on is below o on on seconda on is below o concentration at at Detection a Whatman oriteria not i	nk alibration ra salibration ra ary column alibration ra n on Limit Lev	inge ange inge
Cleanup Surrogate 37Cl-2,3,7,8-TCDD	80.1	50.0 - 150			* Re:	sult taken from d	ilution or rein	jection	

Reviewed By: 3/30/2018

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		BC La	TRACT ORDER aboratories 728588	11341 OOC	
SENDING LABORATORY: BC Laboratories 4100 Atlas Ct Bakersfield, CA 93308 Phone: 661-327-4911 Fax: 661-327-1918 Project Manager: Molly M	Aeyers		5172 Hillsdale Circle El Dorado Hills, CA 9: Phone :(916) 934-0900 Fax: (916) 934-0999	boratory \$FRNTL-EINV 5762	
Tracking Nomb	per: 4705	703011837 Expires	Laboratory ID	Comments	
Sample ID: 1728588-01	Solids Sam	npled:10/04/17 08:25	200000000000000000000000000000000000000	metals, dioxin, Cr6 added per	r Kirk. mm 3/1
og8290s Full Scan FRNTL Containers Supplied:	03/15/18 17:00	11/03/17 08:25			
				e e e e e e e e e e e e e e e e e e e	
Comainers Supplied:				*	
Released By	3-1-18 Date	Va.	Receive By	3/2/2018 Date	1000



Subcontract Report for 1728588 PDF File Name: wo_1728588_sub_FRNTL_addn.pdf Page 7 of 8



Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: 11341

Client:	BC Laboratories, Inc
Client Project ID:	1728588
Date Received:	03/02/2018
Time Received:	10:00 am
Received By:	KZ
Logged In By:	SC
# of Samples Received:	1
Duplicates:	0
Storage Location:	R-3

Golden State Overnight
47057030118371811893
Yes
No
No
0
Ice
Yes
Yes
No
No
Yes
No
N/A

Anomalies or additional comments:

Please note that the sample was received in a clear glass jar. NELAP requires samples be received in amber glass bottles or jars. Although this anomaly will not affect your results, we are required by NELAP to make a note of it. We will proceed with analysis unless directed otherwise by you.

000007 of 000008

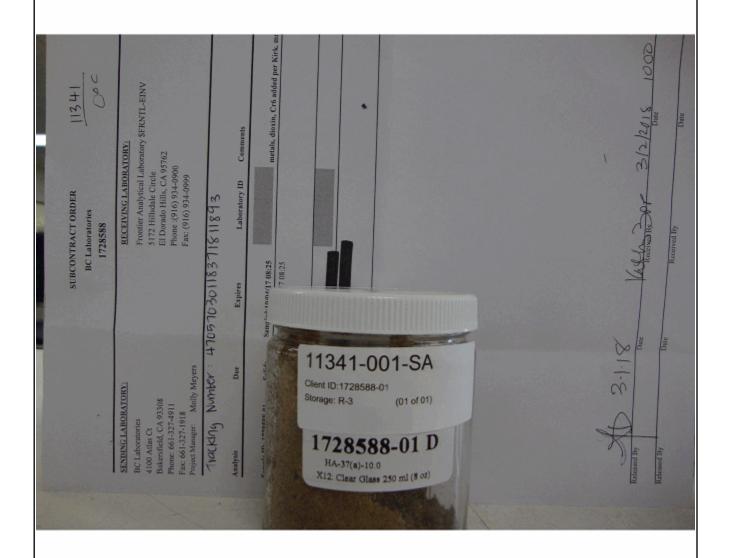
5172 Hillsdale Circle * El Dorado Hills, CA 95762 * Tel (916) 934-0900 * Fax (916) 934-0999 * www.frontieranalytical.com

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Subcontract Report for 1728588 PDF File Name: wo_1728588_sub_FRNTL_addn.pdf Page 8 of 8





000008 of 000008

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Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 93 of 94

Reported: 04/02/2018 11:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Notes And Definitions

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Stantec - SLO

Suite A

A10

J Estimated Value (CLP Flag)

MDL Method Detection Limit

ND Analyte Not Detected

PQL Practical Quantitation Limit

A01 Detection and quantitation limits are raised due to sample dilution.

A02 The difference between duplicate readings is less than the quantitation limit.

A07 Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix

interference.

Detection and quantitation limits were raised due to matrix interference.

A57 Chromatogram not typical of motor oil.

L07 The Laboratory Control Sample (LCS) recovery is not within laboratory established control limits.

pH1:1 pH result reported on a 1:1 dilution of sample

Q01 Sample precision is not within the control limits.

Q02 Matrix spike precision is not within the control limits.

Q03 Matrix spike recovery(s) is(are) not within the control limits.

S05 The sample holding time was exceeded.

S09 The surrogate recovery on the sample for this compound was not within the control limits.

Report ID: 1000726020 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 94 of 94



Date of Report: 01/16/2018

Kirk Henning

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Client Project:

[none]

BCL Project:

Former Northern Landfill

BCL Work Order:

1728589

Invoice ID:

B282668, B291234

Enclosed are the results of analyses for samples received by the laboratory on 10/6/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000661341

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Stuart Buttram
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101



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Chain of Custody and Cooler Receipt Form for 1728589 Page 1 of 4 Chain of Custody Form □ 1 Day Result Request "Surcharge STD 5 Day" 2 Day" DISTRIBUTION led for EDT System # Sample Matrix Yasfe Water Ground Waster Drinking Water Analysis Requested K661.327.4911 BC Laboratories, Inc. - 4100 Atlas Ct. - Bakersfield, CA 93308 Project Name Former Northern 08:40 1:25 54:0 08:45 98:(5 55:01 Project #: 185850429. 30.000 80 08:55 10:30 0.55 Send Copy to State of CA? (EDT) EDF Required? ŝ □ Yes □ No Geotracker COLOSICO Sampled ABORATORIES, INC. □ Yes City, State, Zipt San Luis Oldis Co, CAGAL Sampler(s): ΖP Street Address: 3437 Fordress 19-40-10.0 40-15,0 4A-41-25.0 -39-20.D -14-41-20.0 14-41-10.0 HA-41-15.0 JA-39-10.0 X JA-49-15.0 4-39-15.0 44-49-10.0 Hennaha Phone; (\$05) 250-2354 Fax: Email: Kitck, Henry Ü Work Order #: 00 Illing Address Client: P.O. #: 1 \mathcal{Q} Attn: ĊĬĊ.

Report ID: 1000696064 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 3 of 25



Chain of Custody and Cooler Receipt Form for 1728589 Page 2 of 4 Chain of Custody Form D1 Day Result Request "Surcharge OSTD O S Day** O 2 Day** -4100 Atlas Ct. - Bakersfield, CA 93308 - 661.327.4911 - Fax: 661.327.1918 - www.bclabs.com Comments notely edselvy Drinking Water Sludge Send Copy to State of CA? (EDT) EDF Required? ° N □ Geotracker Sampled LABORATORIES, INC. Date Project #: 1255Ksnu Yes □ Yes Project Name: Sampler(s): Same as above BC Laboratories, Inc. Description V Phone: (202) 252-2853 Street Address: City, State, Zip: Nork Order #: Email 0 Billing Address Client

Report ID: 1000696064 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 4 of 25



Chain of Custody and Cooler Receipt Form for 1728589 Page 3 of 4

BC LABORATORIES INC. Submission #: 17-2858	9			C C	IDDING (ONTAIN	ER		REE LIQU	IID
SHIPPING INFORM Fed Ex UPS Ontrac [BC Lab Field Service Other		Delivery	<u> </u>	Ice Ches	(Spec	lone 🗆	Box 🗆		ES D N	0 0
Refrigerant: Ice SD Blue Ice □	None	_ o	ther 🗆	Comm	ents:					
Custody Seals Ice Chest □	Container		None	(1) Comr	nents:					
All samples received? Yes 🕻 No 🗆 📝	All samples o							h COC? Y		
COC Received Emi	ssivity: mperature:		ontainer: ,0	.c ,	Thermom	eter ID: 2	.⊃4 °°	Date/Time Analyst-U	oje D I	0'4E
					SAMPLE	NUMBERS		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	V	ī
SAMPLE CONTAINERS	1	2	3	4	5	.6.	7	8	9	10
OT PE UNPRES										
401/801/1601 PE UNPRES								-		
2cz Cr*	-									
OT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 40x / 80x / 160x	-									
PT CYANIDE	-			-						
PT NITROGEN FORMS	 									
PT TOTAL SULFIDE	 			-						
202. NITRATE / NITRITE	 			<u> </u>						
PT TOTAL ORGANIC CARBON	 			-						
PT CHEMICAL OXYGEN DEMAND	1									
PIA PHENOLICS 40ml VOA VIAL TRAVEL BLANK	1		-							
									-	
40ml VOA VIAL	1									
OT EPA 1664 PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
OT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
OT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1				}						
802 EPA 548	1									
OT EPA 549										
OT EPA 8015M	1									
OT EPA 8270										
Soz / 16oz / 32oz AMBER										
802 / 1602 (320 JAR	A-	A	A	I A	A	A	A	LA_	A	A
SOIL SLEEVE		5								
PCB VIAL										
PLASTIC BAG		*								
TEDLAR BAG										-
FERROUS IRON										
ENCORE		1.5								
SMART KIT		1								,
			 	1		1				
SUMMA CANISTER		.1	1			d		-		-



Chain of Custody and Cooler Receipt Form for 1728589 Page 4 of 4

Submission #: 17 - 285 SHIPPING INFO Fed Ex	RMATION									
Fed Ex UPS Ontro Oth Refrigerant: Ice Blue Ice	ac □ Hand				UDDINO	CONTAI	uen	T	EDEE 110	
BC Lab Field Service Oth Refrigerant: Ice O Blue Ice		I Dalling		Si Si	HIPPING	CONTAIL	VER		FREE LIC /ES 🗆 1	
Refrigerant: Ice D Blue Ice			y u	Othe	f 🗆 (Spec	Mone 🗆	BOX 🗆	11 '		
	a tobeony			Othe	T LI (Spec				w /	S
Custody Seals Ice Chest □	□ None		Other 🗆	Comn	ents:					
Intact? Yes 🗆 No 🗇	Containe		None	Com	ments:					
All samples received? Yes V. No 🗆	All samples	containers	s intact? Y	es 120° No	0	Descrip	tion(s) mate	h COC? Y	es DP No	П
	Emissivity:								J.019	
` /	Chinostvity:		Container:							
_DKYES □ NO	Temperature:	(A)	.0	°C /	(c) 2		*C	Analyst-	loit D	646
	T				SAMPLE	NUMBERS			V	
SAMPLE CONTAINERS	17 1	121	3	4	5	6	7	8	9	10
QT PE UNPRES				and the same of th			-			
40z/80z/160z PE UNPRES										
20x Cr ⁺⁶										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 40z / 80z / 1	160z									
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
202. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON		1								1
PT CHEMICAL OXYGEN DEMAND										1
PLA PHENOLICS										\vdash
40mi VOA VIAL TRAVEL BLANK			1							
40ml VOA VIAL			1						-	+
QT EPA 1664			1		l	-				
PT ODOR										
RADIOLOGICAL			1			·				1
BACTERIOLOGICAL							-			
40 ml VOA VIAL- 504			1			-				
OT EPA 508/608/8080			1							1
QT EPA 515.1/8150			1							
OT EPA 515.108150										1
OT EPA 525 TRAVEL BLANK										
					-					
49ml EPA 547		—	1							+
40ml EPA 531.1			<u> </u>	-	-					-
802 EPA 548	_	_	-						-	+
QT EPA 549		-								+
QT EPA 8015M		 	<u> </u>			-				+
QT EPA 8270		-								
802/1602/3202 AMBER	- A .	A								+
802/1602/202JAR	A.	IA_								-
SOIL SLEEVE		-								-
PCB VIAL		1	-							-
PLASTIC BAG		-	-							
TEDLAR BAG			-							
FERROUS IRON										
ENCORE		1								
SMART KIT										
SUMMA CANISTER										
comments: Vi		-					7 //			

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/16/2018 16:39

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1728589-01 COC Number:

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-49-10.0 Sampled By: SISL

10/06/2017 16:40 Receive Date: Sampling Date: 10/05/2017 08:10

Sample Depth: Lab Matrix: Solids Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-49

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728589-02 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

HA-49-15.0 Sampling Point: SISL Sampled By:

10/06/2017 16:40 Receive Date: 10/05/2017 08:15 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-49

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728589-03 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location:

HA-39-10.0 Sampling Point: SISL Sampled By:

Receive Date: 10/06/2017 16:40 10/05/2017 08:40 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-39

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 Reported: 01/16/2018 16:39

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory **Client Sample Information**

1728589-04 COC Number:

> **Project Number:** Former Northern Landfill

Sampling Location:

Sampling Point: HA-39-15.0 Sampled By: SISL

10/06/2017 16:40 Receive Date: Sampling Date: 10/05/2017 08:45

Sample Depth: Lab Matrix: Solids Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-39

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728589-05 **COC Number:**

> **Project Number:** Former Northern Landfill

Sampling Location:

HA-39-20.0 Sampling Point: SISL Sampled By:

10/06/2017 16:40 Receive Date: 10/05/2017 08:55 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-39

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728589-06 COC Number:

> Former Northern Landfill **Project Number:**

Sampling Location:

HA-41-10.0 Sampling Point: SISL Sampled By:

Receive Date: 10/06/2017 16:40 10/05/2017 10:30 Sampling Date:

Sample Depth: Solids Lab Matrix: Soil Sample Type: Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-41

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/16/2018 16:39

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1728589-07 COC Number: --

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-41-15.0 Sampled By: SISL

5.0 Lab Matrix:

Sample Type: Soil
Delivery Work Order:

Global ID:

Receive Date: Sampling Date:

Sample Depth:

Location ID (FieldPoint): HA-41

10/06/2017 16:40

10/05/2017 10:35

10/06/2017 16:40

10/05/2017 10:45

Solids

Soil

Solids

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Receive Date:

Sampling Date:

Sample Depth:

Lab Matrix:

1728589-08 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-41-20.0 Sampled By: SISL

Sample Type:

Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-41

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728589-09 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-41-25.0 Sampled By: SISL **Receive Date:** 10/06/2017 16:40

Sampling Date: 10/05/2017 10:55

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-41

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000696064

Page 9 of 25

3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 **Reported:** 01/16/2018 16:39

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1728589-10 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-40-10.0 Sampled By: SISL **Receive Date:** 10/06/2017 16:40 **Sampling Date:** 10/05/2017 11:25

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-40

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728589-11 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-40-15.0 Sampled By: SISL **Receive Date:** 10/06/2017 16:40 **Sampling Date:** 10/05/2017 11:30

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-40

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728589-12 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-40-20.0 Sampled By: SISL **Receive Date:** 10/06/2017 16:40 **Sampling Date:** 10/05/2017 11:40

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-40

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

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Report ID: 1000696064 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 10 of 25

Reported: 01/16/2018 16:39

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	1728589-01	Client Sampl	e Name:	Former N	orthern Laı	3:10:00AM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	83.3	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1

			Run					
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/16/17 06:30	10/16/17 19:12	AS1	GC-13	1.007	B[J1691	

Page 11 of 25 Report ID: 1000696064

Stantec - SLO Reported: 01/16/2018 16:39

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728589-02	Client Sampl	Former N	Former Northern Landfill, HA-49-15.0, 10/5/2017 8:15:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	te)	81.7	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run					
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/16/17 06:30	10/16/17 19:35	AS1	GC-13	0.993	B[J1691	

Page 12 of 25 Report ID: 1000696064

Stantec - SLO Reported: 01/16/2018 16:39 3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728589-03	Client Sampl	Client Sample Name:		lorthern La	8:40:00AM			
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	te)	77.1	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

					QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/16/17 06:30	10/16/17 19:57	AS1	GC-13	1.010	B[J1691	

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4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Stantec - SLO Reported: 01/16/2018 16:39

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728589-04	Client Sampl	e Name:	Former N	orthern Laı	ndfill, HA-39-15.0,	10/5/2017	8:45:00AM	
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	e)	75.5	%	20 - 145 (LC	L - UCL)	EPA-8015B/FFP			1

Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/16/17 06:30	10/16/17 20:20	AS1	GC-13	1.017	B[J1691	

Page 14 of 25 Report ID: 1000696064

3437 Empresa Drive, Suite A

Reported: 01/16/2018 16:39

Project: Former Northern Landfill

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728589-05	Client Sampl	Former N	Former Northern Landfill, HA-39-20.0, 10/5/2017 8:55:00AM					
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	te)	76.3	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/16/17 06:30	10/16/17 20:42	AS1	GC-13	1.007	B[J1691	

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4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

3437 Empresa Drive, Suite A

Reported: 01/16/2018 16:39

Project: Former Northern Landfill

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728589-06	Client Sampl	Former N	lorthern La	0:30:00AM				
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	re)	66.4	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/16/17 06:30	10/16/17 21:05	AS1	GC-13	0.997	B[J1691	

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Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/16/2018 16:39

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728589-08	728589-08 Client Sample Name: Former Northern Landfill, HA-41-20.0, 10/5/2017 10:45:00AM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	87.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/16/17 06:30	10/16/17 21:28	AS1	GC-13	1.010	B[J1691	

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1. 1000696064 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Report ID: 1000696064

Page 17 of 25

Suite A

3437 Empresa Drive, Suite A

San Luis Obispo, CA 93401

Reported: 01/16/2018 16:39

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728589-09	Client Sampl	le Name:	Former N					
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogate	e)	70.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID
1	EPA-8015B/FFP	10/16/17 06:30	10/16/17 22:13	AS1	GC-13	1.010	B[J1691

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3437 Empresa Drive, Suite A

Reported: 01/16/2018 16:39

Project: Former Northern Landfill

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728589-10	Client Sampl	Former N	lorthern La	1:25:00AM				
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	re)	62.0	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/16/17 06:30	10/17/17 00:09	AS1	GC-13	0.993	B[J1691	

Page 19 of 25 Report ID: 1000696064

Reported: 01/16/2018 16:39

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

3437 Empresa Drive, Suite A Suite A San Luis Obispo, CA 93401

Stantec - SLO

Total Petroleum Hydrocarbons

BCL Sample ID:	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-40-20.0, 10/5/2017 11:40:00AM						
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run#	
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1	
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1	
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1	
Tetracosane (Surrogat	re)	66.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1	

			Run				QC	
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID	
1	EPA-8015B/FFP	10/16/17 06:30	10/16/17 21:51	AS1	GC-13	0.993	B[J1691	



3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/16/2018 16:39

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1691						
TPH - Gasoline	B[J1691-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[J1691-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[J1691-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[J1691-BLK1	68.1	%	20 - 14	5 (LCL - UCL)	

Report ID: 1000696064 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 21 of 25



Stantec - SLO

Reported: 01/16/2018 16:39

3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Suite A Project Number: [none]
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

								Control Limits			
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals	
QC Batch ID: B[J1691											
TPH - Diesel (FFP)	B[J1691-BS1	LCS	79.384	83.333	mg/kg	95.3		64 - 124			
Tetracosane (Surrogate)	B[J1691-BS1	LCS	2.6265	3.3347	mg/kg	78.8		20 - 145			

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3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/16/2018 16:39

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

									Cont		
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1691	Use	d client samp	le: Y - Des	cription: HA	-40-10.0, 10	/05/2017	11:25				
TPH - Diesel (FFP)	MS	1728589-10	ND	72.740	84.175	mg/kg		86.4		52 - 131	
	MSD	1728589-10	ND	70.548	81.967	mg/kg	3.1	86.1	30	52 - 131	
Tetracosane (Surrogate)	MS	1728589-10	ND	2.3731	3.3684	mg/kg		70.5		20 - 145	
	MSD	1728589-10	ND	2.2490	3.2800	mg/kg	5.4	68.6		20 - 145	

Report ID: 1000696064 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 23 of 25



Subcontract Report for 1728589 PDF File Name: wo_1728589_sub_all.pdf Page 1 of 1



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577 Tel/Fax: (510) 895-3675 / (510) 895-3680 http://www.EMSL.com/sanleandrolab@emsl.com

EMSL Order: 091800318 Customer ID: BCLA50 Customer PO: 1728589 Project ID:

Phone:

Attention: Molly Meyers

BC Laboratories, Inc. 4100 Atlas Court Bakersfield, CA 93308

Fax: (661) 327-1918 Received Date: 01/04/2018 9:30 AM

(661) 327-4911

Analysis Date: 01/09/2018

Collected Date:

Project: 1728589

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-A	sbestos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1728589-01		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
G91800318-0001		Homogeneous			
Soil is a problem matri	ix. Other analytical options are rec	commended such as EPA 6	300 PLM/TEM with milling prej	,	
1728589-03		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous		,	
091800318-0002		Homogeneous			
Soil is a problem matri	ix. Other analytical options are rec	ommended such as EPA 6	000 PLM/TEM with milling prep)	
1728589-04		Brown		100% Non-fibrous (Other)	None Detected
		Non-Fibrous			
G91800318-0003		Homogeneous			
Soil is a problem matri	ix. Other analytical options are rec	commended such as EPA 6	300 PLM/TEM with milling pre-	1	

Analyst(s) Adam C. Fink (3)

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The limit of detection, as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL. Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method. limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted

Samples analyzed by EMSL Analytical, Inc San Leandro, CA

Initial report from: 01/10/2018 02:56:23

ASB_PLM_0008_0001 - 1.78 Printed: 1/9/2018 11:56 PM

Page 1 of 1

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Stantec - SLO Reported: 01/16/2018 16:39 3437 Empresa Drive, Suite A

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

Notes And Definitions

San Luis Obispo, CA 93401

Suite A

MDL Method Detection Limit ND Analyte Not Detected

Practical Quantitation Limit PQL

Page 25 of 25 Report ID: 1000696064



Date of Report: 01/04/2018

Kirk Henning

Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Client Project:

[none]

BCL Project:

Former Northern Landfill

BCL Work Order:

1728590

Invoice ID:

B282669

Enclosed are the results of analyses for samples received by the laboratory on 10/6/2017. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1000661347

Sincerely,

Contact Person: Molly Meyers

Molly Meyers

Client Service Rep

Stuart Buttram

Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101



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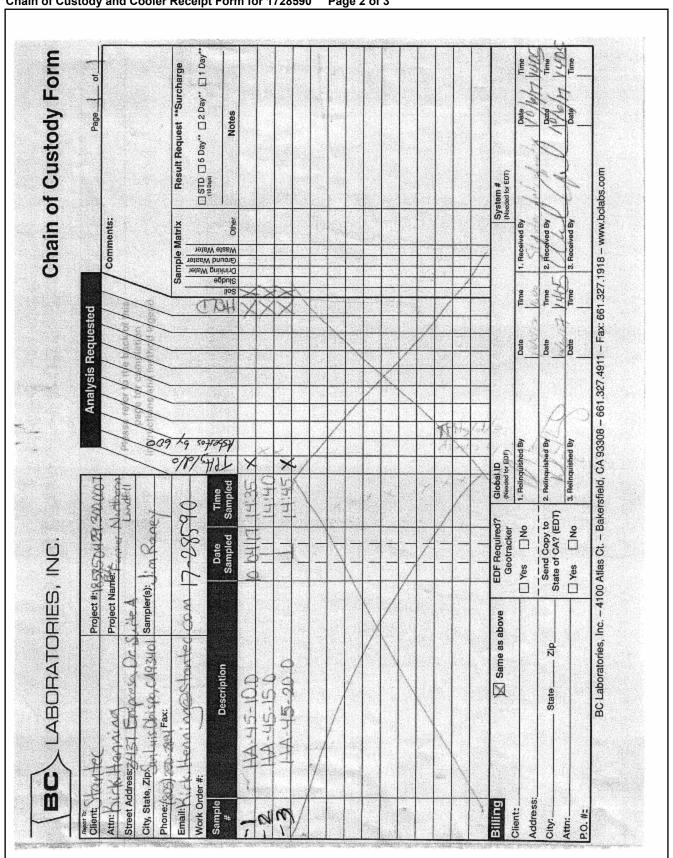


Chain of Custody and Cooler Receipt Form for 1728590 Page 1 of 3 Chain of Custody Form STD | 5 Day" | 2 Day" | 1 Day Result Request "Surcharge DISTRIBUTION Notes SUB-OUT System # (Needed for EDT) の末型 Comments Sample Matrix Vaste Water Ground Waater Drinking Water Singae MOH **Analysis Requested** CA 93308 Global ID 14:45 - 4100 Atlas Ct. - Bakersfield, 4:40 14.35 Project Name: Former Noctory Samplec Project #:1858550429.300,000 Send Copy to State of CA? (EDT) ity, State, Zip Suduis Obiso, CA93401 Sampler(s): Jim Raney EDF Required? Geotracker **ջ** □ ŝ Sampled $\frac{1}{2}$ LABORATORIES, INC. Date □ Yes □ Yes treet Address: 3431 Fangress Dr. Suche A Same as above BC Laboratories, Inc. 44-45-20.0 Description 1A-45-15.0 19-412-10.D X th: Kick Honging hone: (805) 250-289 Fax: mail: Kick U /ork Order #: ā Address Xient: .O. #: ¥ŧri:

Report ID: 1000691057 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 3 of 13



Chain of Custody and Cooler Receipt Form for 1728590 Page 2 of 3



Report ID: 1000691057 Page 4 of 13



Chain of Custody and Cooler Receipt Form for 1728590 Page 3 of 3

BC LABORATORIES INC. Submission #: \7 - 2859	D	C	OOLER	RECEIPT	FORM			Page	+-	of
SHIPPING INFORM		Delivery	· o	Ice Che	st`≥O ∣	CONTAIN None []	Box 🗆		FREE LIQ 'ES □ N W /	0 0
Refrigerant: Ice XD Blue Ice □	None		Other 🗆	Comm	ents:					
Custody Seals Ice Chest C	Containe		None	Com	ments:					
All samples received? Yes 🙀 No □ 💮	All samples o	containers	intact? Y	es 🏕 No	D	Descripti	ion(s) mate	h COC? Y	es 🌠 No	
7770	ssivity:		ontainer:		_Thermon		´ •°		0.01°	
OANDUS CONTAINISES					SAMPLE	NUMBERS			ν	
SAMPLE CONTAINERS	1	2	3	4	6	6	7	n		10
QT PE UNPRES										
40x/80x/160x PE UNPRES	 					-				-
202 Cr ⁻⁶				-					-	
OT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 40z / 80z / 160z		-						-		
PT CYANIDE		-		 						
PT NITROGEN FORMS PT TOTAL SULFIDE				 						
201 NITRATE / NITRITE	 			 						
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL									-	
QT EPA 1664										
PT ODOR (
RADIOLOGICAL										
BACTERIOLOGICAL	L									
40 mi VOA VIAL- 504										
OT EPA 508/608/8080	ļ									
OT EPA 515.1/8150	<u> </u>			ļ						
OT EPA 525	ļ			ļ						
QT EPA 525 TRAVEL BLANK	<u> </u>									
40ml EPA 547				-		-				
40ml EPA 531.1	-			-						
80z EPA 548	 			-						
QT EPA 549	 						-			
QT EPA 8015M	 			 						
QT EPA 8270				-						
80z/16cz/32oz AMBER										
80z/160z/320z JAR	Α	- 1								
SOIL SLEEVE	1-7-	1	14_							
PCB VIAL		-, -								
PLASTIC BAG	1			 						-
TEDLAR BAG FERROUS IRON	†	-								
		-								
ENCORE		<u> </u>								
SMART KIT										
SUMMA CANISTER		1								

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Laboratory / Client Sample Cross Reference

Laboratory Client Sample Information

1728590-01 COC Number: --

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-45-10.0 Sampled By: SISL

Sample Depth: --Lab Matrix: Solids

Sample Type: Soil

Delivery Work Order:

Receive Date: Sampling Date:

Global ID:

Location ID (FieldPoint): HA-45-10.0

10/06/2017 16:40

10/04/2017 14:35

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728590-02 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-45-15.0 Sampled By: SISL **Receive Date:** 10/06/2017 16:40 **Sampling Date:** 10/04/2017 14:40

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-45-15.0

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

1728590-03 COC Number: ---

Project Number: Former Northern Landfill

Sampling Location: ---

Sampling Point: HA-45-20.0 Sampled By: SISL **Receive Date:** 10/06/2017 16:40

Sampling Date: 10/04/2017 14:45

Sample Depth: --Lab Matrix: Solids
Sample Type: Soil
Delivery Work Order:

Global ID:

Location ID (FieldPoint): HA-45-20.0

Matrix: SO

Sample QC Type (SACode): CS

Cooler ID:

Report ID: 1000691057

Page 6 of 13

Stantec - SLO Reported: 01/04/2018 13:34

Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728590-01	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-45-10.0, 10/4/2017 2:35:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		ND	mg/kg	10	1.2	EPA-8015B/FFP	ND		1			
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogat	te)	68.8	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1			

	Run						QC			
Run #	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/13/17 10:30	10/17/17 02:04	AS1	GC-13	0.984	B[J1614			

Page 7 of 13 Report ID: 1000691057

Reported: 01/04/2018 13:34

Project: Former Northern Landfill

Project Number: [none] Project Manager: Kirk Henning

San Luis Obispo, CA 93401

Stantec - SLO

Suite A

3437 Empresa Drive, Suite A

Total Petroleum Hydrocarbons

BCL Sample ID:	lorthern La	Landfill, HA-45-15.0, 10/4/2017 2:40:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1
TPH - Diesel (FFP)		2.6	mg/kg	10	1.2	EPA-8015B/FFP	ND	J,A52	1
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1
Tetracosane (Surrogat	e)	58.6	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1

	Run					QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID		
1	EPA-8015B/FFP	10/13/17 10:30	10/17/17 02:27	AS1	GC-13	0.990	B[J1614		

Page 8 of 13 Report ID: 1000691057

Stantec - SLO Reported:

01/04/2018 13:34 Project: Former Northern Landfill 3437 Empresa Drive, Suite A

Suite A Project Number: [none] San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

BCL Sample ID:	1728590-03	Client Sampl	e Name:	Former N	Former Northern Landfill, HA-45-20.0, 10/4/2017 2:45:00PM							
Constituent		Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #			
TPH - Gasoline		ND	mg/kg	20	5.0	EPA-8015B/FFP	ND		1			
TPH - Diesel (FFP)		1.5	mg/kg	10	1.2	EPA-8015B/FFP	ND	J,A52	1			
TPH - Motor Oil		ND	mg/kg	20	6.5	EPA-8015B/FFP	ND		1			
Tetracosane (Surrogat	re)	45.7	%	20 - 145 (LC	CL - UCL)	EPA-8015B/FFP			1			

	Run						QC			
Run#	Method	Prep Date	Date/Time	Analyst	Instrument	Dilution	Batch ID			
1	EPA-8015B/FFP	10/13/17 10:30	10/17/17 02:49	AS1	GC-13	0.987	B[J1614			

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Report ID: 1000691057



Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B[J1614						
TPH - Gasoline	B[J1614-BLK1	ND	mg/kg	20	5.0	
TPH - Diesel (FFP)	B[J1614-BLK1	ND	mg/kg	10	1.2	
TPH - Motor Oil	B[J1614-BLK1	ND	mg/kg	20	6.5	
Tetracosane (Surrogate)	B[J1614-BLK1	75.2	%	20 - 14	5 (LCL - UCL)	

Report ID: 1000691057 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 10 of 13



Stantec - SLO

3437 Empresa Drive, Suite A

Suite A San Luis Obispo, CA 93401 **Reported:** 01/04/2018 13:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

								Control L	imits	
Constituent	QC Sample ID	Туре	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
QC Batch ID: B[J1614										
TPH - Diesel (FFP)	B[J1614-BS1	LCS	77.910	84.746	mg/kg	91.9		64 - 124		
Tetracosane (Surrogate)	B[J1614-BS1	LCS	2.7256	3.3912	mg/kg	80.4		20 - 145		

Report ID: 1000691057 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 11 of 13



Stantec - SLO

3437 Empresa Drive, Suite A

Suite A

San Luis Obispo, CA 93401

Reported: 01/04/2018 13:34

Project: Former Northern Landfill

Project Number: [none]
Project Manager: Kirk Henning

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

									Cont	rol Limits	
		Source	Source		Spike			Percent		Percent	Lab
Constituent	Туре	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery	Quals
QC Batch ID: B[J1614	Use	d client samp	ole: N								
TPH - Diesel (FFP)	MS	1728544-01	ND	75.873	84.459	mg/kg		89.8		52 - 131	
	MSD	1728544-01	ND	72.026	84.175	mg/kg	5.2	85.6	30	52 - 131	
Tetracosane (Surrogate)	MS	1728544-01	ND	2.7356	3.3797	mg/kg		80.9		20 - 145	
	MSD	1728544-01	ND	2.5540	3.3684	mg/kg	6.9	75.8		20 - 145	

Report ID: 1000691057 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 12 of 13

Stantec - SLO Reported: 01/04/2018 13:34

Project: Former Northern Landfill

Suite A Project Number: [none]
San Luis Obispo, CA 93401 Project Manager: Kirk Henning

Notes And Definitions

3437 Empresa Drive, Suite A

J Estimated Value (CLP Flag)

MDL Method Detection Limit

ND Analyte Not Detected

PQL Practical Quantitation Limit

A52 Chromatogram not typical of diesel.

Report ID: 1000691057 4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com Page 13 of 13



EMSL Order: 041727607 Customer ID: 32STAN25

Customer PO: Project ID:

Phone: (805) 546-0455

Fax:

Received Date: 09/20/2017 9:35 AM

Analysis Date: 09/20/2017 **Collected Date**: 09/18/2017

Attention: Melissa Baernstein

Stantec Consulting Services Inc

3437 Empresa Drive

Suite A

San Luis Obispo, CA 93401

Project: 185850429.300.0006 - Former Northern Landfill

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm²	Fibers/ cc	Notes
20170918-01	E Perimeter	9/18/2017	1222.20	16	100	0.002	20.4	0.006	
041727607-0001									

This method requires the submission of field blanks with each sample set. No discernable field blanks were submitted, samples are not blank corrected.

Analyst(s):	
Dave Poitras PCM (1)	_

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

Me

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Initial report from: 09/20/2017 13:23:13



Asbestos Chain of Custody For California Samples

EMSL Order Number (Lab Use Only):

EMSL Analytical, Inc. 200 Route:130 North EMSL. CINNAMINSON, N.J. Cinnaminson, NJ 08077

2011 SEP 201-800-220132675 FAX: (856) 786-5974

Company Name : Stantec Consulting Services Inc.		EMSL Customer ID:						
Street: 3437 Empresa Drive Suite A		City: San Lu		Ct-t-/Duni	CA			
Zip/Postal Code: 93401	Country: US		909-362-3942	State/Provid	nce: 🗥			
Report To (Name): Melissa Baernstein				Fax #:				
		Piease Provi	· · · · · · · · · · · · · · · · · · ·	x 🗸 Email				
Email Address: melissa.baernstein@s Project Name/Number: 185850429.300		Purchase Or	der:					
U.S. State Samples Taken: CA	5.0000	EMSL Project	t ID (Internal Use Or	nly):				
		erent, note instructions in comments/special instructions below.						
	Third-party billing requi			 				
3 Hour* 6 Hour	24 Hour 🔲 48 Hour	☐ 72 Hot	ır 🔲 96 Hour	1 Week	☐ 2 Week			
*TEM Air 3 hr. please call	☐ 4-4.5hr TA ahead to schedule. There is a pi	AT (AHERA only)		or EDA Level II '	TAT			
PCM - Air	TEM - Air	emun charge it	Soil/Rock/Vermicu					
■ NIOSH 7400	☐ AHERA 40 CFR, Part 7	63	☐ PLM CARB 435	_ · ·	Ĭ,			
☐ w/ OSHA 8hr. TWA	☐ EPA Level il		PLM CARB 435					
PLM - Bulk (Reporting Limit)	☐ NIOSH 7402		☐ TEM CARB 435					
☐ PLM EPA 600/R-93/116 (<1%)	☐ ISO 10312		☐ TEM Qualitative		rep .			
☐ PLM EPA NOB (<1%)	TEM - Bulk		☐ TEM Qualitative		· -			
☐ 400 (<0.25%) Point Count	☐ TEM EPA NOB		☐ PLM EPA 600/R	-93/116 with M	lilling Prep (<1%)			
☐ 400 (<0.25%) Point Count with Gravimetric Reduction	☐ Chatfield SOP		☐ PLM EPA 600/R	-93/116 with M	filling Prep (<0.25%)			
☐ 1000 (<0.1%) Point Count	☐ TEM EPA 600/R-93/116 Prep (<0.1%)**	16 with Milling TEM EPA 600/R-93/116 with Milling Prep						
1000 (<0.1%) Point Count with	*Lower reporting limits availab	le	*Lower reporting limits	availabie				
Gravimetric Reduction ☐ NIOSH 9002 (<1%)	TEM- Dust		Other					
TEM - Water: EPA 100.2	☐ Microvac - ASTM D 575	5						
Fibers >10µm	☐ Wipe - ASTM D6480	•	.					
All Fiber Sizes ☐ Waste ☐ Drinking	☐ Carpet Sonication (EPA	600/J-93/167)						
☐ Stop At First Positive (Clearly identi	fy homogenous groups be	low) Filter I	Pore Size (Air Samp	les): 🔳 0.8μ	ım □ 0.45μm			
Sampler's Name: Melissa Ba		T	Signature: Mo	10	maam			
Sample #	Sample Description	on		e/Area (Air) # (Bulk)	Date/Time Sampled			
	See attached	lloa		4				
		- - - -						
			'					
Client Sample # (s): 20180918-	-01 -		Total # c	of Samples:	102			
1 (2)	•	09/18/17		Time	: 17:30			
- Messiles	MAC DATE:	01/1841	7/20 10		000			
Received (Lab):	Date:	<u> </u>	(p-1-1	Time	: Y135z			
Comments/Special Instructions:								

Controlled Document - COC-51 Asbestos CA R0 01/05/2017

Stantec	•		Air Sampling Record	ecord			. Date:	Date: 109/18/17
2127 Impressor Drive SI	デ *		oject Name:	Former No	Project Name: Former Northern Landfill		Client:	1 13
San Luis Obispo, CA 93401		- -	Project #:	Project #: 185850429			_ Laboratory:_	EMSL
(805) 546-0455	041,10		Collected & Calibrated by:	orated by:	M. Baernstein	ָ ס	Calibration Source: 1858-0	1858-01
Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre .	Average	Volume	Comments
20180918-01	□ PCM □ Arsenic	25mm, 0.8um	<u> </u>	(<u>wi</u> 2)	× × ×			
	Ø	☐ 25mm, 0,45um	Stop Time	9		\$2.5% \$2.6%	1,222.2 L	
E perimeter	Lead	☐ 37mm, 0.8um	だがっ	ō	[3.8 <u>8</u>		-	
Sample No.	Sample Type	Media Type	Start Time	Total Time		Average	Volume	Comments
	□ PCM □ Arsenic	☐ 25mm, 0.8um			٠			
Sample Location	□ TEM □	☐ 25mm, 0.45um	Stop Time		Post			
	□ Lead □	□ 37mm, 0.8um	_					
Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments
	□ PCM □ Arsenic	□ 25mm, 0.8um						
Sample Location	□ 1EM □	☐ 25mm, 0,45um	Stop Time		Post			
	☐ Lead ☐	☐ 37mm, 0.8um				`		
Sample No.	Гуре	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments
Completion	PCM	25mm, 0.8um	2					
	□ [37mm, 0.8um	200		ç			
Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments
	□ PCM □ Arsenic	☐ 25mm, 0.8um						
Sample Location		□ 25mm, 0.45um	Stop Time		Post			
	☐ Lead ☐	☐ 37mm, 0.8um						
Sample No.	Imple Type	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments
2	PCM Arsenic	🗀 25mm. 0.8υm						
Sample Location	ם כ	25mm, 0.45um	Stop Time		Post			
	6000	- 3/11111, 0.00111		• 1				
Sumple Su	odmpie lype	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments
Sample Lacation		25mm, 0.45um	Stop Time		Post			
Ρ;		☐ 37mm, 0.8um						. 1
Sample 15	Sample Type	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments
211 117	☐ PCM ☐ Arsenic	☐ 25mm, 0.8um						~-
Sample Location		☐ 25mm, 0.45um	Stop Time		Post			-
		☐ 37mm, 0.8um						
Sample No.	mple Type		Start Time	Total Time	Pre	Average	Volume	Comments
Sample Londing	_	25mm, 0.8um						
sample Location		25mm, 0.45um	Siop lime		Post			
Sample No.	VDe	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments
	□ PCM □ Arsenic	☐ 25mm, 0.8um				(
Sample Location	□ TEM □	25mm, 0.45um	Stop Time		Post			
	□ Lead □	☐ 37mm, 0.8um				•		



3437 Empresa Drive

Attention: Melissa Baernstein

Suite A

EMSL Order: 041727867 Customer ID: 32STAN25

Customer PO: Project ID:

Phone: (805) 546-0455

Fax:

Received Date: 09/22/2017 9:30 AM

Analysis Date: 09/22/2017 **Collected Date**: 09/21/2017

San Luis Obispo, CA 93401 **Project:** 185850429.300.0006 / Former Northern Landfill

Stantec Consulting Services Inc

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm²	Fibers/ cc	Notes
20170921-01	N. Perimeter	9/21/2017	1528.30	<5.5	100	0.002	<7.01	<0.002	
041727867-0001									
20170921-02	E. Perimeter	9/21/2017	1538.84	<5.5	100	0.002	<7.01	<0.002	
041727867-0002									
20170921-03	S. Perimeter	9/21/2017	1538.84	<5.5	100	0.002	<7.01	<0.002	
041727867-0003									
20170921-04	W. Perimeter	9/21/2017	1517.76	<5.5	100	0.002	<7.01	<0.002	
041727867-0004									
20170921-05	N. Perimeter	9/21/2017	1328.04	<5.5	100	0.002	<7.01	<0.002	
041727867-0005									
20170921-06	E. Perimeter	9/21/2017	1317.50	<5.5	100	0.002	<7.01	<0.002	
041727867-0006									
20170921-07	S. Perimeter	9/21/2017							Not Analyzed
041727867-0007									
20170921-08	W. Perimeter	9/21/2017	1343.54	<5.5	100	0.002	<7.01	<0.002	
041727867-0008									

This method requires the submission of field blanks with each sample set. No discernable field blanks were submitted, samples are not blank corrected.

Analyst(s):	MALE
William Nguyen PCM (7)	Reniamin Filis Laboratory Manager

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Initial report from: 09/22/2017 12:25:39



Asbestos Chain of Custody For California Samples

EMSL Order Number (Lab Use Only):

EMSL Analytical, Inc. 200 Route 130 North

Cinnaminson, NJ 08077

PHONE: 1-800-220-3675

	04	1727807			FAX:	(856) 786-5974
Company Name : Stantec Cons	ulting Services Inc.	EMSL Custo	omer ID:			
Street: 3437 Empresa Drive Su		City: San Lu	uis Obispo		State/Provin	ce: CA
Zip/Postal Code: 93401	Country: US	Telephone #	±: 909-362-	-3942	Fax #:	
Report To (Name): Melissa Bae		Please Prov	ide Results	: 🗆 Fax	✓ Email	
Email Address: melissa.baerns		Purchase O				
Project Name/Number: 1858504		EMSL Proje		al Hea Onl	ul:	
U.S. State Samples Taken: CA	I					
EMSL Bill-to:	Same Different: If Bill-to is Third-party billing	different, note instruct g requires written autho		nents/special	instructions bel	ow. 5
		(TAT) Options - Pl	ease Check			SE N
☐ 3 Hour* ■ 6 Hour	24 Hour 48 H			96 Hour	☐ 1 Week	2 Week
*TEM Air 3 hr., ple	 4-4. ase call ahead to schedule. There	5hr TAT (AHERA only is a premium charge f		M AHERA O	EPA Level II T	AT. 22
PCM - Air	TEM - Air				te (Reporti	
■ NIOSH 7400	☐ AHERA 40 CFR,	Part 763		ARB 435 -		
☐ w/ OSHA 8hr. TWA	☐ EPA Level II			ARB 435 -		2 2
PLM - Bulk (Reporting Limit)	☐ NIOSH 7402			CARB 435 - CARB 435 -	C (0.01%)*	ω
☐ PLM EPA 600/R-93/116 (<1%)					ia Filtration Pr	ер
☐ PLM EPA NOB (<1%)	TEM - Bulk		☐ TEM C	Qualitative v	ia Drop Mount	t Prep
400 (<0.25%) Point Count	☐ TEM EPA NOB		☐ PLM E	PA 600/R-9	93/116 with Mi	illing Prep (<1%)
☐ 400 (<0.25%) Point Count with Gravimetric Reduction	☐ Chatfield SOP		☐ PLM E	PA 600/R-9	93/116 with Mi	illing Prep (<0.25%)
☐ 1000 (<0.1%) Point Count	TEM EPA 600/R-9	93/116 with Milling	□ ТЕМ Е	PA 600/R-	93/116 with M	illing Prep (<0.1%)*
☐ 1000 (<0.1%) Point Count with Gravimetric Reduction	*Lower reporting limits a	available	*Lower rep	orting limits	available	
☐ NIOSH 9002 (<1%)	TEM- Dust		Ot	ther		
TEM - Water: EPA 100.2	☐ Microvac - ASTM	D 5755				
	inking Wipe - ASTM D64	180				
All Fiber Sizes Waste Dri	nking	(EPA 600/J-93/167)	7-1-1		
☐ Stop At First Positive (Clear)	y identify homogenous grou	ps below) Filter	Pore Size (Air Sample	es): 🔳 0.8µ	m □ 0.45µm
Sampler's Name: Meliss	a Baernstein	Sampler's	s Signature	· M.Os	alber	noteu
Sample #	Sample Des	cription			/Area (Air) # (Bulk)	Date/Time Sampled
	See attac					
	Oct attack	nou log				
				1		

Controlled Document - COC-51 Asbestos CA R0 01/05/2017

Client Sample # (s):

Received (Lab):

Relinquished (Client):

Comments/Special Instructions:

20170921-01

Date:

-20170921-08

Date: 09/21

Total # of Samples: 8

Time: 14:30

Time:

930 AM

OrderID: 041727867 RECE EMI NNAMIN IVED SL ISON. N.J 9: Date: 69/21/17 Comments Calibration Source: 1858-01 Comments Comments Comments Comments Comments Comments Comments Comments Comment Client: Phillips 66 Laboratory: EMSL 1,528.30 1,328.04 1,538.84 1,538.84 1,343.54 1,317.50 1,517.76 1,377-50 Volume Volume Volume Volume Volume Volume Volume Volume Volume 0.415 10.54 10.54 10.07 10.54 10.54 10.54 10.54 Average Average Average Average Average Average Average Average Collected & Calibrated by: M. Baernstein Project Name: Former Northern Landfill 10.54 Post 10.54 10.54 10.9 10.54 10.54 10.54 29 10.54 10.54 10.54 15.01 10.54 ps.01 10.54 Post . Post Post Post Post ost ost ost Pre Project #: 185850429 146 19 Total Time Total Time Total Time Total Time 139 Total Time Total Time Total Time Total Time Total Time Total Time 手 126 25 25 形 **Air Sampling Record** 10:05 10:02 (2:10 80:01 12:08 60:01 10:12 Stop Time 07:35 Stop Time Stop Time 12:14 Stop Time 10:00 Stop Time 10:01 Stop Time 07:38 Stop Time Start Time Start Time Start Time Start Time 07:45 Start Time Stop Time Start Time tart Time tart Time Stop Time Start Time Stop Time Start Time 7:0 25mm, 0.45um 37mm, 0.8um ☐ 25mm, 0.45um ☐ 25mm, 0.45um ☐ 25mm, 0.45um 25mm, 0.45um ☐ 25mm, 0.45um 25mm, 0.45um 25mm, 0.45um 25mm, 0.45um 25mm, 0.45um ✓ 25mm, 0.8um № 25mm, 0.8um M 25mm, 0.8um № 25mm, 0.8um M 25mm, 0.8um 37mm, 0.8um № 25mm, 0.8um 37mm, 0.8um 37mm, 0.8um 37mm, 0.8um ✓ 25mm, 0.8um 37mm, 0.8um ☐ 25mm, 0.8um 37mm, 0.8um ✓ 25mm, 0.8um 37mm, 0.8um 37mm, 0.8um 37mm, 0.8um Media Type M Area A Area A Area A Area M Arrea Arsenic Arsenic B Area ☐ Arsenic A Area Sample Type PCM TEM PCM TEM N PCM PCM TEM PCM TEM PCM TEM PCM PCM □ PCM TEM Lead PCM TEM □ Lead □ Lead □ Lead □ Lead PCM PCM □ Lead □ Lead D Lead □ Lead □ TEM O TEM □ TEM 3437 Impreza Drive, Suite A San Luis Obispo, CA 93401 Stantec 20170921-06 20170921-08 W Der Emetel 20170921-07 perimeter perimeter 20170921-05 portmeter permeter 20170921-03 20170921-04 20170921-0 perimoper 20170921-02 occimete. perimeter ample Location sample Location sample Location sample Location ample Location ample Location ample Location sample Location ample Location umple Location 805) 546-0455 sample No. sample No. sample No. Sample No. Sample No. ample No. dample No.



Redlands, CA 92374

Attention: Melissa Baernstein

EMSL Order: 041727873 Customer ID: STTC26

Customer PO: Project ID:

Phone: (909) 335-6116

Fax:

Received Date: 09/22/2017 9:30 AM

Analysis Date: 09/22/2017 **Collected Date**: 09/20/2017

Project: 185850429.300.0006 / Former Northern Landfill

25864 Business Center Drive, Suite F

Stantec Consulting Services Inc

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm²	Fibers/ cc	Notes
20170920-01	N Perimeter	9/20/2017	1306.96	<5.5	100	0.002	<7.01	<0.002	
041727873-0001									
20170920-02	E Perimeter	9/20/2017	1301.88	<5.5	100	0.002	<7.01	<0.002	
041727873-0002									
20170920-03	S Perimeter	9/20/2017	1333.12	<5.5	100	0.002	<7.01	<0.002	
041727873-0003									
20170920-04	W Perimeter	9/20/2017	1353.95	<5.5	100	0.002	<7.01	<0.002	
041727873-0004									
20170920-05	N Perimeter	9/20/2017	1306.96	<5.5	100	0.002	<7.01	<0.002	
041727873-0005									
20170920-06	E Perimeter	9/20/2017							Filter Damaged
041727873-0006									Filter damaged upon receipt.
20170920-07	S Perimeter	9/20/2017	1249.80	<5.5	100	0.002	<7.01	<0.002	
041727873-0007									
20170920-08	W Perimeter	9/20/2017	1275.34	<5.5	100	0.002	<7.01	<0.002	
041727873-0008									
20170920-09	N Perimeter	9/20/2017	1254.93	<5.5	100	0.002	<7.01	<0.002	
041727873-0009									
20170920-10	E Perimeter	9/20/2017	1239.27	<5.5	100	0.002	<7.01	<0.002	
041727873-0010									
20170920-11	S Perimeter	9/20/2017	1177.92	<5.5	100	0.002	<7.01	<0.002	
041727873-0011									
20170920-12	W Perimeter	9/20/2017	1216.38	<5.5	100	0.002	<7.01	<0.002	
041727873-0012									

This method requires the submission of field blanks with each sample set. No discernable field blanks were submitted, samples are not blank corrected.

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Report amended: 09/27/2017 13:15:25 Replaces amended report from: 09/23/2017 12:18:47 Reason Code: Data Entry-Change to Appearance



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com EMSL Order: 041727873 Customer ID: STTC26

Customer PO: Project ID:

Attention: Melissa Baernstein

Stantec Consulting Services Inc 25864 Business Center Drive, Suite F

Redlands, CA 92374

Phone: (909) 335-6116

Fax:

Received Date: 09/22/2017 9:30 AM

Analysis Date: 09/22/2017 **Collected Date**: 09/20/2017

Project: 185850429.300.0006 / Former Northern Landfill

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample Location Sample Date (liters) Fibers Fields (fib/cc) mm² cc Notes

Analyst(s):
William Nguyen PCM (11)

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

Me

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Report amended: 09/27/2017 13:15:25 Replaces amended report from: 09/23/2017 12:18:47 Reason Code: Data Entry-Change to Appearance



Asbestos Chain of Custody For California Samples EMSL Order Number (Lab Lise Order)

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5	4	1	7	7	7	8	7	3

EMSL Analytical, Inc. 200 Route 130 North CINNAMINSON, N.J. 201 Cinnaminson, NJ 08077 PHONE 22809 220-3675 FAX: (856) 786-5974

					<u>`</u>	
Company Name : Stantec Consulting	Services Inc.	EMSL Custo	mer ID:			
Street: 3437 Empresa Drive Suite A		City: San Lu	ıis Obisp	0	State/Provi	nce: CA
Zip/Postal Code: 93401	Country: US	Telephone #	909-36	2-3942	Fax #:	
Report To (Name): Melissa Baernstein		Please Prov	ide Resul	ts: 🔲 Fax	c ☑ Email	
Email Address: melissa.baernstein@s	stantec.com	Purchase O	rder:			-
Project Name/Number: 185850429.30	0.0006	EMSL Project	ct ID (Inte	mal Use On	iv)·	
U.S. State Samples Taken: CA	☐ Different: If Bill-to is different	· .			• •	-1
	Third-party billing requi	ires written autho	orization.		i iristructions p	elow.
	Turnaround Time (TAT)					
C 2 VOUI ME 6 HOUT C	24 Hour 48 Hour 4-4.5hr T	T2 Ho		96 Hour	1 Week	<
*TEM Air 3 hr., please call	ahead to schedule. There is a p	remium charge f	or 3 Hour T			
PCM - Air NIOSH 7400	TEM - Air				<u>ite</u> (Report	ting Limit)
l <u> </u>	☐ AHERA 40 CFR, Part 7	/63		CARB 435 - CARB 435 -		
W/ OSHA 8hr. TWA	☐ EPA Level II			CARB 435 -		
PLM – Bulk (Reporting Limit)	☐ NIOSH 7402		11		- C (0.01%)*	
☐ PLM EPA 600/R-93/116 (<1%)	☐ ISO 10312		1:		ia Filtration F	•
☐ PLM EPA NOB (<1%) ☐ 400 (<0.25%) Point Count	TEM - Bulk ☐ TEM EPA NOB				/ia Drop Mou	
☐ 400 (<0.25%) Point Count with			}			filling Prep (<1%)
Gravimetric Reduction	☐ Chatfield SOP		L PLM	EPA 600/R-	93/116 with N	filling Prep (<0.25%)
☐ 1000 (<0.1%) Point Count	TEM EPA 600/R-93/116 Prep (<0.1%)**	3 with Milling	□ТЕМ	EPA 600/R-	93/116 with N	Milling Prep (<0.1%)*
☐ 1000 (<0.1%) Point Count with Gravimetric Reduction	*Lower reporting limits availab	le	*Lower re	porting limits	available	-
☐ NIOSH 9002 (<1%)	TEM- Dust	_	<u>c</u>	Other		
TEM Water: EPA 100.2	☐ Microvac - ASTM D 575	55	[
Fibers >10µm 🔲 Waste 🔲 Drinking	☐ Wipe - ASTM D6480				•	
All Fiber Sizes Waste Drinking	☐ Carpet Sonication (EPA	600/J-93/167)	<u> </u>			
Stop At First Positive (Clearly identi	fy homogenous groups be	low) Filter	Pore Size	(Air Sampl	es): 🔳 0.8µ	um 🔲 0.45µm
sampler's Name: Melissa Ba	ernstein	Sampler's	Signatur	e: Melis	eatBae	moten
Sample #	Sample Description	on			e/Area (Air) # (Bulk)	Date/Time Sampled
'	See attached	log				
			-	_		
						
	· · ·	<u> </u>				
		i				
Client Sample # (s): 2017 0920	-01 - 2	017092	0-12	Total # of	Samples:	12)
Relinguished (Client): McCoxat &	reuntem Date:	09/20/1			Time	19:3D
Received (Lab):		1 () 2	2 17	<u>'</u>	Time	: 4):30
Comments/Special Instructions:						v = 3
Controlled Document - COC-51 Ashestos CA RO 01	<u> </u>					

Page 1 of ______ pages

Air Sampling Record

Project Name: Former Northern Landfill

Date: 09/20/15

Client: Phillips 66

Laboratory: EMS

Sampte No. Sample Location Sample Location (805) 546-0455 3437 Impreza Drive, Suile A N perimeted W personeter canple Location Sample Location Sample Location sample*No. W persone to sample Location <u> 201709 20 -04</u> Sample Location sample Location 20170920-02 sample Location **20170920**-0 <u> 20170920-03</u> ample No. 20110920-DC 0170920-06 <u>0170920-05</u> 0170920-07 E per meter A portion to Section exact Jaramisas X PCM ₩ PCM □ 1EM **⊠** PCM □ Lead **X** PCM EX PCM ☐ Lead ⊠ PCM ☐ Lead X PCM □ Lead **⊠** PCM □ Lead ₽ PCM □ Lead ☐ TEM D TEM ☐ Lead Mai 🗆 ☐ Lead □ Lead □ 1EM □ IEM □ TEM □ TEM IEW □ Lead sample lype Sample Type Sample Type Sample Type Sample Type Sample Type X Sample Type Sample Type Sample Type Sample Type 렸 PCM □ Ares □ Areo □ \$ph/rea □ Ares MARCA **⊠**4rea ☐ Arsenic ☐ Arsenic ☐ Arsenic M Area **B**Area Arsenic Arta Prop Arsenic Arsenic Arsenic Arsenic Arsenic Arsenic 25mm, 0.8um
25mm, 0.45um
37mm, 0.8um □ 25mm, 0.45um ☐ 37mm, 0,8um 🔯 25mm, 0.8um 25mm, 0,45ur 🔀 25mm, 0.8um ☐ 37mm, 0.8um 🔯 25mm, 0.8um ☐ 37mm, 0.8um 25mm, 0.45ur 🛱 25mm, 0.8um ☐ 37mm, 0.8um 🔀 25mm, 0.8um ☐ 37mm, 0.8um 25mm, 0.8um ☐ 37mm, 0.8vm ☐ 37mm, 0.8um Media Type Media Type Медіа Туре Media Type ☐ 25mm, 0.45um Media Type 25mm, 0.8um 🖾 25mm, 0.8um ☐ 37mm, 0.8∪m ☐ 25mm, 0.45um 25mm, 0.45um Media Type ☐ 25mm, 0.45um ☐ 25mm, 0.45um Media Type ☐ 25mm, 0.45urr Media Type Media Type Media Type 37mm, 0.8um 25mm, 0,8um Collected & Calibrated by: 13:54 Stop Time (5:3 Start Time Stop Time Start Time 13-52 Stop Time \$50p Time Stop Time Stop Time Start Time Stop Time 08:43 08:40 Project #: 185850429 Start Time Start Time Start Time Stop Time Start Time Start Time 15:34 Start Time Stop Time itart Time 84:01 10:4 0:36 2:54 0:53 TE:01 8h 501 (0:38) 12:48 10:53 Total Time Total Time (منسم) Total Time ارتیک Total Time اTotal Time) (مسم) Total Time Total Time (אייא) Total Time 20 2 方 139 25 124 728 Post 10. 29 Post (2.27) M. Baernstein 17. 20 \$ Pos Post Post Post Post Post Post Pre Pre Pre Pre 12.58 10:54 10,54 0,54 **155**:01 0.54 (b. 64 10.54 10.54 10.54 0.5 10.29 10.54 10.SI 25 Average Average Average Average Average Average Average Average Average verage 12.27 512-01 10.415 10.54 10.415 10.54 12.0] 0.2 10.54 12.43 10.415 Volume Volume Volume Volume Calibration Source: 1858 -0 Volume -1,249-80 Volume Volume Volume Volume 1,275.34 1,306,96 1,254.93 1,306.96 ,275.34 353,95 1,301.88 239.2 , 333.12 Comments 09:23 Comments Comments Comments Comments 6.0 mph sustained 09:53 sa Comments Comments Comments Comments Comments 10 22 SOLY SEP wind speed CINHAMINSON. ,: -₇,

041727873

OrderID:

Darm 11

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18 OF

) Stantec

3437. Impreza Drive, Suite A San Luis Obispo, CA 93401 (805) 546-0455

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Air Sampling Record Project Name: Former Northern Landfill

Project #: 185850429

Client: Phillips 66 Date: <u>69/20/</u>

Laboratory: EMS

0/X/0

		Collection &		Calibrated by:	M. Baernstein	Ī	Calibration source:	1 600	
Sample No.	l (Ype	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments	
2017092-0-11	T PCM		1	2 9	12.58)) 7	,	
Somple Location	lead S	☐ 37mm, 0.8um	Stop lime	46	Postes 11.9/A	12.27	75.111.1		
Sample No.	Sample Type		Start Time	Total Time (かぶん)	ر 2 گ	verage	Volume	Comments	
Sample Location		25mm, 0.45um	Stop Time	م 1	Post ·	· 10 至	1016.28		
M sectioneter		☐ 37mm, 0.8um	15:46	**	12.50	7.7	1 7 800		
Sample No.	уре	Media Type	Start Time	Total Time	L	Average	Volume	Comments	
	□ PCM □ Arsenic	☐ 25mm, 0.8um			\	ı			
Sample Location	O TEM	□ 25mm, 0.45um	Stop Time		Post				
٠	□ Lead □	□ 37mm, 0.8um							
Sample No	Sample Type	Media Type	Start Time	Total/Time	Pre	Average	Volume	Comments	
	□ PCM □ Arsenic	☐ 25mm, 0.8um							
Sample Location	I TEM II	□ 25mm, 0.45um	Stop Time		Post		ı		
	□ Lead □	☐ 37mm, 0.8∪m)				
Sample No.	Imple Type	Media Type	Start Time	Total Time (Pre /	Average	Volume	Comments	
	PCM	☐ 25mm, 0.8um				•			
Sample Location		25mm, 0.45um	Stop Time		Poff)			
		☐ 37mpx, 0.8um		/					
Sample No.	Sample Type Arrenic Arrenic	Mediá Type	Start Time	TotalVime	Pre	Average	Volume	Comments	NAME OF STREET
Sample Location		25mm. 0.45um	Stop Time	_	Post				
	_	☐ 37mm, 0.8um	<u> </u>				,N		НО
Sample No.	Sample Type	Media Type	StanVime	Total Time		Average	Volume /	Comments	
	□ PCM / ☐ Arsenic	☐ 25mm 0.8um	/	2	/				
Sample Location	□ 1EM □		Stop\Time		Post	1	1		
	□ jead □	□ 37mm, 0.8\u00fcm							
Sample No.	imple Type	Media Type	Start Time	Total Kigne	Pre	Average /	Volume	Comments	
Sample Location		25mm 0.45im		/		\			
	☐ Lead ☐		/		•	\			'n
sample No.	Sample Type	Media Type	Start Time	foral Time	Pre	Average	Volume	Comments	į
	☐ PCM ☐ Arsenic	☐ 25mm, 0.8um	/		•				•
Sample Location	O TEM O	☐ 25mm, 0.45um	Stop Time		Post				
		☐ 37mm, 0.8um		<u>_</u> .	\				
sample No.	ype]	edia Type	Start Time	Total Time	Pre	Average	Volume	Comments	
		_ ;							
yampie tocallon		25mm, 0,45um	Stop lime		Post			*	ა ა
	□ Leod □	☐ 37mm, 0.8um						D ~	7



Redlands, CA 92374

Attention: Melissa Baernstein

EMSL Order: 041728156 Customer ID: STTC26

Customer PO: Project ID:

Phone: (909) 335-6116

Fax:

Received Date: 09/26/2017 9:40 AM

Analysis Date: 09/26/2017 **Collected Date**: 09/22/2017

Project: 185850429.300.0006 - Former Northern Landfill

25864 Business Center Drive, Suite F

Stantec Consulting Services Inc

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm²	Fibers/ cc	Notes
20170922-01	N Perimeter	9/22/2017	1317.50	9	100	0.002	11.5	0.003	
041728156-0001									
20170922-02	E Perimeter	9/22/2017	1328.04	<5.5	100	0.002	<7.01	<0.002	
041728156-0002									
20170922-03	S Perimeter	9/22/2017	1333.12	. 7	100	0.002	8.92	0.003	
041728156-0003									
20170922-04	W Perimeter	9/22/2017	1353.95	6	100	0.002	7.64	0.002	
041728156-0004									
20170922-05	N Perimeter	9/22/2017	1359.66	<5.5	100	0.002	<7.01	<0.002	
041728156-0005									
20170922-06	E Perimeter	9/22/2017	1353.95	<5.5	100	0.002	<7.01	<0.002	
041728156-0006									
20170922-07	S Perimeter	9/22/2017	1380.74	<5.5	100	0.002	<7.01	<0.002	
041728156-0007									
20170922-08	W Perimeter	9/22/2017	1422.90	<5.5	100	0.002	<7.01	<0.002	
041728156-0008									
20170922-09	N Perimeter	9/22/2017							Not Analyzed
041728156-0009									
20170922-10	E Perimeter	9/22/2017							Not Analyzed
041728156-0010									
20170922-11	S Perimeter	9/22/2017	1370.20	<5.5	100	0.002	<7.01	<0.002	
041728156-0011									
20170922-12	W Perimeter	9/22/2017	1301.88	<5.5	100	0.002	<7.01	<0.002	
041728156-0012									

This method requires the submission of field blanks with each sample set. No discernable field blanks were submitted, samples are not blank corrected.

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Report amended: 09/27/2017 13:10:45 Replaces amended report from: 09/27/2017 13:07:13 Reason Code: Data Entry-Change to Appearance



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order: 041728156 Customer ID: STTC26

Customer PO: Project ID:

Attention: Melissa Baernstein

Stantec Consulting Services Inc 25864 Business Center Drive, Suite F

Redlands, CA 92374

Phone: (909) 335-6116

Fax:

Received Date: 09/26/2017 9:40 AM

09/26/2017 **Analysis Date:** Collected Date: 09/22/2017

Project: 185850429.300.0006 - Former Northern Landfill

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

LOD Volume Fibers/ Fibers/ Location Sample Date Fibers Fields Notes Sample (liters) (fib/cc) mm²

Analyst(s):

Dave Poitras PCM (10)

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

THE

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC-IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Report amended: 09/27/2017 13:10:45 Replaces amended report from: 09/27/2017 13:07:13 Reason Code: Data Entry-Change to Appearance



Asbestos Chain of Custody For California Samples EMSL Order Number (Lab Use Only): 0417 28156

200 Route 130 North
~ E L / ~ .
Cinnaddidsandyj98077
Duous: 1 900 220 2675

⊬EMSL Analytical, Inc.

PHONE: 1-800-220-36/5

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Company Name : Stanted	Consulting	Services Inc.	EMSL Custo	mer ID:			
Street: 3437 Empresa Dr	rive Suite A		City: San Lu	is Obispo		State/Provi	nce: CA
Zip/Postal Code: 93401		Country: US	Telephone #	: 909-362-	3942	Fax #:	
Report To (Name); Meliss	a Baernstein	·	Please Provi	ide Results:	: 🗌 Fax	☑ Email	
Email Address: melissa.t	paernstein@s	stantec.com	Purchase Or	rder:			
Project Name/Number: 18		0.0006	EMSL Projec	ct ID (Interna	al Use Oni	(y):	
U.S. State Samples Taken EMSL Bill		Different: If Bill-to is different	ent, note instructi	ions in comme	ents/specia	l instructions be	elow.
		Third-party billing requi	res written autho	nization.			
☐ 3 Hour* ■ 6 F	Hour 🗔	Turnaround Time (TAT) 24 Hour	Options – Ple		6 Hour	1 Week	2 Week
	•	☐ 4-4.5hr T/	AT (AHERA only)	<u> </u>			
*TEM Air 3	hr., please call a	ahead to schedule. There is a pi	remium charge fo			<i>r EPA Level II</i> ite (Report	
■ NIOSH 7400		TEMEAII ☐ AHERA 40 CFR, Part 7	⁷ 63			<u>пе</u> (кероп - А (0.25%)	ing Lant)
☐ w/ OSHA 8hr. TWA		☐ EPA Level II		PLM CA			1
	1 2 - 245	I		1		- B (0.1%)*	
PLM - Bulk (Reporting I ☐ PLM EPA 600/R-93/116		│				- C (0.01%)* /ia Filtration F	ren (
☐ PLM EPA NOB (<1%)	(- 1 70)	TEM - Bulk	<u> </u>			ia Drop Mour	
☐ 400 (<0.25%) Point Cou		☐ TEM EPA NOB				•	filling Prep (<1%)
☐ 400 (<0.25%) Point Cou Gravimetric Reduction	nt with	☐ Chatfield SOP			PA 600/R-	93/116 with M	filling Prep (<0.25%)
☐ 1000 (<0.1%) Point Cou	ınt	☐ TEM EPA 600/R-93/116	with Milling	 ∏TEME	PA 600/R-	93/116 with N	filling Prep (<0.1%)*
☐ 1000 (<0.1%) Point Cou		Prep (<0.1%)**					9 (10.170)
Gravimetric Reduction		*Lower reporting limits availab	le .	*Lower repo	nting limits	available 	
☐ NIOSH 9002 (<1%)		TEM- Dust		Oth	<u>ier</u>		
<u>TEM - Water:</u> EPA 100.2		☐ Microvac - ASTM D 575	55				
Fibers >10µm ☐ Waste All Fiber Sizes ☐ Waste	☐ Drinking	☐ Wipe - ASTM D6480	600/1 02/467				
	□ Drinking	☐ Carpet Sonication (EPA					
		ify homogenous groups be	low) Filter	Pore Size (A	\ir Sampl	es): 🔳 0.8	<u>ım □ 0.45µm</u>
Sampler's Name: IVIE	lissa Ba	aernstein	Sampler's	Signature:	7 11	alfaen	
Sample #		Sample Descripti	on			e/Area (Air) # (Bulk)	Date/Time Sampled
·		See attached	l loa				
			<u> </u>				_
	•				ļ		
]		
-			 	<u> </u>			
Client Sample # (s): 2	0170922	-01 .20	170922	-19	Total # of	Samples:	
Relinquished (Client):	Queto	period Date:	, ,	-\ /	TOTAL IF O		: 15:
Received (Lab):	The state of	7	77	25-17			Oll
Comments/Special Instruc	ctions:	Date:		-0-1/_		Time	1,704
							_

Controlled Document - COC-51 Asbestos CA R0 01/05/2017

Page 1 of _____ pages

	Stantec		Air Sampling Record
_		1.400151	Project Name: Former Northern Landfil
	343/ Impreza Drive, Suite A	プレイナンはつな	Project #: 185850429

San Luis Obispo, CA 93401 (805) 546-0455 Collected & Calibrated by: M. Baernstein Calibration Source: (858-0) Client: Phillips 66
Laboratory: EMSL Date: Off

					•						Ord
*	Erstop time 4 total volume a	(151-89)	(p.o.9)	([0.54])	(619)	Stop Time	25mm, 0.45um	- SARB	Lead	E perlmeter	erID:
Fioth	Comments		Average	10.54	Total Time	Stort Time	Media Type 25mm, 0.8um	Type □ Arsenic		20170922-10	9 041
	10 nds sustained: 11.5-12 notions	(101:00)	(m.54)	(10.54)	(10)	[12:38]	37mm, 0.8um		leod	N permeter	7281 7281
E *	volume untroun)	Volume Volume	Average	10.54		11:28	№ 25mm, 0.8um	7	PCM	20176922-09	156
	aprilia levalinate, a mos	1		10.54	5	14:11	☐ 37mm, 0.8um		□ Lead	M personeter	
	downwind workers	1 400 90	. 19.5 +	Post 0.54	33	Stop lime	25mm, 0.8um	□ Arsenic	□ ⊠ FCM	2017.0922 - 08 Sample Location	
	Comments	Volume	Average	Pre	Total Time	Start Time,	Media Type	Туре	Sample Type	Sample No.	
	العادة المادة	(1,000,1)	; ;	<u>ે</u> •	ย	ار: 39	☐ 37mm, 0.8um		□ Leod	S personeter	
	b	1 280 74	2	10.54	<u>.</u>	09:28	25mm, 0.8um	₹ 🗆	□ XX PCM	25/10922-0	
	Comments > X	Volume	Average	Pre	Total Time	Start Time	Media Type	Type	Sample Type	Sample No.	
Pa	downwind remainder of orday	1,380.70	G14.01	6 ,29	OC	1032	37mm, 0.8um	i DACA	Lead	E personater	
ge	mpwind of series)) 1	; ;	10.54	<u>5</u>	09:22	25mm, 0.8um			20170922-06	
2	Comments, TS 20	Volume	Average	Pre	Total Time	Start Time	Media Type	Туре		Sample No.	
Of	CIE			10.54	121	11:27	☐ 37mm, 0.8um	_	□ Lead	N perimeter	
	Cross wind 1	1,250/	10.54	Post	170	Stop Time	25mm, 0,45um	EQ (Sample Location	
'. 3	Comments	Volume	Average .		Total Time	Start Time	Media Type	Type Amenic	Sample Type	Somple No.	
	-			10.24		09:3	☐ 37mm, 0.8um		-	N perimeter	
	nowind @ this time	1,353,95	514.03	Post	138	Stop Time	☐ 25mm, 0.45um			. І	
	Colimens deble	volume	Average	10.5 1	, a	07:21 07:21	25mm, 0.8um	Arsenic	EX PCM	20(70922-04	
	-			10.29	1 1	09:27	☐ 37mm, 0.8um		□ Lead	Specimeter	
	no wind @ this time	1,355,12	10.415	Post	128	Stop Time	☐ 25mm, 0,45um			Sample Location	
	Collinging		N elogio	[o.54		ارات الا	12 25mm, 0.8um	Arsenic		20170922-03	
	(Life	Volumo	A	40.01	Total Time	86120	Medic Type	Type	Sample Type	Sample No.	
		1,328.04	10.54	Post	126	Stop Time	25mm, 0.45um			Sample Location	
	no wind a trivitime			10.54		오 -	🔀 25mm, 0.8um	1 ☐ Arsenic	⊠ PCM	20170922-02	
	Comments	Volume	Average	Pre C	Total Time	Start Time	Media Type	Туре	Sample Type	Sample No.	
_	(U) S W. (A)	1,317.50	10.54	Post	U	Stop Time	25mm, 0.45um	L ⊠ K		odmpie Location	
(-	To wind this the			10.54	5	07:11	25mm, 0.8um		PCM	10-25BUCIOS	
	Comments	Volume	Average	Pre	Total Time	Start Time	Media Type	Туре	Sample Type	Sample No.	
_	10000										

Stantec		Air Sampling Record	ecord			Date:	Date: 09/22/17	
3437 Impreza Drive, Suite A	しるのあわげり	Project Name: Former Normern Landtill	Former NO	Them Lanuii		Cller	Client: Philips 66	
		Project #: 185850427	18585U429	A Bassasia		Laboratory: (/W-)	155X-01	
		Collected & Calibrated by.	raled by.	M. Boemstein		Calibration source: 1839	: 1000 O1	
Sample Type	ΙŞ	Start Time	Total Time	Pre	Average	Volume	Comments	
PCM			3 7	10.54		,		p.F
	Αςτερ. □ 25mm, 0.45υm □ 37mm, 0.8υm	m Stop Time	083	10.54	hs-01	1,376.20		2
Sample No. Sample Type	Media Type	S	Total Time		Average	Volume	Comments	
PCM	Arsenic 🖾 25mm, 0.8um	1:49		10.54		2	^ >	
□ TEM KI	Area 25mm, 0.45um	S	125	Post	10.415	11301-88	Serings	
M perimeter - Lead -	☐ 37mm, 0.8um	13:54		12:01			-	
Sample Type	Media Type	S	Total Time	Pre	Average	Volume	Comments	
□ PCM □	Arsenic							
Sample Location	☐ 25mm, 0.45um	n Stop Time		Post				
	☐ 37mm, 0.8um							
Sample No. Sample Type	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments	
TEM		n Stop Time		Post				,
	☐ 37mm, 0.8um							
Sample No. Sample Type	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments	
TEM !		n Stop Time		Post				
☐ Lead	☐ 37mm, 0.8∪m						•	
Sample No. Sample Type	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments 😅	13
□ РСМ □	Arsenic 25mm, 0.8um		ł				Sι	٩N
	☐ 25mm, 0.45um	n Stop Time		Post			d3:	. // Al
	☐ 37mm, 0.8um						Z .	
Sample No. Sample Type	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments a	SN Sy
PCM	Arsenic 25mm, 0.8um						∀′	10
Sample Location	☐ 25mm, 0.45um	n Stop Time		Post			, ,	1' l
□ Lead	☐ 37mm, 0.8um						tb:	∱· <u></u> ⊧
mple Type	I <u>X</u>	Start Time	Total Time	Pre	Average	Volume	Comments C	1
PCM	Arsenic 25mm, 0.8um						3	
	☐ 25mm, 0.45um	n Stop Time		Post				
□ Lead □	☐ 37mm, 0.8um							
mple Type] ≩	Start Time	Total Time	Pre	Average	Volume	Comments	
PCM	Arsenic 25mm, 0.8um							
	25mm, 0.45um	n Stop Time		Post				
☐ Lead ☐	☐ 37mm, 0.8um							
mple Type	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments	
PCM								
	25mm, 0.45um	n Stop Time		Post)	
□ Lead □	☐ 37mm, 0.8um						Page	, 2 2 2



Redlands, CA 92374

Stantec Consulting Services Inc

25864 Business Center Drive, Suite F

Attention: Melissa Baernstein

EMSL Order: 041728216 Customer ID: STTC26

Customer PO: 185850429.300

Project ID:

Phone: (909) 335-6116

Fax:

Received Date: 09/26/2017 9:40 AM

Analysis Date: 09/26/2017 **Collected Date**: 09/25/2017

Project: 185850429.300.0006 / Former Northern Landfill / Phillips 66

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm²	Fibers/ cc	Notes
N Perimeter	9/25/2017	1317.50	16	100	0.002	20.4	0.006	
E Perimeter	9/25/2017	1317.50	6	100	0.002	7.64	0.002	
S Perimeter	9/25/2017	1365.25	<5.5	100	0.002	<7.01	<0.002	
W Perimeter	9/25/2017	1359.66	8	100	0.002	10.2	0.003	
N Perimeter	9/25/2017	1365.25	13	100	0.002	16.6	0.005	
E Perimeter	9/25/2017	1338.58	<5.5	100	0.002	<7.01	<0.002	
S Perimeter	9/25/2017	1338.58	<5.5	100	0.002	<7.01	<0.002	
W Perimeter	9/25/2017	1433.44	14	100	0.002	17.8	0.005	
N Perimeter	9/25/2017	1370.20	<5.5	100	0.002	<7.01	<0.002	
E Perimeter	9/25/2017	1349.12	<5.5	100	0.002	<7.01	<0.002	
S Perimeter	9/25/2017	1376.00	<5.5	100	0.002	<7.01	<0.002	
W Perimeter	9/25/2017	1359.66	<5.5	100	0.002	<7.01	<0.002	
	N Perimeter E Perimeter W Perimeter N Perimeter E Perimeter W Perimeter W Perimeter V Perimeter E Perimeter S Perimeter S Perimeter	N Perimeter 9/25/2017 E Perimeter 9/25/2017 S Perimeter 9/25/2017 W Perimeter 9/25/2017 N Perimeter 9/25/2017 E Perimeter 9/25/2017 W Perimeter 9/25/2017 N Perimeter 9/25/2017 E Perimeter 9/25/2017 S Perimeter 9/25/2017 S Perimeter 9/25/2017	Location Sample Date (liters) N Perimeter 9/25/2017 1317.50 E Perimeter 9/25/2017 1317.50 S Perimeter 9/25/2017 1365.25 W Perimeter 9/25/2017 1359.66 N Perimeter 9/25/2017 1365.25 E Perimeter 9/25/2017 1338.58 S Perimeter 9/25/2017 1338.58 W Perimeter 9/25/2017 1433.44 N Perimeter 9/25/2017 1370.20 E Perimeter 9/25/2017 1349.12 S Perimeter 9/25/2017 1376.00	Location Sample Date (liters) Fibers (liters) N Perimeter 9/25/2017 1317.50 16 E Perimeter 9/25/2017 1317.50 6 S Perimeter 9/25/2017 1365.25 <5.5	Location Sample Date (liters) Fibers Fields N Perimeter 9/25/2017 1317.50 16 100 E Perimeter 9/25/2017 1317.50 6 100 S Perimeter 9/25/2017 1365.25 <5.5	Location Sample Date (liters) Fibers Fields (fib/cc) (fib/cc) N Perimeter 9/25/2017 1317.50 16 100 0.002 E Perimeter 9/25/2017 1317.50 6 100 0.002 S Perimeter 9/25/2017 1365.25 <5.5	Location Sample Date (liters) Fibers Fields (fib/cc) mm² N Perimeter 9/25/2017 1317.50 16 100 0.002 20.4 E Perimeter 9/25/2017 1317.50 6 100 0.002 7.64 S Perimeter 9/25/2017 1365.25 <5.5	N Perimeter

This method requires the submission of field blanks with each sample set. No discernable field blanks were submitted, samples are not blank corrected.

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Initial report from: 09/26/2017 22:18:58



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com EMSL Order: 041728216 Customer ID: STTC26

Customer PO: 185850429.300

Project ID:

Attention: Melissa Baernstein

Stantec Consulting Services Inc 25864 Business Center Drive, Suite F

Redlands, CA 92374

,

Phone: (909) 335-6116

Fax:

Received Date: 09/26/2017 9:40 AM

Analysis Date: 09/26/2017 **Collected Date**: 09/25/2017

Project: 185850429.300.0006 / Former Northern Landfill / Phillips 66

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample Location Sample Date (liters) Fibers Fields (fib/cc) mm² cc Notes

Analyst(s):

Susan Muir PCM (12)

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Initial report from: 09/26/2017 22:18:58



Asbestos Chain of Custody For California Samples EMSL Order Number (Lab Use Only):

, EMSL Analytical, In	C.
200 Route 130 Nort	h
200 Route 130 Nort	

CINGHA AMINSOTHINH 08077 PHONE: 1-800-220-3675 2017 SEPAZ 18550 786-5934

Company Name : Stante	c Consulting S	ervices Inc.	EMSL Custo	mer ID:	L		
Street: 3437 Empresa D		_	City: San Lu			State/Provi	nce: CA
Zip/Postal Code: 93401		Country: US	Telephone #	909-362-	-3942	Fax #:	
Report To (Name): Melis	sa Baernstein		Please Prov	ide Results	: 🗌 Fax	📝 Email	-
Email Address: melissa.		i	Purchase Or	rder:			
Project Name/Number: 1		.0006	EMSL Projec	ct ID (<i>intern</i>	al Use Onl	y):	
U.S. State Samples Take EMSL Bi		☐ Different: If Bill-to is differe	ent, note instruct	ions in comm	nents/special	instructions be	elow.
		Third-party billing requi	res written autho	orization.	·		
☐ 3 Hour* ☐ 6	Hour D	Turnaround Time (TAT) 24 Hour (48 Hour)	Options – Ple		(96 Hour	1 Week	2 Week
	<u> </u>	4-4.5hr TA	T (AHERA only)				•
PCM - Air	<u>3 hr., please call a</u> I	head to schedule. There is a pr TEM – Air	remium charge f				
■ NIOSH 7400	ļ	AHERA 40 CFR, Part 7	'63			<u>ite</u> (Report · A (0.25%)	mg Limit)
☐ w/ OSHA 8hr. TWA					ARB 435 -		
					ARB 435 -		
PLM - Bulk (Reporting DLM EPA 600/R-93/11		☐ NIOSH 7402 ☐ ISO 10312		-		- C (0.01%)* ria Filtration F	Prop
☐ PLM EPA NOB (<1%)	` ' 	<u>TEM - Bulk</u>		1 i		ia Drop Moui	•
400 (<0.25%) Point Co	· I	☐ TEM EPA NOB				-	filling Prep (<1%)
☐ 400 (<0.25%) Point Co	unt with	Chatfield SOP		D PLM E	PA 600/R-	93/116 with N	filling Prep (<0.25%)
Gravimetric Reduction ☐ 1000 (<0.1%) Point Co	unt	☐ TEM EPA 600/R-93/116	with Milling				• , ,
☐ 1000 (<0.1%) Point Co	- 1	Prep (<0.1%)**	_		PA GUUR-	93/116 WILIT	filling Prep (<0.1%)*
Gravimetric Reduction	UIIL WILL	*Lower reporting limits available	le	*Lower rep	orting limits a	available	
☐ NIOSH 9002 (<1%)		TEM- Dust	•	Ot	her	_	
TEM - Water: EPA 100.2	:	Microvac - ASTM D 575	5				
Fibers >10µm ☐ Waste	1	☐ Wipe - ASTM D6480					
All Fiber Sizes	☐ Drinking	Carpet Sonication (EPA	600/J-93/167)				•
☐ Stop At First Positive	(Clearly identif	y homogenous groups be	low) Filter	Pore Size (Air Sample	es): 🔳 0.8 _l	um 🔲 0.45μm
Sampler's Name: Me	elissa Ba	ernstein	Sampler's	 Signature	: M.O.	atbaers	No.
			-		Volume	/Area (Air) '	Date/Time
Sample #	 	Sample Description		 	HA	# (Bulk)	Sampled
		See attached	log				
		121,21]			
		1 3 3					
-			· · ·		-	-	
			!			·	
Client Sample # (s): 201	b925-01	- 90	170925-		Total # of	Samples:	
Relinquished (Client):	Circut Ba	orratorn Date:	09/25/1	_ 7	•	Time	
Received (Lab):	LA	Date:	() (5)	(17		Time	9:00
Comments/Special Instru	uctions:	Date.	<u>ν</u> υ	o • 			· η- ους
•		1					
							. (
Controlled Document - COC-51		qs;2017 Page 1 of _				 	

Page 1 Of

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Air Sampling Record

Project Name: Former Northern Landfill

Client: Phillips 66 Date: 1591/

	(- Pro	oject Name:	Former No	Project Name: Former Northern Landfill		Client:	Client: Phillips 66
	3437 Impreza Drive, Suite A	ife A		Project #: 185850429	185850429			Laboratory: EMS	EMSL
	(805) 546-0455		Colle	Collected & Calibrated by:	rated by:	M. Baernsteir	ゔ	Calibration Source: (858-0)	1858-01
	Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre	Average	Volume (£)	Comments
	20(70925-01	EX PCM ☐ Arsenic	🔯 25mm, 0.8um	07:21	<u> </u>	10.54	<u>.</u>		J. 1.000
	Sample Location	□ IEM ☑ Area	25mm, 0.45um	Stop Time	125	2 2 2	10.54	1.317.50	BEST OFFICE STATES
	Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments ,
	20170925-02	☑ PCM ☐ Arsenic	✓ 25mm, 0.8um	07:26		 P-S4	•		NO WIND & CITCO
	Sample Location	□ IEM ⊠Area	25mm, 0,45um	Stop Time	<u> </u>	Post	0.00	1,317,50	08:30-09:15 Sapram
	E primeter	□ Lead □	☐ 37mm, 0.8um	(M:3)		(ઇ.54		_	upwind /crosswind
	Sample No.	ype	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments
	20170925-0.3	_	25mm, 0.8um	<u> </u>		10.54	•))	no wind (207:29
	Sample Location	Ties XX	25mm, 0,45um	Stop Time	127	Post	10.75	1,365.25	08:30-09:15 3 pydr SIE
	Samble No.	Sample Type	Media-Type	Start Time	Total Time		Average	Volume	Comments
	20170925-04	☑ PCM ☐ Arsenic	😾 25mm, 0.8um			0.54 -			100-20-001-001-001-001-001-001-001-001-0
	Sample Location	□ IEM \$1 ≯vec	☐ 25mm, 0.45um	Stop Time	[29	- <u>§</u>	10,54	1,359.66	08:30-04:10 and the
	Sample No.	Sample Type	Media Type	Start Time	Total Time	-	Average	Volume	Comments
	2017C925-85	☑ PCM ☐ Arsenic	🔯 25mm, 0.8um	09: 28	l I	0.54)	wind 3-4 mph sustained
	Sample Location	I TEM STARCO	25mm, 0.45um	Stop Time	127	Post	10:75	1, 560, 25	mission characto wasterly
	Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre Pre	Average	Volume	Comments
	20110925-06	☑ PCM ☐ Arsenic	⅓ 25mm, 0.8um	09133		10.54)	L10
	Sample Location	I TEM EXTAGO	25mm, 0.45um	Stop Time	127	Post	(0.54	1, 338.58	ZE NN
	I perimeter	□ Lead □	☐ 37mm, 0.8um			10.54			'
	Sample No.	Уþе	Media Type		Total Time	Pre	Average	Volume	
	20(70925-07	Ī	25mm; 0.8um-	- Oq:3-7-	Ĺ	10.54	}		i
	Sample Location		25mm, 0.45um	Stop Time	127	Post	10.54	1,338.58	A
	C perimeter		☐ 37mm, 0.8um		otol Time	J 0 -54	Avecan	_l	1
	90170925-08	☑ PCM ☐ Arsenic	25mm, 0.8um	4:20		15.0%	Ġ	٠ ,	;i
	Sample Location	□ TEM ®AREO	☐ 25mm, 0.45um	Stop Time	726	Post	18.54	作な25ト	~ 7
	N perimeter	□ Lead □	☐ 37mm, 0.8∪m	17-11		10.55			yowand
	Sample No.	Sample Type	Media Type		Total Time		Average	Volume	Comments
16	20170725-09	_	25mm, 0.8um	11:37	ī 7	10.54	Ĺ		wind 4 mph Westerly
282	Sample Location	TEM MARGA	25mm, 0.45um	Stop Time	8	Post D-ST	10.54	1,370.20	orpsswind
17	Sample No.	8	Media Type	- 1-	Total Time	Pre	Average	Volume	Comments
04	20110925-10	© PCM ☐ Arsenic	13 25mm, 0.8um	10:42	-	10-54	-	5 5	
D:	Sample Location		25mm, 0.45um	Stop Time	(28	2 2 2	45.4	71.776.17	Clarent South
rI	1 perimeter	☐ Lead ☐	☐ 37mm, 0.8um	10-54		(0.5			Page of Z

3437 Impreza Drive, Suite A San Luis Obispo, CA 93401 (805) 546-0455

Air Sampling Record

Project Name: Former Northern Landfill

Project #: 185850429

Laboratory: EMSI

Client: Phillips 66 Date: 09/25

(805) 546-0455	ı İ	Collect	Collected & Calibrated by:	rated by:	M. Baernstein	3	Calibration Source: 1858 -0-1	1858-21	ı
	7		4	* - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -				Commont	
2017 0925-11	Sample Type Arsenic	Media Type 25mm, 0.8um	sion lime	lotal lime	10.54	Average	Volume	Wind 4-6 man	
Sample Location		☐ 25mm, 0.45um	Stop Time	128	Post On	57.0	1,376		
O personeter	□ Lead □	☐ 37mm, 0.8um	15:55		טרט לט			Craswina	
Sample No.	ype T	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments	
20(70925-12	PCM L Arsenic		11:48	90	70.54	<u>1</u>		•	
W Se rimeter	□ Lead □	☐ 37mm, 0.8um	<u>ئ</u> ئا	Ĩ	15.01	15.0]	()) ()	upwind	
Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments	
/	□ PCM □ Arsenic	□ 25mm, 0.8um					\		
Sample Location	I TEM II	☐ 25mm, 0.45um	Stop Time		Post		\		
		☐ 37mm, 0.8um							
Sample No.	7	Media Type	Start-Time	Total-Time	Pre-	Average	Volume	Comments	
Sample Location	I TEM II STATE	25mm, 0.45um	Stop Time		Post	\			
		27mm, 0.8um							
Sample No.	Уре	MedioType	Start Time	Total Time	Pre	Average	Volume	Comments	
	_	25mm, 0.8um	1						
scripte recallen		25mm, 0.4sum /	Jiop Ilme	\	rosi				
Sample No.	Sample Type	Media Type	Start Time	total lime	Pre	Average	Volume	Comments .	;
		□ 25mm, 0.8um							
Sample Location	□ 1EM □	☐ 25mm, 0.45um	Stop fime	/	Post				
		☐ 37mm, 0.8um			/				11
Sample No.	ð	Media Type	Start Time	Total Time	Pre /	Average	Volume	Comments	
	PCM-								
Sample Location		25mm, 0.45um	Stop Time		Post	/			5P ווא
	□ Lead □	37mm, 0.8um							ı
Sample No.	Туре	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments	ил, И́б Д
	_	☐ 25mm, 0.8vm				/			
sample Location		25mm, 0.450m	Siop lime		Post		_		;
Sample No.	\g		Start Time	Total Time	Pre	Average	Volume	Comments	
	☐ PCM ☐ Arsenic	.Bum					/		
Sample Location	□ 1€M □	☐ 25mm, 0.45um	Stop Time		Post		/		
	□ Lead □	☐ 37mm, 0.8um							
Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre	Average	Volume	Comments	
	_	☐ 25mm, 0.8um							
Sample Location	TEM.	25mm, 0,45um	Stop Time		Post			S	٧
		□ 37mm, 0.8um		-				Page 2)

Page 3 Of

3

OrderID: 041728216



3437 Empresa Drive

Stantec Consulting Services Inc

EMSL Order: 041728325 Customer ID: 32STAN25

Customer PO: Project ID:

Phone: (805) 546-0455

Fax:

Received Date: 09/27/2017 9:30 AM

Analysis Date: 09/27/2017 **Collected Date**: 09/26/2017

San Luis Obispo, CA 93401 **Project:** 185850429.300.0006

Attention: Melissa Baernstein

Suite A

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm²	Fibers/ cc	Notes
20170926-01	N Perimeter	9/26/2017	1391.28	20	100	0.002	25.5	0.007	
041728325-0001									
20170926-02	E Perimeter	9/26/2017	1395.88	11	100	0.002	14.0	0.004	
041728325-0002									
20170926-03	S Perimeter	9/26/2017	1437.55	7	100	0.002	8.92	0.002	
041728325-0003									
20170926-04	W Perimeter	9/26/2017	1454.52	12	100	0.002	15.3	0.004	
041728325-0004									
20170926-05	N Perimeter	9/26/2017	1275.34	6	100	0.002	7.64	0.002	
041728325-0005									
20170926-06	E Perimeter	9/26/2017	1275.34	<5.5	100	0.002	<7.01	<0.002	
041728325-0006									
20170926-07	S Perimeter	9/26/2017	1285.88	7	100	0.002	8.92	0.003	
041728325-0007									
20170926-08	W Perimeter	9/26/2017	1285.88	14.5	100	0.002	18.5	0.006	
041728325-0008									
20170926-11	S Perimeter	9/26/2017	1328.04	6	100	0.002	7.64	0.002	
041728325-0009									
20170926-12	W Perimeter	9/26/2017	1317.50	<5.5	100	0.002	<7.01	<0.002	
041728325-0010									

This method requires the submission of field blanks with each sample set. No discernable field blanks were submitted, samples are not blank corrected.

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

(Initial report from: 09/27/2017 20:46:17



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com EMSL Order: 041728325 Customer ID: 32STAN25

Customer PO: Project ID:

Attention: Melissa Baernstein

Stantec Consulting Services Inc

3437 Empresa Drive

Suite A

San Luis Obispo, CA 93401

Project: 185850429.300.0006

Phone: (805) 546-0455

Fax:

Received Date: 09/27/2017 9:30 AM

Analysis Date: 09/27/2017 **Collected Date**: 09/26/2017

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample Location Sample Date (liters) Fibers Fields (fib/cc) mm² cc Notes

Analyst(s):

Susan Muir PCM (10)

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

TILLE

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

(Initial report from: 09/27/2017 20:46:17



3437 Empresa Drive

Attention: Melissa Baernstein

Suite A

EMSL Order: 041728453 Customer ID: 32STAN25

Customer PO: Project ID:

Phone: (805) 546-0455

Fax:

Received Date: 09/28/2017 9:30 AM

Analysis Date: 09/28/2017 **Collected Date**: 09/27/2017

Project: 185850429.300.0006 / Former Northern Landfill

Stantec Consulting Services Inc

San Luis Obispo, CA 93401

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm²	Fibers/ cc	Notes
20170927-01	N Perimeter	9/27/2017	1443.00	<5.5	100	0.002	<7.01	<0.002	
041728453-0001									
20170927-02	E Perimeter	9/27/2017	1375.00	6	100	0.002	7.64	0.002	
041728453-0002									
20170927-03	S Perimeter	9/27/2017	1370.00	8	100	0.002	10.2	0.003	
041728453-0003									
20170927-04	W Perimeter	9/27/2017	1391.00	9	100	0.002	11.5	0.003	
041728453-0004									
20170927-05	N Perimeter	9/27/2017	1317.50	6	100	0.002	7.64	0.002	
041728453-0005									
20170927-06	E Perimeter	9/27/2017	1306.96	7	100	0.002	8.92	0.003	
041728453-0006									
20170927-07	S Perimeter	9/27/2017	1306.96	<5.5	100	0.002	<7.01	<0.002	
041728453-0007									
20170927-08	W Perimeter	9/27/2017	1321.84	6	100	0.002	7.64	0.002	
041728453-0008									
20170927-09	N Perimeter	9/27/2017	1507.22	8	100	0.002	10.2	0.003	
041728453-0009									
20170927-10	E Perimeter	9/27/2017	1492.40	12	100	0.002	15.3	0.004	
041728453-0010									
20170927-11	S Perimeter	9/27/2017	1475.60	6	100	0.002	7.64	0.002	
041728453-0011									
20170927-12	W Perimeter	9/27/2017	1465.06	8	100	0.002	10.2	0.003	
041728453-0012									

This method requires the submission of field blanks with each sample set. No discernable field blanks were submitted, samples are not blank corrected.

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Report amended: 09/29/2017 08:25:01 Replaces initial report from: 09/28/2017 18:53:35 Reason Code: Data Entry-Change to Appearance



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com EMSL Order: 041728453 Customer ID: 32STAN25

Customer PO: Project ID:

Attention: Melissa Baernstein

Stantec Consulting Services Inc

3437 Empresa Drive

Suite A

San Luis Obispo, CA 93401

Project: 185850429.300.0006 / Former Northern Landfill

Phone: (805) 546-0455

Fax:

Received Date: 09/28/2017 9:30 AM

Analysis Date: 09/28/2017 **Collected Date**: 09/27/2017

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample Location Sample Date (liters) Fibers Fields (fib/cc) mm² cc Notes

Analyst(s):

Susan Muir PCM (12)

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

THE

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Report amended: 09/29/2017 08:25:01 Replaces initial report from: 09/28/2017 18:53:35 Reason Code: Data Entry-Change to Appearance



Asbestos Chain of Custody For California Samples

EMSL Order Number (Lab Use Only):

EMSL Analytical, Inc. 200 Route 130 North

CINN ACTION OF THE PHONE: 1-800-220-3675
PHONE: 1-800-220-3675
2017 SEP 278X: A859, 786-5974

Company Name : Stantec Consulting	Services Inc.	EMSL Custor	mer ID:	· 		
Street: 3437 Empresa Drive Suite A		City: San Lu			State/Provin	ce: CA
Zip/Postal Code: 93401	Country: US	Telephone #:	909-362	2-3942	Fax #:	
Report To (Name): Melissa Baernstein	<u></u>	Please Provi	de Resul	ts: 🔲 Fa	 ✓ Email 	<u></u>
Email Address: melissa.baernstein@	stantec.com	Purchase Or	der	···		
Project Name/Number: 185850429.30	0.0006	EMSL Projec	t ID (inter	mal Use On	ıly):	
U.S. State Samples Taken: CA	Different: If Bill-to is different	ent, note instructi	ons in com	ments/specia	al instructions be	low.
:	Third-party billing requi	res written autho	rization.			
□ 3 Hour*	Turnaround Time (TAT) 24 Hour 48 Hour	Options - Ple		ck 96 Hour	1 Week	☐ 2 Week
3 Hour* - 4 6 Hour		AT (AHERA only)	" ' 	36 Houi	I T AAGGK	
	ahead to schedule. There is a pr					
PCM'- Air	TEM - Air	,,,,			lite (Reportion	ng Limit)
NIOSH 7400	☐ AHERA 40 CFR, Part 7	⁷ 63		CARB 435	– A (0.25%) – B (0.1%)	
W/ OSHA 8hr. TWA	EPA Level II				– B (0.1%)* – B (0.1%)*	
PLM - Bulk (Reporting Limit)	☐ NIOSH 7402		_		– C (0.01%)*	
PLM EPA 600/R-93/116 (<1%)	☐ ISO 10312				via Filtration Pr	•
PLM EPA NOB. (<1%)	TEM - Bulk ☐ TEM EPA NOB	İ	,		via Drop Moun	it Prep lilling Prep (<1%)
` 400 (<0.25%) Point Count 400 (<0.25%) Point Count with	· · ·					
Gravimetric Reduction	Chatfield SOP		ITI PLM	EPA 600/R	-93/116 with M	illing Prep (<0.25%)
☐ 1000 (<0.1%) Point Count	TEM EPA 600/R-93/110	3 with Milling	□ ТЕМ	EPA 600/R	-93/116 with M	lilling Prep (<0.1%)*
☐ 1000 (<0.1%) Point Count with Gravimetric Reduction	*Lower reporting limits availab	ile':-	Lower re	porting limits	available	
☐ NIOSH 9002 (<1 <u>%</u>)	TEM- Dust		9	<u>Other</u>		
TEM - Water: EPA 100.2	☐ Microvac - ASTM D 575	55	[
Fibers >10µm	☐ Wipe - ASTM D6480	. 600/1 02/167)				
	☐ Carpet Sonication (EPA		 	_		
Stop At First Positive (Clearly ident	ify homogenous groups be	elow) Filter	Pore Size	(Air Samp	Jes): <u>■ 0.8µ</u>	ım 🗌 0.45μm
Sampler's Name: Melissa Ba	aernstein	Sampler's	Signatu	re:McCz	salbaen	
Sample #	Sample Descripti	on			e/Area (Air) # (Bulk)	Date/Time Sampled
	See attached					1.5
		. 10 <u>9</u>	<u> </u>	+-		
	<u> </u>					
*						•
				-		
			-			
Client Sample # (s): 2017	0927-01 -201	70927-1		Total # o	of Samples: [2
Relinquished (Client): No Oscat Ba	gunstow Date	:09/27/1	7	_	Time:	15:20
Received (Lab):	Date	. ()-2et	17		Time:	1): ba
Comments/Special Instructions:	1	V				
Controlled Document - COC-51 Asbestos CA R0	01/05/2017 Page 1 of	pages				(12)

をプライグ 4 Τ, ().

OrderID: 041728453 Comments sustained wind Comments sustained westerly westerly CINNAMINSON, N.J. Comments uph Easterly S 1,492.40 deasonwing SEE 28 AgO: Comments 13 Gross wind Comments Calibration Source: 1858-61downwhat Comments downwin CASS SV. A 1,507.22 westerly Comments Date: 09/29/ Laboratory: EMS Client: 100 130696 251151) 1306.96 1,321.84 1,370 1,438 1,375 Average (LPM) | Volume (L) 11821 Volume (L) Volume (L) Volume (L) Volume (L) Volume (L) Volume (L) Volume (L) Volume (L) Volume (L) Project Name: Former Northerstandetil ره. اه.ور Average (LPM) Average (LPM) Average (LPM) Average (LPM) Average (LPM) Average (LPM) Average (LPM) Average (LPM) Average (LPM) 10.5t **あ**01 10.54 **200** 二 10.54 99.09 14.44 तं थ 10.4(1 10.5d Project #: INSXSDY29. 300.0006 Collected & Calibrated by: M, Bennstein 10.295 Post (LPM) 10.000 Post (LPM) 10.54 古会 Post (LPM) [0.54 ある Post Class 10,54 Post (LPM) Wellew) 10.54 Post (LPM) IO.54 Pre (LPM) Post (PM) Post (LPM) ह 10.574 Post (IPM) Pre (LPM) 品 Total Time 143 Total Time 132 Total Time **Total Time** Total Time Total Time otal Time Total Time 132 Total Time 130 124 Total Time 125 154 15 **Air Sampling Record** 3 11:30 Stop Time 13:53 11.42 11:35 Stop Time 69:36 CA:23 Stop Time ०१:३ 09:33 04:28 09:25 Stop Time Stop Time (1:28 Start Time Stop Time 132 11:37 tart Time Stop Time top Time Start Time Stop ime 2.50 Stop Time tart Time lart Time art Time Start Time Start Time Start Time 8:3 Start Time 25mm, 0.45um 区 25mm, 0.8um 口 25mm, 0.45um ☑ 25mm, 0.8um
☐ 25mm, 0.45um ☑ 25mm, 0.8um
☐ 25mm, 0.45um **数** 25mm, 0.8um 口 25mm, 0.45um **闰** 25mm, 0.8um □ 25mm, 0.45um ☐ 25mm, 0.45um ☐ 37mm, 0.8um □ 25mm, 0.45mm 3 25mm, 0.8um 25mm, 0.45um □ 25mm, 0.45vm ☐ 37mm, 0.8um □ 37mm, 0.8um □ 25mm, 0.45um 37mm, 0.8um 5 25mm, 0.8um 5 25mm, 0.8um 37mm, 0.8um ☐ 37mm, 0.8um 1 25mm, 0.8um 37mm, 0.8um KI 25mm, 08um ☐ 37mm, 0.8um 37mm, 0.8um Media Type Media Type Media Type Media Type Media Type Media Type Media Type Media Type □ Clearance □ Clearance ☐ Clearance □ Clearance Clearance Clearance Clearance ☐ Clearance Clearance □ Blank **双** Areo 日 Blank ☐ Blank Blank □ Blank Area □ Blank XT Area K Area □ Stank Kr Area M Area Ared Ared ⊠' Area □ Blank Back □ Blank KL Area K Area Sample Type Sample Type Sample Type Sample Type Sample Type Sample Type Sample Type Sample Type PCM TEM 1 tegd PCM TEM Lead ☐ Lead D CW PCM TEM D Lead PCM TEM D Lead □ Lead PCM PCM TEM IEW □ Leod PCM TEM Lead D ZQ TEM □ TEM ☐ Lead Stantec 3437 Impreza Drive, Suite A San Luis Obispo, CA 93401 perimeter JY GREMETEC pertmeter 201-12601302 E portmoter 2017 (99 23 - 04 comple Location Sample No. M Derimeter S COCIMETEL 20170927-09 20170927-06 perimeter 20110927-05 ample Location N 28/2 MODE 20(10921-01 2010921-08 20-12821-02 20(7.09.27-0.3 Sample Location 20170927-01 Jakow water 805) 250-2854 ample Location ample Location ample Location ample Localion ample Location ample Location Sample Location ample No. ample No.

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			Air So	Air Sampling Record	ecord			Date:	Date: 169/27 (17	
C Stantec	2	~	Proje	ect Name:	Former	- North	enland	Project Name: Former Northern Lander Client: Plop	Plob	
3437 Impreza Drive, Suite A			•	Project #:	185850	Project #: 185850429,800,000	0.0006	Laboratory: [SNS]	EMSL	
San Luis Obispo, CA 93401 (805) 250-2854			Collect	ed & Calib	rated by:	Collected & Calibrated by: MuBaernstell	18 teh	Calibration Sc	Calibration Source: $1858-0$	
No Simmos	Sample Type	9	Media Two	Ctort Time	Total Time	Pro (1 DAA)	[]	1 / / · · · · · · · · · · · · · ·	at dominated	
Sumple NO.	R PCM	∑ Area	0.8um			10 LT	אמנים לים אל	volume (L)		
Somple Location	TEM	□ Blank	25mm, 0.45um	Stop Time	9	Post (LPM)	10.54	1,475.60	(_
) perimeter	lead	□ Clearance	37mm, 0.8um			15.0)	5		Crossing	9
Sample No.	Sample Type	A Area	Media Type X 25mm, 08um	Start Time	Total Time	re (LPM)	Average (LPM)	Volume (L)	Comments	
Sample Location	M _E	□ Blank	25mm, 0.45um	Stop Time	139	Post (LPM)	ਹ ਵ	1,4165,06	•	
W personeter	□ Lead	☐ Clearance	37mm, 0.8um	$\overline{}$	- 1	10-54	•	}	upwind	`;
Somple No.	Sample Type	[Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
	<u> </u>	□ Area	25mm, 0.8um	The state of the s		100 to 10			\	\
Sample Location		□ Blank □ Clearance		arop IIIIe	-	· OST (LPM)				
Sample No.	Sample Type	e	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
	PCM D		25mm, 0.8um							
Sample Location	<u>¥</u> /		25mm, 0.45um	Stop Time		Post (LPM)		1		
	lead	Clearance	☐ 37mm, 0.8um	T	╗	ļ				
Sample No.	Sample Type		Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
	¥ ;	Area .	L 25mm, 0.8um	i	/					
sample Location	read	□ Blank □ Clearance	□ 25mm, 0.450m□ 37mm, 0.8um	arop ime	\	POST (LPM)				
Sample No.	Sample Type	96	/	Start-Ilme	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
	□ PCM	¹□ Area	0.80m							
Sample Location	☐ TEM	☐ Blank☐ Clearance☐	 25mm, 0,45úm 37mm, 0.8um 	Stop Time		Post (LPM)				NAI SEP
Sample No.	Sample Type	e e	Média Type	Start Time	Total Time	Pre-(M/PM)	Average (LPM)	Volume (L)	Comments .	
	₽CM	Area	25mm, 0.8um	ì			/			
sample Location		bjank Clearance	37mm, 0.8um	e E E E E E E E E E E E E E E E E E E E	_	rosi (Lriwi)				
Sample No.	Sample-Type		Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Yolume (L)	Comments	
	PCM PCM	□ Area	25mm,					/	•	I. 13
Sample Location	Lead	☐ Blank☐ Clearance	25mm, 0.45um37mm, 0.8um	Stop Time	<u></u>	Post (LPM)		7	/	
Sample No.	Sample Type		Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
	□ PCM	□ Area	☐ 25mm, 0.8um		:				/	
Sample Location				Stop Time		Post (LPM)			÷	/
	Lead	☐ Clearance	37mm, 0.8um	ヿ	Т				-	
Sample No	Sample Type	oe □ Areα	media Iype 🔲 25mm, 0.8um	Start Time	Total Time	Pre (LPM)	Average (LPM) Volume (L)	Volume (L)	Comments	/
Sample Location	III IEW	□ Blank	□ 25mm, 0.45um	Stop Time	100	Post (LPM)				
	□ Lead	☐ Clearance	37mm, 0.8um							

Page 2 of 2



Redlands, CA 92374

Stantec Consulting Services Inc

25864 Business Center Drive, Suite F

Attention: Melissa Baernstein

EMSL Order: 041728544 Customer ID: STTC26

Customer PO: 185850429.300

Project ID:

Phone: (909) 335-6116

Fax:

Received Date: 09/29/2017 9:30 AM

Analysis Date: 09/29/2017 **Collected Date**: 09/28/2017

Project: 185850429.300.0006 / Former Northern Landfill / Phillips 66

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm²	Fibers/ cc	Notes
N Perimeter	9/28/2017	1349.12	16	100	0.002	20.4	0.006	
E Perimeter	9/28/2017	1302.13	<5.5	100	0.002	<7.01	<0.002	
S Perimeter	9/28/2017	1321.84	<5.5	100	0.002	<7.01	<0.002	
W Perimeter	9/28/2017	1338.58	11	100	0.002	14.0	0.004	
N Perimeter	9/28/2017	1359.66	10	100	0.002	12.7	0.004	
E Perimeter	9/28/2017	1359.66	<5.5	100	0.002	<7.01	<0.002	
S Perimeter	9/28/2017	1306.96	14	100	0.002	17.8	0.005	
W Perimeter	9/28/2017	1285.88	<5.5	100	0.002	<7.01	<0.002	
N Perimeter	9/28/2017	1328.04	<5.5	100	0.002	<7.01	<0.002	
E Perimeter	9/28/2017	1338.58	6	100	0.002	7.64	0.002	
S Perimeter	9/28/2017	1322.96	<5.5	100	0.002	<7.01	<0.002	
W Perimeter	9/28/2017	1359.66	<5.5	100	0.002	<7.01	<0.002	
	N Perimeter E Perimeter W Perimeter N Perimeter E Perimeter W Perimeter W Perimeter V Perimeter E Perimeter S Perimeter S Perimeter	N Perimeter 9/28/2017 E Perimeter 9/28/2017 S Perimeter 9/28/2017 W Perimeter 9/28/2017 N Perimeter 9/28/2017 E Perimeter 9/28/2017 W Perimeter 9/28/2017 N Perimeter 9/28/2017 E Perimeter 9/28/2017 S Perimeter 9/28/2017 S Perimeter 9/28/2017	Location Sample Date (liters) N Perimeter 9/28/2017 1349.12 E Perimeter 9/28/2017 1302.13 S Perimeter 9/28/2017 1321.84 W Perimeter 9/28/2017 1338.58 N Perimeter 9/28/2017 1359.66 E Perimeter 9/28/2017 1359.66 S Perimeter 9/28/2017 1306.96 W Perimeter 9/28/2017 1285.88 N Perimeter 9/28/2017 1328.04 E Perimeter 9/28/2017 1338.58 S Perimeter 9/28/2017 1338.58 S Perimeter 9/28/2017 1322.96	Location Sample Date (liters) Fibers (liters) N Perimeter 9/28/2017 1349.12 16 E Perimeter 9/28/2017 1302.13 <5.5	Location Sample Date (liters) Fibers Fields N Perimeter 9/28/2017 1349.12 16 100 E Perimeter 9/28/2017 1302.13 <5.5	Location Sample Date (liters) Fibers Fields (fib/cc) (fib/cc) N Perimeter 9/28/2017 1349.12 16 100 0.002 E Perimeter 9/28/2017 1302.13 < 5.5 100 0.002	Location Sample Date (liters) Fibers Fields (fib/cc) mm² N Perimeter 9/28/2017 1349.12 16 100 0.002 20.4 E Perimeter 9/28/2017 1302.13 <5.5	N Perimeter

This method requires the submission of field blanks with each sample set. No discernable field blanks were submitted, samples are not blank corrected.

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Initial report from: 09/29/2017 19:53:58



Attention: Melissa Baernstein

EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com

25864 Business Center Drive, Suite F

Stantec Consulting Services Inc

Redlands, CA 92374

EMSL Order: 041728544 Customer ID: STTC26

Customer PO: 185850429.300

Project ID:

(909) 335-6116 Phone:

Fax:

Received Date: 09/29/2017 9:30 AM

09/29/2017 **Analysis Date:** Collected Date: 09/28/2017

Project: 185850429.300.0006 / Former Northern Landfill / Phillips 66

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

LOD Volume Fibers/ Fibers/ Location Sample Date Fibers Fields Notes Sample (liters) (fib/cc) mm²

Analyst(s):

Susan Muir PCM (12)

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

Me

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC-IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Initial report from: 09/29/2017 19:53:58



Asbestos Chain of Custody For California Samples

EMSL Order Number (Lab Use Only):

EMSL Analytical, Inc. 200 Route 130 North / CINNAMINSON, N.J.

2017 Cinnaminson, NJ 08077 SFP 291-860-92053575 FAX: (856) 786-5974

	<u> </u>				<u>7 – </u>		<u> </u>				
Stanton C	opeulting S	Services II	nc.		EMS	L Custo	 ner ID:				
Company Name : Stantec C	Onsuming C						s Obisp		State/Province	:CA	
Street: 3437 Empresa Drive	e Suite A		110		City:	-hano #	909-36	- <u></u> 2-3942			
Zip/Postal Code: 93401		Country	:08		Tele	pnone #	do Pocul	te: \Box	Fax 🗸 Email		
Report To (Name): Melissa	Baernstein						1	<u>ю. г.</u>	<u> </u>		
Email Address, melissa.ba	ernstein@s	stantec.co				hase Or					
Project Name/Number: 185	<u>850429.30</u>	0,0006					t ID (Inte				
U.S. State Samples Taken: (o: ☑ Same	☐ Differe	ent: If Bill	-to is differ	ent, no	te instruct	ons in cor	nments/s	special instructions belo	w.	
		10	im-nanvi	billing requ ime (TAT	11162 1111	ILLUST GG					
□ 3 Hour* - GHs		24 Hour	oung I	48 Hour	<u> </u>	72 Ho	ır 📗	96 H	our	2 Week	
3 Hour* - 6-He	<u></u>					IERA only	or 2 Hour	TEM AH	FRA or EPA Level II TA	AT	
*TEM Air 3 hi	r., please call	ahead to sc	hedule. 1	There is a p	oremiur.	n cnarge	Soil/Ro	ck/Ver	ERA or EPA Level II TA miculite (Reportin	g Limit)	
PCM - Air		TEM - A		CFR, Part	763		□ PLN	CARB	435 – A (0.25%)		
■ NIOSH 7400		1 =						1 CARB	435 – B (0.1%)	.]	
☐ w/ OSHA 8hr. TWA		-	Level II					A CARE	3 435 – B (0.1%)* 3 435 – C (0.01%)*		
PLM - Bulk (Reporting Li	imit)	_	SH 7402	2				/i CARE	ative via Filtration Pr	ер	
☐ PLM EPA 600/R-93/116 ((<1%)	TEM - B	10312] □ TFN	A Qualit	tative via Drop Mount	:Prep]	
☐ PLM EPA NOB (<1%)			EPA N	ОВ				/ EPA	500/R-93/116 with Mi	lling Prep (<1%)	
☐ 400 (<0.25%) Point Cour ☐ 400 (<0.25%) Point Cour	ıt with	1 —	tfield SO					ν EPA ι	600/R-93/116 with Mi	lling Prep (<0.25%)	
Gravimetric Reduction		ı —)0/R-93/1	16 witl	h Millina	11		600/R-93/116 with M	1	
☐ 1000 (<0.1%) Point Cour	nt	Pre	p (<0.1%	6)**	10 1110			VI EPA	000/K-93/110 Mili W	ming (Top (Top)	
☐ 1000 (<0.1%) Point Coul	%) Point Count with *Lower reporting limits avail			able		*Lower	reportin	g limits available			
Gravimetric Reduction	Reduction				<u> </u>		Other				
☐ NIOSH 9002 (<1%)				ASTM D 5	755						
<u>TEM - Water:</u> EPA 100.2		1 =		M D6480	,, 55						
Fibers >10µm	☐ Drinking☐ Drinking	1 = - :	e - ASTI oet Soni	ication (El	PA 600	D/J-93/16	/ 7)				
All Fiber Sizes							l .	ize (Air	Samples): 🔳 0.8	ım 🔲 0.45µm	
☐ Stop At First Positive (Clearly ide	ntify <u>nom</u> c	genous	s groups	Delon				10 10	-1-5	
Sampler's Name: Me	lissa E	Baerns	stein	<u> </u>		Sampler's Signature: No wat Boemson					
Sampler 5 Humor							Volume/Area (Air) Date/Time HA # (Bulk) Sampled				
Sample #				le Descri							
		S	ee a	ttache	ed l	og _		_+			
								1			
	ļ. — —										
-								}		 	
								1			
	 										
	<u></u>									177	
Client Sample # (s):	2017	0928-0	21		<u> 2017</u>	0928	-12_	1	otal # of Samples:		
Relinquished (Client):	/ \ A	Bacus		D	ate: []	9/28	/17_		Time	e: /5 :45	
		As					701	γ	Tim	e: 4.10h	
Received (Lab):	////	<u> </u>			ate:						
Comments/Special Instr	uctions:					ĺ					
, 1						<u> </u>					

Controlled Document - COC-51 Asbestos CA R0 01/05/2017

Stantec

3437 Impreza Drive, Suite A San Luis Obispo, CA 93401 (805) 250-2854

Air Sampling Record

Project Name: Former Narthorn Landfell

Client: Ywill: ps

Laboratory: EMS

Collected & Calibrated by: M. Barnshein Project #: 185850429 .- 300-6066 Calibration Source: 1858-01

Sample Type		,			1 2 / 1	1487 @ 114	METATO TELL		lairo. Ci
Comments Comments	Sample No.	Туре	Media Type			Pre (LPM)			Comments
Text	20170928-01	1 K		11:10		10.52			う。・・・・・
Lead Clearance Jamm, Jahm PH 125 Fiel 124 Comments	Sample Location] _	25mm, 0.45um	Stop Time		Post (LPM)		1,849.12	TO WING
Text	Sample No.	<u>ַ</u>	Media Type		otal lime	Pre (I PM)	Average (LPM)		Comments
Disk	20170928-02	: E Q	🗵 25mm, 0.8vm		i	<u>ن</u> م) J
	Sample Location		☐ 25mm, 0.45um	Stop Time		Post (LPM)		1,362.13	70 XXX
Sample type	E perimeter		☐ 37mm, 0.8um	09:32		10.295	20,00		
	Sample No.] ``	Media Type	Start Time	otal Time	Pre (LPM)	Average (LPM)		Comments
	20170928-03		25mm, 0.8um	07:32		10.54			
Lead Clearance 37mm, 0.8um 691;34 127 Post 119M Volume (1) Comments 12 10.54 1338.58 1338.58 10.54 1338.58 1338.58 10.54 1338.58 1338.58 10.54 1338.58 1338.58 10.54 1338.58 1338.58 10.54 1338.58 1338.58 10.54 1338.58 1338.58 10.54 1338.58 1338.58 10.54 1338.58 1338.58 10.54 1338.58 1338.58 10.54 1338.58 10.55 10.54 1338.58 10.55 1	Sample Location		25mm, 0.45um	Stop Time	1	Post (LPM)	10-66		70 00
Sample Type	S primeter		☐ 37mm, 0.8um	08136		[6, 18	-0		
Seron, Blank Storm, Oldern	Sample No.	Sample Type	Media Туре			Pre (LPM)	Average (LPM)		Comments
Clear Clearance Clearanc	20(70928-04	凼	₩ 25mm, 0.8um	C7:34		10.54	•	•	
	Sample Location	ם ו	☐ 25mm, 0.45um	Stop Time		Post (LPM)	15:01	1,338.56	2 2 2
Sample Type	Mercineter		☐ 37mm, 0.8um	Τ	ı	10.54			
Semple Type	Sample No.		Media Type	`		Pre (LPM)			Comments sustained why
Commonity Comm	20(10928-05	J 12	25mm, 0.8um	02,70		10:54		_	3.0 mg rigusts sage Westerly
Sample Type Media Type Start Time Total Time Tota	2 82 300		☐ 37mm, 0.8um	72		.ମ.ମ ମ	6.54		FI
R PCM B Area B 25mm, 0.8um D91;33 10.54 10.54 1359.66 Clearance 37mm, 0.8um 11.39 TeM Blank 25mm, 0.45um Stop Time Total Time Pre (IPM) Average (IPM) Volume (I.) Comments Pre (IPM) Pre (IPM	Sample No.		Media Type	Start Time _ 1	~ I	Pre (LPM)	Average (LPM)		ZE
TEM Blank 25mm, 0.45um 11.29 10.54 10.55	20170928-06	纽	25mm, 0.8um	09133		10.54))	
	Sample Location		☐ 25mm, 0.45um	Stop Time	_	Post (LPM)	0.57	(354.66	-
Sample Type	t portmeter		☐ 37mm, 0.8um	ב	1	(0.5H			'
	Sample No.	Уре	Media Type	<u> </u>		Pre (LPM)			
Lead Clearance 37mm, 0.4sum 1,142 10.54 10.55 10.54 10.55 10	20110928-151] [2	25mm, 0.8um	09:30		10.54	<u> </u>	- } }	
Sample Type Sampl	Sample Location] [25mm, 0.45um	Stop Time		Post (LPM)	10.01		
Representation of the control of the	COMPILE NO	[Media Type	ľ		Pre (I PM)	ı		- 1
TEM	20170928-08	\mathbf{Z}	25mm, 0.8um	<u>,,,</u>		10 ST		ò	
Lead Clearance 37mm, 0.8um 11.45 10.54 10.54	Sample Location		_	Stop Time	-	Post (LPM)	<u>ह</u> ें के	1,285,00	_
Somple Type Somple Type Media Type Media Type Media Type Media Type Media Type Media Type Media Type Media Type Media Type Media Type Media Type Media Type Start Time Media Type Media Type Start Time Media Type Start Time Media Type Media Type Media Type Start Time Media Type Most (LPM) Media Type Most (LPM) Most	W persimeter		,8um	11:45		(0.54)			IDWING.
1 1 1 1 1 1 1 1 1 1	Sample No.	Sample Type	Media Турө	3 .		Pre (LPM)			Comments sustained wind
TEM	20170928-09	120		1:31		10,04		2	6.0 mph, gusts 9.0 mph
Lead Clearance 37mm, 0.8um 15-15 10-	Sample Location	ı 🗆	_	Stop Time		Post (LPM)		1,328.04	Mestery
28- 0 Sample Type Media Type Start Time Total Time Fre (LPM) Average (LPM) Volume (L) 28- 0	N per meter	□	,Bum	८५२।		10:54			Crossina
D TEM D Blank D 25mm, 0.45um Stop, Time 127 Post (LPM) 10,54 (1,338.58)	ڄَر	ype (Vpe	Media Type	<u>></u>		Pre (LP.M.)			Comments
	LOC 10 150	J \$	3	S F C		Post (IPM)		25.55	
	The Country of the Co	D C		14:21		(0.9)			downwind

3

Sta	
ntec	

San Luis Obispo, CA 93401 3437 Impreza Drive, Suite A (805) 250-2854

Air Sampling R	
Record	

Project Name: Locary Northern Law Project #: 185850429, 800,0006 Laboratory: ENS

Collected & Calibrated by: McDaernstein

Calibration Source: 1858-0

B. 1	
client: Phillips lok	Date: 09/28/17

.	Sample Type	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
25170928-11	EX PCM SQ Area	🛛 25mm, 0.8um	完生		10.54				
Sample Location	☐ TEM ☐ Blank	☐ 25mm, 0.45um	Stop Time	3	Post (LPM)	3	- - - - - - - - - - - - - - - - - - -		
S pointer	☐ Lead ☐ Clearance	☐ 37mm, 0.8um	13:51	1	10.225	ישני י	11022619	messwi)	~d
Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
20170928-12	XI PCM XI Area	🗵 25mm, 0.8um	11:46		12.01		•		
Sample Location	□ TEM □ Blank	□ 25mm, 0.45um	Stop Time	129	Post (LPM)	12.7	1,359,66		
In parimeter	☐ Lead ☐ Clearance	□ 37mm, 0.8um	13:55		10.54	(0,0)		upwind	
Schaple No.	Sample Type	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
	□ PCM □ Area	□ 25mm, 0.8um							\
Sample Location.	□_TEM □_Blank	☐_25mm, 0.45um	Stop Time	l,	Fost (LFW)			\	
	☐ Lead ☐ Clearance	☐ 37mm, 0.8um					-		
Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
	□ PCM □ Area	□ 25mm, 0.8um					/		
Sample Location	ı 🛭	25mm, 0.45um	Stop Time		Post (LPM)				
	☐ Lead ☐ Clearance	☐ 37mm, 0.8um							
Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
Sample Location		□ 25mm, 0.45um	Stop Tirne		Post (LPM)				LIO
	☐ Lead ☐ Clearance	□ 37mm, 0.8um	/			_			
Sample No.	Sample Type	Media Type ↑	\$tort-Timbe	odal Time	Pie (LPM)	Average (LPM)	Volume (L)	Comments	
	□ PCM □ Area	☐ 25mm, 0.8um		7	/				
Sample Location	☐ TEM ☐ Blank	25mm, 0.450m	Stop Title	\ \	Post (LPM)				
	☐ Lead ☐ Clearance	☐ 37pm, 0.8um			/				40∐.
Sample No.	Sample Type	Media Type	Sichlige	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
	□ PCM □ Areo	☐ 25mm, 0.8um	4			/			 1
Sample Location	□ TEM □ Blank	☐ 25mm, 0.45um	Stop Time		Post (LPM)	/			۱S ۱
	□ Lead ✓ Clearance	🛚 37mm, 0.8um 🟅					/ 		
Sample No.	SampleType	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)) Thewnlow	Comments .	
	☐ PCM ☐ Area	25mm, 0.8um					_		
Sample Location		25mm, 0.45um	Stop Time		Post (LPM)			/	
	☐ Lead ☐ Clearance	37mm, 0.8um							
Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	•
	-	☐ 25mm, 0.8um						/	
Sample Location		25mm, 0.45um	Stop Time		Post (LPM)			/	_
	□ Lead □ Clearance	☐ 37mm, 0.8um							
Sample No.	ype	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	/
	□ PCM □ Area	☐ 25mm, 0.8um							/
Sample Lozátion	□ Blank	☐ 25mm, 0.45um	Stop Time		Post (LPM)				/
	☐ Lead ☐ Clearance	☐ 37mm, 0.8um							_

3

Page 3 Of

Page 💋 of

OrderID: 041728544

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EMSL Order: 041728786 Customer ID: STTC26

Customer PO: Project ID:

Attention: Melissa Baernstein Phone: (909) 335-6116

Stantec Consulting Services Inc Fax:

25864 Business Center Drive, Suite F

Redlands, CA 92374

Received Date: 10/02/2017 9:10 AM

Analysis Date: 10/03/2017

Collected Date: 09/29/2017

Project: 185850429.300.0006 / Former Northern Landfill

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm²	Fibers/ cc	Notes
20170929-01	N Perimeter	9/29/2017	1353.82	<5.5	100	0.002	<7.01	<0.002	
041728786-0001									
20170929-02	E Perimeter	9/29/2017	1359.66	11	100	0.002	14.0	0.004	
041728786-0002									
20170929-03	S Perimeter	9/29/2017	1364.63	10	100	0.002	12.7	0.004	
041728786-0003									
20170929-04	W Perimeter	9/29/2017	1391.28	8	100	0.002	10.2	0.003	
041728786-0004									
20170929-05	N Perimeter	9/29/2017	1296.42	<5.5	100	0.002	<7.01	<0.002	
041728786-0005									
20170929-06	E Perimeter	9/29/2017	1291.71	<5.5	100	0.002	<7.01	<0.002	
041728786-0006									
20170929-07	S Perimeter	9/29/2017	1306.96	<5.5	100	0.002	<7.01	<0.002	
041728786-0007									
20170929-08	W Perimeter	9/29/2017	1296.42	7	100	0.002	8.92	0.003	
041728786-0008									
20170929-09	N Perimeter	9/29/2017	1306.96	8	100	0.002	10.2	0.003	
041728786-0009									
20170929-10	E Perimeter	9/29/2017	1311.18	<5.5	100	0.002	<7.01	<0.002	
041728786-0010									
20170929-11	S Perimeter	9/29/2017	1296.42	10	100	0.002	12.7	0.004	
041728786-0011									
20170929-12	W Perimeter	9/29/2017	1296.42	8	100	0.002	10.2	0.003	
041728786-0012									

This method requires the submission of field blanks with each sample set. No discernable field blanks were submitted, samples are not blank corrected.

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Initial report from: 10/03/2017 23:12:52



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com

Attention: Melissa Baernstein

Stantec Consulting Services Inc

25864 Business Center Drive, Suite F

Redlands, CA 92374

Project: 185850429.300.0006 / Former Northern Landfill

EMSL Order: 041728786 Customer ID: STTC26

Customer PO: Project ID:

Phone: (909) 335-6116

Fax:

Received Date: 10/02/2017 9:10 AM

Analysis Date: 10/03/2017 **Collected Date:** 09/29/2017

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample Location Sample Date (liters) Fibers Fields (fib/cc) mm² cc Notes

Analyst(s):

Susan Muir PCM (12)

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

THE

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Initial report from: 10/03/2017 23:12:52



Asbestos Chain of Custody For California Samples

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EMSL Analytical, Inc. 200 Route 130 North

Cinnaminson, NJ 08077 PHONE: 1-800-220-3675

FAX: (856) 786-5974

Company Name : Stantec Consulting	Services Inc.	EMSL Custor	 				
Street: 3437 Empresa Drive Suite A		City: San Lui			State/Provin	ce: CA	
Zip/Postal Code: 93401	Country: US	Telephone #:	909-362-39		Fax #:		
Report To (Name): Melissa Baernste		Please Provid	de Results:	☐ Fax	✓ Email		
Email Address: melissa.baernstein@		Purchase Ord	der:		<u></u>		
Project Name/Number: 185850429.3	00.0006	EMSL Projec	t ID (internal	Use On	ly):		
U.S. State Samples Taken: CA	e Different: If Bill-to is different	l	į			ow.	-
	Third-party billing requ	ires written author	rizaţion.				
	Turnaround Time (TAT)		ase Check	Hour	1 1 Week	T	2 Week
3 Hour* B G Hour	4-4.5hr T	AT (AHERA only)			<u> </u>		
	ll ahead to schedule. There is a p	remium charge fo	r 3 Hour TEM	AHERA C	r EPA Level II T	AT.	
PCM - Air	TEM - Air	300			ite (Reportir	ng Limit)	
■ NOSH 7400	☐ AHERA 40 CFR, Part	⁷⁶³	☐ PLM CA				
☐ w/ OSHA 8hr. TWA	☐ EPA Level II		TEM CA				
PLM - Bulk (Reporting Limit)	☐ NIOSH 7402				- C (0.01%)*		
☐ PLM EPA 600/R-93/116 (<1%)	☐ ISO 10312				via Filtration Pr via Drop Mount		
PLM EPA NOB (<1%)	TEM - Bulk	ļ	1		93/116 with Mi		o (<1%)
☐ 400 (<0.25%) Point Count ☐ 400 (<0.25%) Point Count with	TEM EPA NOB		ı —				
Gravimetric Reduction	☐ Chatfield SOP		 	A 600/R-	93/116 with Mi	illing Prep	1 (<0.25%)
☐ 1000 (<0.1%) Point Count	TEM EPA 600/R-93/11 Prep (<0.1%)**	6 with Milling	☐ TEM EP	A 600/R	-93/116 with M	illing Prep	(<0.1%)* •
☐ 1000 (<0.1%) Point Count with Gravimetric Reduction	*Lower reporting limits availal	ble	*Lower repor	ting limits	available		CINNAMINSO
☐ NIOSH 9002 (<1%)	TEM- Dust		Oth	er		-	Žm ⁽)
TEM - Water: EPA 100.2	☐ Microvac - ASTM D 57	55				ري. د	
Fibers >10µm						_	SON.
All Fiber Sizes Waste Drinking		A 600/J-93/167)			<u> </u>		
☐ Stop At First Positive (Clearly ide	ntify homogenous groups b	elow) Filter	Pore S <u>ize (</u> A	ir Sam <u>p</u>	les): 🔳 0.8µ	ım 🔁 0	.45µm
Molicco	Baernstein	1 1	Signature:	11.0:	LAR.	22	
Sampler's Name: IVICIISSA L		- Jampier s	o olgilature.	V	e/Area (Air)	Dat	e/Time
Sample #	Sample Descript	tion		-	# (Bulk)		mpled
	See attached	d log					
			_				
		$\overline{}$					
-							
			<u> </u>				
Client Sample # (s): 20(7.09.29	-01 -2	0170929-	12	Total # 0	of Samples:	21	
Relinquished (Client): No Dispat		: 09/29 /1	7		Time	(4)	4
Received (Lab):	IMP Date	e:	1012	117	Time	. C	N)
Comments/Special Instructions:	· · · · · · · · · · · · · · · · · · ·	- 	 1, 2	1			
1	,						
1 1							

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Stantec

3437 Impreza Drive, Suite A San Luis Obispo, CA 93401 8051 250-2854

Project Name: Former Narthern Landfill Client: Phillips (6) Calibration Source: (858-0)Date: (19/29/17 Laboratory: EMS Project #: (\$5857)429.2500.0006 Air Sampling Record

Collected & Calibrated by: M. Baccastela

Comments sustantial of the National of the Nat Comments sentained wind 4.0-6.0 mph wastery 26 DAINING COLOR crossmire Sonning bris an no wind prim ou Comments Comments Comment 1,306.96 1,296.42 1,306.96 1,296.42 1,311.18 1,364.63 112991-71 10.66 1,33.82 1,359.66 1,391.28 Average (LPM) Volume (L) Average (LPM) Volume (L) Volume (L) Pre (LPM) ~ Average (LPM) |Volume (L) Average (LPM) Volume (L) Average (LPM) Volume (L) Average (LPM) Volume (L) Volume (L) Volume (L) Average (LPM) Volume (L) Average (LPM) 10.00 Average (LPM) 10:4[J Average (LPM) JD.54 10.54 कुं कु:01 (0.St (0.4lJ 10.54 10.295 13.295 10.54 Post (LPM) 10.54 Post (LPM) で で で Post (LPM)
Pre (LPM) Post (LPM) 10.54 10.54 10.54 10.54 10.54 10.64 10.54 82-d1 0.54 10.54 Post (LPM) Post (LPM) Pre (LPM) 10.54 Post (LPM) Pre (LPM) Post (LPM) Pre (LPM) Pre (LPM) Pre (LPM) Pre (LPM) 10.54 Pre (LPM) Post (LPM) Pre (LPM) Total Time 521 \mathcal{Z} Total Time Total Time Total Time Total Time Stop Time 09:36 09:34 OF:32 Stop Time 07:22 09:25 Stop Time 69:27 11:32 11:36 Start Time U.30 11.34 07:2D Stort-Time__ Stop Time 04:28 07:18 11.28 Start Time Start Time 071:16 Stop Time 09:23 Start Time Stop Time Stop Time Start Time 18:31 Start Time Stop Time Stop Time tart Time Stop Time Start Time □ 25mm, 0.45um 25mm, 0.45um ☐ 25mm, 0.45um ☐ 37mm, 0.8um 25mm, 0.45um 13€ 25mm, 0.8um ☐ 25mm, 0.45um KI 25mm, 0.8um 37mm, 0.8um □ 25mm, 0.45um Kl 25mm, 0.8um 37mm, 0.8um Kg 25mm, 0.8um 37mm, 0.8um □ 25mm, 0.45um □ 37mm, 0.8um □ 25mm, 0.45vm 🗹 25mm, 0.8um 37mm, 0.8um □ 25mm, 0.45um 37mm, 0.8um 🗹 25mm, 08um K 25mm, 0.8um 37mm, 0.8um Kd 25mm, 0.8um 37mm, 0.8um 🛛 25mm, 0.8um 37mm, 0.8um 13 25mm, 0.8um Media Type Media Type Media Type Media Type Media Type Media Type Media Type ☐ Clearance ☐ Clearance ☐ Clearance Clearance. □ Clearance ☐ Clearance ☐ Clearance ☐ Clearance ☐ Clearance □ Clearance □ Blank □ Blank a Bark X Area A Area □ Blank ₹ Area □ Bank 명하 KZ Ared □ Blank ☑ Area ☐ Blank K Area ☐ Blank ☐ Blank ☐ Area ☐ Area ☐ Area ☐ Area Sample Type Sample Type Sample Type Sample Type Sample Type Sample Type Sample Type Sample Type Sample Type PCM □ Lead TEM Z PCM RA PCM TEM Lead □ Lead □ Lead **⊠** PCM Z PCM M PCM □ Lead R PCM □ TĒM □ Lead □ Lead PCM PCM ☐ Lead TEM □ TEM □ TĒM ZZ PCM Deringter Dec: moter E perimeter gerineter Sample No. omple No. 20170929-09 Brimsler A S sectioneter 01-12901102 pe chmeter 20170929-05 20170929-06 20170929-07 perimeter 20170929-08 20170929-04 2010929-03 20/709 29-02 20170929-©I ample Location ample Lacation ample Location ample Location ample Location ample Location ample Location sample Location ample Location ample No. ample No. ample No. Sample No.

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Page

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OrderID: 041728786

Stantec

3437 Impreza Drive, Suite A San Luis Obispo, CA 93401

805) 250-2854

Jost & Laire

Project Name: Former Northern Langtell Client: Phillips GB Date: 09/29/17 Laboratory: EMS Project #: 1858504429. 200. 0006 Air Sampling Record

Collected & Calibrated by: M. Breanstein

Calibration Source: 858-0 (

EMSL. CINNAMINSON Comments Sustained wind 4.0 mph OIT OCT 2 ₱: 2b Comments Comments Comments Comment Comments 7,266.42 Average (LPM) Volume (L) Average (LPM) Volume (L) Average (LPM) Volume (L) Volume (L) Average (LPM) Volume (L) Volume (L) (I) Notume (I) Volume (L) Volume (L) (1) eurotoa Average (LPM) Average (LPM) Average (LPM) werage (LPM) Average (LPM) 10.54 100g Post [PM] 50 Pre (LPM) Post (PM) 10.52 Post (LPM) Post (LPM) Post (LPM) ost (LPM) Pre (LPM) Post (LPM) ost (LPM) ost (LPM) Pre (LPM) Pre (LPM) Pre (LPM) ost (LPM) Pre (LPM) Pre (LPM) Pre (LPM) Pre (LPM) Pre (LPM) otal Time 52 Total Time Total Time Fotal Time Total Time Total Time otal Time otal Time 12:40 1.40 18.43 Stop Time lail Time tarl Time Stop Time Stop Time Start Time Stop Time Start Time Start Time Stop Time art Time lart Time Stop Time tart Time Stop Time Start Time Stop Time lan Time Stop Time □ 25mm, 0.8um□ 25mm, 0.45um□ 37mm, 0.8um ☐ 25mm, 0.45um ☐ 37mm, 0.8um ☐ 25mm, 0.45um ☐ 37mm, 0.8um ☐ 25mm, 0.8um ☐ 25mm, 0.45um □ 25mm. 0.45um ☐ 25mm, 0.45um ☐ 25mm, 0.45um Medio Type

25mm, 08um

25mm, 0.45um ☐ 25mm, 0.45um 🗹 25mm, 0.8um □ 25mm, 0.45um 37mm, 0.8um 12 25mm, 0.8um ☐ 37mm, 0.8um 25mm 0.8um 137mm, 0.8um ☐ 25mm, 0.8um ☐ 37mm, 0.8cm □ 25mm, 0.8um 37mm, 0.8um □ 25mm, 0.8um □. 37mm, 0.8um 25mm, 0.8um ☐ 37mm, 0.8um Media Type Media Type Media Type Media Type ☐ Clearance ☐ Blonk☐ Clearance □ Clearance ☐ Clearance ☐ Clearance ☐ Clearance Clearance ☐ Clearance □ Bark Blonk □ Slank □ Area ☐ Area □ Area ☐ Blank □ 8lank □ Brank ☐ Area □ Skank D Area □ Blank Day Area ☐ Area □ Area □ Area Sample Type Sample Type Sample Type Sample Type Sample Type □ Lead D Lead O TEM □ Lead NO. PCM D D Lead ☐ Lead □ PCM □ Leod __ % 0.0€ D PCM □ PCM ☐ Lead ₩<u>₩</u> D TEM □ TĒM □ PCM O TEM Ü. Ew TEN TEN ₽ Z □ Xã W Certmeter CO CONTRACTOR 20170929-12 20170929-11 nole Location ample Location ampie Localion ample Location ample Location ample Location ample tocation Sample Location Sample Location cample Location comple No. Sample No. ample No. ample No. Sample No. Sample No. sample No.

Page 2 of 2



3437 Empresa Drive

Attention: Melissa Baernstein

Suite A

EMSL Order: 041729125 Customer ID: 32STAN25

Customer PO: Project ID:

Phone: (805) 546-0455

Fax:

Received Date: 10/05/2017 9:20 AM

Analysis Date: 10/05/2017 **Collected Date**: 10/03/2017

Project: 185850429.300.0007 / Former Northern Landfill

Stantec Consulting Services Inc

San Luis Obispo, CA 93401

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm²	Fibers/ cc	Notes
20171003-01	N Perimeter	10/03/2017	1354.21	6	100	0.002	7.64	0.002	
041729125-0001									
20171003-02	E Perimeter	10/03/2017	1380.74	<5.5	100	0.002	<7.01	<0.002	
041729125-0002									
20171003-03	S Perimeter	10/03/2017	1375.04	- 6	100	0.002	7.64	0.002	
041729125-0003									
20171003-04	W Perimeter	10/03/2017	1410.87	<5.5	100	0.002	<7.01	<0.002	
041729125-0004									
20171003-05	N Perimeter	10/03/2017	1401.82	. 7	100	0.002	8.92	0.002	
041729125-0005									
20171003-06	E Perimeter	10/03/2017	1380.74	. 6	100	0.002	7.64	0.002	
041729125-0006									
20171003-07	S Perimeter	10/03/2017	1370.20	<5.5	100	0.002	<7.01	<0.002	
041729125-0007									
20171003-08	W Perimeter	10/03/2017	1349.12	<5.5	100	0.002	<7.01	<0.002	
041729125-0008									
20171003-09	N Perimeter	10/03/2017	1231.56	<5.5	100	0.002	<7.01	<0.002	
041729125-0009									
20171003-10	E Perimeter	10/03/2017	1258.00	<5.5	100	0.002	<7.01	<0.002	
041729125-0010									
20171003-11	S Perimeter	10/03/2017	1219.12	<5.5	100	0.002	<7.01	<0.002	
041729125-0011									
20171003-12	W Perimeter	10/03/2017	1231.56	<5.5	100	0.002	<7.01	<0.002	
041729125-0012									

This method requires the submission of field blanks with each sample set. No discernable field blanks were submitted, samples are not blank corrected.

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Report amended: 10/06/2017 06:52:18 Replaces initial report from: 10/05/2017 22:29:45 Reason Code: Data Entry-Change to Appearance



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com EMSL Order: 041729125 Customer ID: 32STAN25

Customer PO: Project ID:

Attention: Melissa Baernstein

Stantec Consulting Services Inc

3437 Empresa Drive

Suite A

San Luis Obispo, CA 93401

Project: 185850429.300.0007 / Former Northern Landfill

Phone: (805) 546-0455

Fax:

Received Date: 10/05/2017 9:20 AM

Analysis Date: 10/05/2017 **Collected Date**: 10/03/2017

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample Location Sample Date Volume LOD Fibers/ Fibers Fields (fib/cc) mm² cc Notes

Analyst(s):

Susan Muir PCM (12)

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

THE

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

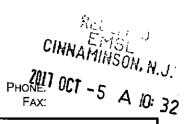
Report amended: 10/06/2017 06:52:18 Replaces initial report from: 10/05/2017 22:29:45 Reason Code: Data Entry-Change to Appearance

OrderID: 041729125



Asbestos Chain of Custody EMSL Order Number (Lab Use Only):

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4	, 7	2	9	125
 			-	



				<u> </u>		
Company Name : Stant	tec Consu	Iting Services, Inc.	EMSL Custo	ner ID:		
Street: 3437 Empresa Dr	ive, Suite A	_	City: San Lu	is Obispo	State/Provi	nce: CA
Zip/Postal Code: 93401		Country: USA	Telephone #:	909-362-39	942 Fax #: 909	335-6120
Report To (Name): Melis	sa Baernstei	n	Please Provi	de Results:	☐ Fax ☑ Email	
Email Address: Melissa	.Baernstein	@stantec.com	Purchase Or	der:		
Project Name/Number: 1		0.6007	EMSL Projec			
U.S. State Samples Take		ill to: ☑ Same ☐ Different -				idential/Tax Exempt
	EIAIOT-DI	Third Party Billing requires writt				
		Turnaround Time (TAT)			<u> </u>	
	Hour [24 Hour 48 Hour ead to schedule.*There is a premium	72 Hou		6 Hour	
authorization form	for this service.	Analysis completed in accordance v	vith EMSL's Term	s and Condition	ns located in the Analytical	Price Guide.
PCM - Air Check if sar from NY	nples are	<u>TEM – Air</u>	AHERA only)	TEM- Dust		
NIOSH 7400		AHERA 40 CFR, Part 76	3	Microvac	- ASTM D 5755	
W/ OSHA 8hr. TWA		☐ NIOSH 7402		☐Wipe - A	STM D6480	i
PLM - Bulk (reporting lim	nit)	EPA Level II		Carpet S	Sonication (EPA 600/J-	93/167)
☐PLM EPA 600/R-93/11	6 (<1%)	☐ ISO 10312		Soil/Rock/\	·	Ţ
PLM EPA NOB (<1%)	1	TEM - Bulk			A 600/R-93/116 with m	-, , , ,
Point Count		TEM EPA NOB			A 600/R-93/116 with m	
☐400 (<0.25%) ☐1000 Point Count w/Gravimetric		NYS NOB 198.4 (non-frial Chatfield SOP	ple-NY)	=	A 600/R-93/116 with m	· · · · /
400 (<0.25%)1000		TEM Mass Analysis-EPA	600 sec 2.5		alitative via Filtration P alitative via Drop Mour	•
NYS 198.1 (friable in NY) TEM - Water: EPA 100			555 555. E.S	_	ti Method EPA 600/R-	•
			710-1-1-1	(BC only)		
NYS 198.6 NOB (non-friable-NY) Fibers >10µm ☐ Waste ☐ NYS 198.8 SOF-V			Drinking	Other:		1
NIOSH 9002 (<1%)		All Fiber Sizes Waste	Drinking			
Check For Positive St	op – Clearly	Identify Homogenous Group	Filter F	Pore Size (A	ir Samples): 👿0.8į	ım □0.45µm
Samplers Name: Medi				: Signature: /	11/1 10	
Campiers Hame: /V/DA	see ()	werrs rem	Campiera	oignature. /	Volume/Area (Air)	nolow Date/Time
Sample #		Sample Description	on		HA # (Bulk)	Sampled
		See attached	lear			
		302 311111	-3)			
			<u> </u>			
		· ·	ĺ			
Client Sample # (s):	20171003	3-01 - 20	171003-1	2 1	otal # of Samples:	2
Relinquished (Client):	Directle	Baenstew Date:	10/02/1	7	Time	: 16:16
Received (Lab):	7 A	Date:		5-17	Time	7:20
Comments/Special Instru	ictions:			· /	1	
					/12 pul,	<i>/</i>
		Page 1 of) nages			

Controlled Document - Asbestes COC - R10 - 05/09/2016

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		Air	Air Sampling Record	Record			Date	Date:10/03/17
Canteo	0	P _r	oject Name:	Forme	c Nocth	Project Name: Former Northern Landfell	() Client:	Phillips 66
impleza Dri		,	Project #:	185850	18585DH 29.300.1	D000.0	Laboratory: FMS	EMSL
(805) 250-2854		Colle	Collected & Calibrated by: M. Box	orated by:	M. Boer	ernstein	Calibration S	Calibration Source: (858-0)
Sample No.	Туре	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments sustained wind
20171003-01	PCM	25mm. 0.8um	07:19		1054		3	0.0 mph - 3.5 Westerly
2 por moter	□ Lead □ Clearance	37mm, 0.8um	Stop lime	1.50	10.295	18.417	1,354.2	crosswind
Sample No.	ype _	Medio Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	(L) eunion	Comments
20171003-02	_] B]	25mm, 0:8umi	07:22	2	10,54		1	
Sample Location	☐ Lead ☐ Clearance	37mm, 0.45mm	802 Ime	<u></u>	10.54	10.54	1,380.74	downwind
Sample Nb.	핥	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments
Sample Location	TIEM I Right	25mm, 0.8um	97:25	20	10.54 HS.01		-l-23(=nt	
S were meter		□ 37mm, 0.8um	09:37	í	10.295		יניט ויטיט ז	crosswind
	gg,	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Yolume (L)	Comments
Sample Location	TEM Blank	25mm, 0.45vm	Stop Time	12	Posi (LPM)	1077	L& 015.1	
Wperimeter	☐ Lead ☐ Clearance.	☐ 37mm, 0.8um	09,4/	101	11.00	,		upwind 1
Sample Zo.	ype 1	Media Type	Start Time	Tolal Time	Pre (FM)	Average (LPM)	Yolume (L)	Comments sustained wind
Sample Location	☐ TEM ☐ Blank	25mm, 0,45vm	Stop Time	223	Post (LPM)	10.54	1,401.82	A Trouby America
N perimeter	☐ Lead ☐ Clearance	☐ 37mm, 0.8um	11:44		(0.54	1		Crosswind
95/7/002-06	Sample Type Marea Area	Media Type 25mm, 0.8um	Stort Time	Total Time	10,5t	Average (LPM)	Volume (L)	Comments
Sample Location		25mm, 0.45um	Stop Time.	[3]	Post (LPM)	5	1,380,74	
E perimeter		☐ 37mm, 0.8um	94:11		(0.54)			danny nd
3 1 1 2 2 0 1 1 1 1 1 1 1 1 1	Sample lype SP PCM SS Area	Medio lype 25mm;0.8um	Start time	Joiol lime	2 Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	Average (LPM)	Volume (L)	Comments
Sample Location	10	25mm, 0.45um	Stop Time	053	Post [LPM]	15.01	1,370.20	
Sample No.	Sample Type	Medio Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments
2017/003-08	- 1-52(☑ 25mm, 0.8um	09.43) P	10.54	2		
Sample Location	☐ Lead ☐ Clearance	☐ 37mm, 0.8um	[];5] [];5]	Ē	(2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	10.54	714 151	a a a company
Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments Sustained wind
Sample Location	TEM -	25mm; 0.45um	Stop Time	3	Post [LPM]	わがる	1:231.56	in information of the second
Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (I.)	Comments
20171003-10	PCM St Area		13:05	3	(258			
E perimeter	☐ Lead ☐ Clearance	37mm, 0.8um	15.45 17.15 18.18		12.58	(4-)6	1,258	downwind

Page | of 2

OrderID: 041729125

NO.		Air	Air Sampling, Record	Record			Date	Date: 10/03/17
of antec	ñ	—— 	.Project Name: Former	Former		ern Lane	}L⊖∭ Client	Northern Landtoll Client: Phillips 66
343 Apprezd Drive, Suite A			Project #:	7.K752681	Project #: <u>IRSS5/3429,300.000</u> T	07	Laboratory	Laboratory: AMSL
San Les Obisso, CA 93401 (805) \$50-2854		Colle	Collected & Calibrated by: M. Logo	orated by:/	M. Baecr	Star.	Calibration S	Calibration Source: [858-6]
Sample No.	Sample Type	Media Type	Start Time	Total Time		Average (LPM)	Volume (L)	Comments s. 4-3-0
20171863-11	ST PCM Ed Area	⊠ 25mm, 0,8um	13:10		_		-	7.0-10.0 : 0
Sample Location	□ 1EM □ Blank	☐ 25mm, 0,45um	Stop Time	100%	Post (LPM)	12.44	1,219.12	CARCINITY OF MOREY
Sample No.	Гуре	Media Type	Start Time	Total Time		Average (LPM)	Volume (L)	Comments
2011003-12	_	25mm, 0.8um	13:13				•	
Sample Location Sample Location	☐ TEM ☐ Blank☐ Lead ☐ Clearance	☐ 25mm, 0.45um ☐ 37mm, 0.8um	Stop Time	<u>-</u>	Post (IPM) (2,3)	1244	1,231.56	uo er de
Sample No.	ğ	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments
Sample Location	□ TEM □ Blank □	25mm; 0.45m	Stop Time		Post (LPM)			
		☐ 37mm, 0.8um						
sample No.	Sample Type PCM	Media Type 25mm. 0.8um	Slart Time	Total Time	Pie (LPM)	Averoge (LPM)	Volume (L)	Comments
Sample Location	ם נ	25mm, 0.45um	Stop Time	1	Post (LPM)		_	
Sample No.	Somole Ivoe	Medio Ivos	Stort Time	Total Time	Pro (I PAA)	Averes II BAAI	Valuma (I)	Comments
	□ PCM □ Area	25mm, 0.8um	-				3	
Sample Löcation	.□ TEM □ Blank:	37mm, 0.45um	Stop Time	70	Post (LPM)			
Sample No.	ype	Меаїа Туре	Starl Time	Total Time	Pre (LPM)	Avérage (LPM)	Volume (L)	Comments
	PCM	☐ 25mm, 0.8vim		· -				
Sample Location .	☐ TEM ☐ Blank	25mm, 0.45um	Stop Time		Post (LPM)			
Sample No.	ype	Media Type	Start Time	Total Time F	Pre [LPN]	Average (LPM)	Yolume (L)	Comments
	_	☐ 25mm, 0.8um			<u> </u>			
Sample Location	□ TEM □ Blank □ Clearance	25mm, 0,45um	Stop Time	70	Post (LPM)	/	/	
Sample No.	Sample Type	Media Type	Start Time	Total Time F	Pre (LPM)	Average (LPM)	Volume (L)	Comments
Sample Location		25mm, 0.45um	Stop Time	-जा	Post (LPM)		,	/
	Lead Clearance	☐ 37mm, 0.8um	<u> </u>	L				
Sample No.	Sample Type Area	Media Type 25mm, 0.8um	Start Time	Total Time P	Pre (LPM)	Average (LPM)	Yolume (L)	Comments
Sample Location	☐ TEM ☐ Blank☐ Lead ☐ Clearance	☐ 25mm, 0.45um ☐ 37mm, 0.8um	Slop lime	70	Post (LPM)			/
Sample No.	Sample Type Brea Area	Media Type 25mm, 0.8um	Start Time	Total Time P	Pre (LPM)	Average (LPM)	Yolume (L)	Comments
Sample Location	□ TEM □ Blank □ Lead □ Clearance	25mm, 0.45um 37mm, 0.8um	Stop Time	70	Post (LPM)			

age 2 of 2

Page 3 Of

3



3437 Empresa Drive

Stantec Consulting Services Inc

San Luis Obispo, CA 93401

Attention: Melissa Baernstein

Suite A

EMSL Order: 041729126 Customer ID: 32STAN25

Customer PO: Project ID:

Phone: (805) 546-0455

Fax:

Received Date: 10/05/2017 9:20 AM

Analysis Date: 10/05/2017 **Collected Date**: 10/02/2017

Project: 185850429.300.0007 / Former Northern Landfill / Phillips 66

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm²	Fibers/ cc	Notes
N Perimeter	10/02/2017	1317.50	9	100	0.002	11.5	0.003	
E Perimeter	10/02/2017	1338.58	10	100	0.002	12.7	0.004	
S Perimeter	10/02/2017	1338.58	<5.5	100	0.002	<7.01	<0.002	
W Perimeter	10/02/2017	1345.28	<5.5	100	0.002	<7.01	<0.002	
N Perimeter	10/02/2017	1401.82	<5.5	100	0.002	<7.01	<0.002	
E Perimeter	10/02/2017	1401.82	<5.5	100	0.002	<7.01	<0.002	
S Perimeter	10/02/2017	1391.28	11	100	0.002	14.0	0.004	
W Perimeter	10/02/2017	1407.12	<5.5	100	0.002	<7.01	<0.002	
N Perimeter	10/02/2017	1258.00	7	100	0.002	8.92	0.003	
E Perimeter	10/02/2017	1258.00	<5.5	100	0.002	<7.01	<0.002	
S Perimeter	10/02/2017	1232.84	7	100	0.002	8.92	0.003	
W Perimeter	10/02/2017	1232.84	<5.5	100	0.002	<7.01	<0.002	
	N Perimeter E Perimeter W Perimeter N Perimeter E Perimeter W Perimeter W Perimeter N Perimeter E Perimeter S Perimeter S Perimeter	N Perimeter 10/02/2017 E Perimeter 10/02/2017 S Perimeter 10/02/2017 W Perimeter 10/02/2017 N Perimeter 10/02/2017 E Perimeter 10/02/2017 W Perimeter 10/02/2017 S Perimeter 10/02/2017 D Perimeter 10/02/2017 R Perimeter 10/02/2017 S Perimeter 10/02/2017 S Perimeter 10/02/2017	Location Sample Date (liters) N Perimeter 10/02/2017 1317.50 E Perimeter 10/02/2017 1338.58 S Perimeter 10/02/2017 1338.58 W Perimeter 10/02/2017 1345.28 N Perimeter 10/02/2017 1401.82 E Perimeter 10/02/2017 1401.82 S Perimeter 10/02/2017 1391.28 W Perimeter 10/02/2017 1407.12 N Perimeter 10/02/2017 1258.00 E Perimeter 10/02/2017 1258.00 S Perimeter 10/02/2017 1258.00	Location Sample Date (liters) Fibers (liters) N Perimeter 10/02/2017 1317.50 9 E Perimeter 10/02/2017 1338.58 10 S Perimeter 10/02/2017 1338.58 <5.5	Location Sample Date (liters) Fibers Fields N Perimeter 10/02/2017 1317.50 9 100 E Perimeter 10/02/2017 1338.58 10 100 S Perimeter 10/02/2017 1338.58 <5.5	Location Sample Date (liters) Fibers Fields (fib/cc) (fib/cc) N Perimeter 10/02/2017 1317.50 9 100 0.002 E Perimeter 10/02/2017 1338.58 10 100 0.002 S Perimeter 10/02/2017 1338.58 <5.5	Location Sample Date (liters) Fibers Fields (fib/cc) mm² N Perimeter 10/02/2017 1317.50 9 100 0.002 11.5 E Perimeter 10/02/2017 1338.58 10 100 0.002 12.7 S Perimeter 10/02/2017 1338.58 <5.5	Location Sample Date (liters) (liters) Fibdes (fib/cc) (fib/cc) mm² cc N Perimeter 10/02/2017 1317.50 9 100 0.002 11.5 0.003 E Perimeter 10/02/2017 1338.58 10 100 0.002 12.7 0.004 S Perimeter 10/02/2017 1338.58 <5.5

This method requires the submission of field blanks with each sample set. No discernable field blanks were submitted, samples are not blank corrected.

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Initial report from: 10/05/2017 23:21:36



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com

Project: 185850429.300.0007 / Former Northern Landfill / Phillips 66

Attention: Melissa Baernstein Phone: (805) 546-0455

Stantec Consulting Services Inc Fax:

3437 Empresa Drive Received Date: 10/05/2017 9:20 AM

Suite A Analysis Date: 10/05/2017 San Luis Obispo, CA 93401 Collected Date: 10/02/2017

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample Location Sample Date (liters) Fibers Fields (fib/cc) mm² cc Notes

Analyst(s):

Susan Muir PCM (12)

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

TILLE

EMSL Order: 041729126

32STAN25

Customer ID:

Customer PO:

Project ID:

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Initial report from: 10/05/2017 23:21:36

OrderID: 041729126



Asbestos Chain of Custody For California Samples

EMSL Order Number (Lab Use Only):

041729126

EMSL Analytical, Inc. 200 Route 130 North

CINNA MISON, NU 08077 Cinnaminson, NU 08077

2017 HONE: 1-800-220-3675 FAX: (856)-786-5974

Company Name : Stantec Co	nsulting S	ervices Inc.	EMSL Custo	omer ID:			
Street: 3437 Empresa Drive	Suite A		City: San Lu	uis Obispo		State/Provin	ce: CA
Zip/Postal Code: 93401	barren a	Country: US	Telephone #	# : 909-362-	3942	Fax #:	
Report To (Name): Melissa Ba	aernstein		Please Prov	ide Results	: 🗌 Fa	x 🗹 Email	
Email Address: melissa.baer	rnstein@st	tantec.com	Purchase O	rder:			
Project Name/Number: 18585		.0007	EMSL Proje	ct ID (Intern	al Use Or	n/v):	
U.S. State Samples Taken: CA		☐ Different: If Bill-to is differe				*	DW.
	_ 00,110	Third-party billing requir	es written auth	orization.		ar motraduono ben	
3 Hour* 6 Hour		Turnaround Time (TAT) 24 Hour 48 Hour	Options – PI		96 Hour	☐ 1 Week	☐ 2 Week
_ STIOUI	- 10		T (AHERA only		36 Hour	I □ I week	_ Z Week
	please call a	head to schedule. There is a pr		for 3 Hour TEI			
PCM - Air		TEM - Air	00			lite (Reportir	ng Limit)
NIOSH 7400		AHERA 40 CFR, Part 7	63			– A (0.25%) – B (0.1%)	
☐ w/ OSHA 8hr. TWA		☐ EPA Level II				– B (0.1%)*	
PLM - Bulk (Reporting Limi		☐ NIOSH 7402		A STATE OF THE STA		- C (0.01%)*	
☐ PLM EPA 600/R-93/116 (<1 ☐ PLM EPA NOB (<1%)	%)	☐ ISO 10312		The state of the s		via Filtration Provide Prop Mount	
☐ 400 (<0.25%) Point Count		TEM - Bulk ☐ TEM EPA NOB		The same of the same of		via Drop Mount	ling Prep (<1%)
☐ 400 (<0.25%) Point Count w	vith	☐ Chatfield SOP					
Gravimetric Reduction			with Milling	L PLIME	PA 600/K	-93/116 With Will	lling Prep (<0.25%)
☐ 1000 (<0.1%) Point Count		TEM EPA 600/R-93/116 Prep (<0.1%)**	with willing	☐ TEM E	PA 600/R	-93/116 with Mi	lling Prep (<0.1%)*
1000 (<0.1%) Point Count w	vith	*Lower reporting limits availabl	e	*Lower repo	orting limits	available	
Gravimetric Reduction NIOSH 9002 (<1%)	+	TEM- Dust	7	Ot	her		
TEM - Water: EPA 100.2		☐ Microvac - ASTM D 575	5		· ·		
	Drinking	☐ Wipe - ASTM D6480					
	Drinking	☐ Carpet Sonication (EPA	600/J-93/167)			
☐ Stop At First Positive (Clea	arly identif	v homogenous groups he	low) Filter	Pore Size (Air Samn	les): 🔳 0.8µı	m □ 0.45µm
		MEZICAL STREET, CONTROL OF THE STREET, CONTRO	T Inter	TOTO OIZO (11 01	10	,
Sampler's Name: IVIETIS	sa ba	ernstein	Sampler's	s Signature	111000	alBoers	
Sample #		Sample Description	on			e/Area (Air) # (Bulk)	Date/Time Sampled
		See attached	loa				
		ooo attaanioa	.09				
	× ==			4.2	7.11	7.77	
Client Sample # (s): 20	171002-	01 -201	71002-12	2	Total # c	of Samples: 12	2
Relinquished (Client):	wate	cremoters Date:	10/03/1)		Time:	16:16
Received (Lab):	N	→ Date:	10-	5-17		Time:	9:20
Comments/Special Instruction	ns:	- Julio.			/		
					11	(may	
Controlled Document - COC-51 Asber	stos CA R0 01/				1	1/	
		Page 1 of _	pages		K	1	

OrderID: 041729126 Comments sustained wind Comments sastached wind 0.0 mph-3.0 mph Westerly d Comments Sustained wind 4.0 mph equats 6.0 mph of Comments 5,0 and westery Sound no @10.60 3.0(s) 6.0(g) dounding Crossind Comments Page downwind Client: Phillips (do Juposhod Crosswind Calibration Source: | 858-01 Comments Comments Comments Date: 10/02/17 Comments Comments Laboratory: EMSI 1,407.12 1,391.28 1,401.82 1,345.28 1,401.82 1,338.58 1,258 1,338.58 Volume (L) 1,258 1,317.50 Volume (L) Volume (L) Volume (L) Volume (L) Volume (L) Volume (L) Volume (L) Volume (L) Volume (L) 041729126 Average (LPM) Average (LPM) Average (LPM) 10.66 12.58 Average (LPM) Average (LPM) 12.58 Average (LPM) 10.01 Project Name: Former Northern Landfill Average (LPM) 10.54 Average (LPM) Average (LPM) 19.07 10.54 Average (LPM) 10.03 15.0 PS-01 Collected & Calibrated by: M. Baernstein Post (LPM) Post (LPM) (2.58 12.58 も。 10.54 Post (LPM) 12.58 10.54 Pre (LPM) Pre (LPM) 10.54 Post (LPM) 10.84 Pre (LPM) Post (LPM) 区。公 Pre (LPM) Post (LPM) Post (LPM) 10.54 10.54 10.54 Pre (LPM) 10.54 10.54 10.54 Pre (LPM) Post (LPM) 10.54 Post (LPM) Pre (LPM) Pre (LPM) Pre (LPM) Post (LPM) Pre (LPM) Project #: 185850429 otal Time 132 Total Time 8 132 Total Time 0 **Total Time** Total Time 133 128 Total Time 33 Total Time Total Time Total Time 7 125 Air Sampling Record Stop Time Start Time 11:06 Stop Time Stop Time 13:09 13:07 Stop Time (3:14 Start Time (0:58 10:54 Start Time 11:02 tart Time Stop Time Stop Time Start Time Stop Time 68:63 95:01 Stop Time 08:30 Stop Time Start Time Start Time 1000 Start Time start Time Stop Time 08:47 6:52 Start Time □ 25mm, 0.45um ☐ 25mm, 0.45um ☐ 37mm, 0.8um □ 25mm, 0.45um □ 37mm, 0.8um □ 25mm, 0.45um ✓ 25mm, 0.8um □ 37mm, 0.8um ✓ 25mm, 0.8um

☐ 25mm, 0.45um N 25mm, 0.8um 37mm, 0.8um □ 25mm, 0.45um M 25mm, 0.8um 37mm, 0.8um ☑ 25mm, 0.8um □ 25mm, 0.45um □ 37mm, 0.8um □ 25mm, 0.45um N 25mm, 0.8um □ 37mm, 0.8um 25mm, 0.45um 37mm, 0.8um X 25mm, 0.8um □ 25mm, 0.45um 37mm, 0.8um ■ 25mm, 0.8um □ 37mm, 0.8um Media Type X 25mm, 0.8um Media Type Media Type Media Type Media Type Media Type Media Type Media Type Clearance Clearance □ Clearance Clearance Clearance □ Clearance □ Clearance □ Clearance Clearance □ Blank Clearance M Area □ Blank Area □ Blank □ Blank Area Area Area □ Blank □ Blank M Area □ Blank A Area Blank Area Blank M Area Area Blank Area Sample Type Sample Type Sample Type Sample Type Sample Type Sample Type TEM Lead PCM PCM Sample Type □ Lead **№** PCM □ Lead Sample Type N PCM PCM TEM □ TEM Sample Type □ Lead □ Lead □ TEM N PCW TEM Lead Sample Type M PCM PCM TEM □ TEM TEM Lead D Lead M PCM D Lead N PCW D Lead □ TEM Stantec personeter 901762 20171002-04 3437 Impreza Drive, Suite A per mater San Luis Obispo, CA 93401 Sample No. 20171002-10 Sample No. perimeter 20171002-09 perimeter 20171002-08 2011002-06 perimeter Sample No. 2011002-07 20171002-05 iample No. Socimeter 20171002-03 20171002-02 50 Sample Location sample Location ample Location ample Location 20171002-0 ample Location ample Location 805) 250-2854 ample Location sample Location sample Location sample No. ample Location Sample No. Z Sample No. ample Nb. ample No. sample No. 3

				1						
5.7.			Air	Air Sampling Record	Record			Date:	Date: 10/02/17	
Kante	CO		Ą	oject Name:	Former	Norther	Project Name: Former Northern Landfill	Client: 86	Rob	
3437 Impreza Driye, Suite A				Project #:	Project #: 185850429	129		Laboratory: EMS	EWSL	
San Luis Opispo, CA 93401 (805) 250-2854			Colle	Collected & Calibrated by: M. Baennsteld	orated by:	M. Been	stein	Calibration Sc	Calibration Source: $\lfloor 858-6 \rfloor$	
Sample No.	Sample Type	ec ec	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
20171002-11	B PCM	Area	✓ 25mm, 0.8um	(3:17		12.58		1,232.84		
Sample Location	TEM	□ Blank	25mm, 0.45um	Stop Time	EHX	Post (LPM)	[2.58	47000		
Sample No	Sample Ivne	Ciediance	Media Type	Stort Time	Total Time	Pre (IPM)	Average (IPM)	Volume (1)	Comments	
2011002-12	N PCM	A Area	Z 25mm, 0.8um	13:21		12.58	(w la) official	1,232.84		
Sample Location			25mm, 0.45um	Stop Time	864	Post (LPM)	12.58	ZI ZI		
M perimeter	D Lead	□ Clearance	☐ 37mm, 0.8um	14:59		(2.58	!		wowind	
Sample No.	Sample Type	ре	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
Sample Location	TEM	Blank	25mm,	Stop Time		Post (LPM)				\
	□ Lead									
Sample No.	Sample Type		edia Typ	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
	PCM		25mm,							
Sample Location	TEM Lead	□ Blank	25mm, 0.45um	Stop Time		Post (LPM)				
Sample No	Sample Type	1/	Media Type	Start Time	Total Time	Pre (IPM)	Average (LPM)	Volume (I.)	Comments	
	D PCM	□ Ared	25mm, 0.8um			(1)		(1)		
Sample Location	TEM	Blank	☐ 25mm, 0.45um	Stop Time	\	Post (LPM)				
	□ Lead	☐ Clearance	☐ 37mm, 0.8um	\						
Sample No.	Sample Type	pe Area	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
Sample Location	TEM	□ Blank □ Clearance	25mm, 0.45um 37mm, 0.8um	Stop Time	/	Post (LPM)				
Sample No.	Sample Type		Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM) Volume (L)	Volume (L)	Comments	
Sample Location	I Lead	☐ Blank ☐ Clearance	25mm, 0.45um 37mm, 0.8um	Stop Time		Post (LPM)				
Sample No.	Sample Type		Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
Sample Location	TEM Lead	□ Blank □ Clearance	25mm, 0.45um	Stop Time		Post (LPM)		/		
Sample No.	Sample Type	pe 🗆 Area	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
Sample Location	TEM Lead	□ Blank □ Clearance	25mm, 0.45um	Stop Time		Post (LPM)				
Sample/No.	Sample Type		I W	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	1
	D PCM		25mm,							
Sample Location	□ TEM	☐ Blank ☐ Clearance	25mm, 0.45um 37mm, 0.8um	Stop Time		Post (LPM)				
										,



3437 Empresa Drive

Stantec Consulting Services Inc

San Luis Obispo, CA 93401

Attention: Melissa Baernstein

Suite A

EMSL Order: 041729258 Customer ID: 32STAN25

Customer PO: Project ID:

Phone: (805) 546-0455

Fax:

Received Date: 10/06/2017 9:20 AM

Analysis Date: 10/06/2017 **Collected Date**: 10/04/2017

Project: 185850429.300.0007 / Former Northern Landfill / Phillips 66

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm²	Fibers/ cc	Notes
20171004-01	N Perimeter	10/04/2017	1517.76	12	100	0.002	15.3	0.004	ļ.
041729258-0001									
20171004-02	E Perimeter	10/04/2017	1510.47	<5.5	100	0.002	<7.01	<0.002	2
041729258-0002									
20171004-03	S Perimeter	10/04/2017	1556.36	<5.5	100	0.002	<7.01	<0.002	2
041729258-0003									
20171004-04	W Perimeter	10/04/2017	1549.38	<5.5	100	0.002	<7.01	<0.002	2
041729258-0004									
20171004-05	N Perimeter	10/04/2017	1528.30	10	100	0.002	12.7	0.003	3
041729258-0005									
20171004-06	E Perimeter	10/04/2017	1507.22	7	100	0.002	8.92	0.002	2
041729258-0006									
20171004-07	S Perimeter	10/04/2017	1507.22	<5.5	100	0.002	<7.01	<0.002	2
041729258-0007									
20171004-08	W Perimeter	10/04/2017	1496.68	8	100	0.002	10.2	0.003	3
041729258-0008									
20171004-09	N Perimeter	10/04/2017	1222.64	<5.5	100	0.002	<7.01	<0.002	2
041729258-0009									
20171004-10	E Perimeter	10/04/2017							Overloaded
041729258-0010									
20171004-11	S Perimeter	10/04/2017							Overloaded
041729258-0011									
20171004-12	W Perimeter	10/04/2017							Overloaded
041729258-0012									

This method requires the submission of field blanks with each sample set. No discernable field blanks were submitted, samples are not blank corrected.

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Initial report from: 10/06/2017 21:09:35



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com EMSL Order: 041729258 Customer ID: 32STAN25

Customer PO: Project ID:

Attention: Melissa Baernstein

Stantec Consulting Services Inc

3437 Empresa Drive

Suite A

San Luis Obispo, CA 93401

Project: 185850429.300.0007 / Former Northern Landfill / Phillips 66

Phone: (805) 546-0455

Fax:

Received Date: 10/06/2017 9:20 AM

Analysis Date: 10/06/2017 **Collected Date**: 10/04/2017

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample Location Sample Date (liters) Fibers Fields (fib/cc) mm² cc Notes

Analyst(s):

Susan Muir PCM (12)

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

TILLE

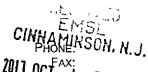
Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

Initial report from: 10/06/2017 21:09:35



Asbestos Chain of Custody EMSL Order Number (Lab Use Only):



					- 1011 HC -	
Company Name : Stan	tec Consu	Iting Services, Inc.	EMSL Custo	mer ID;		Ե Թ Ու Օկ
Street: 3437 Empresa Di	rive, Suite A		City: San Lu	iis Obispo	State/Provi	ince: CA
Zip/Postal Code: 93401	_	Country: USA	Telephone #	909-362-3942	Pax #: 909	-335-6120
Report To (Name): Melis	sa Baernstei	n	Please Prov	ide Results:	Fax 🗹 Email	
Email Address: Melissa	a.Baernsteir	@stantec.com	Purchase O	rder:		
Project Name/Number: 1		7,000.7		ct ID (Internal Us	se Only):	
U.S. State Samples Take		::: A		: Commercia		idential/Tax Exempt
	EMST-B	ill to: ☐ Same ☐ Different - Third Party Billing requires writ			Comments**	
		Turnaround Time (TAT)	Options* - P	ease Check		
	Hour [ead to schedule. There is a premium				
authorization form	for this service.	Analysis completed in accordance				
PCM - Air Check if sai from NY	mples are	<u>TEM Air</u>	AHERA only)	TEM- Dust		
NIOSH 7400		AHERA 40 CFR, Part 76	3	Microvac - A	ASTM D 5755	
w/ OSHA 8hr. TWA		☐ NIOSH 7402	•	☐Wipe - AST	M D6480	
PLM - Bulk (reporting lin	rit)	EPA Level II		Carpet Son	ication (EPA 600/J	-93/167)
☐PLM EPA 600/R-93/11	6 (<1%)	☐ ISO 10312		Soil/Rock/Ver	miculite	
PLM EPA NOB (<1%)		TEM - Bulk		l —	600/R-93/116 with n	_ , , , ,
Point Count		TEM EPA NOB		l		nilling prep (<0.25%)
☐ 400 (<0.25%) ☐ 1000 Point Count w/Gravimetrio		☐NYS NOB 198.4 (non-fria☐Chatfield SOP	ble-NY)	l ——		milling prep (<0.1%)
400 (<0.25%) 1000		TEM Mass Analysis-EPA	600 sec 2.5		ative via Filtration F ative via Drop Mou	•
NYS 198.1 (friable in N	-	TEM - Water: EPA 100.2				-04/004 PLM/TEM
NYS 198.6 NOB (non-	•		Thairtain a	(BC only)		·
NYS 198.8 SOF-V	ilianie-ivi)	Fibers >10μm	Drinking	Other:		
NIOSH 9002 (<1%)		All Fiber Sizes Waste	Drinking			
☐Check For Positive St	top – Clearly	Identify Homogenous Grou	Filter	Pore Size (Air S	Samples): 0.8	µm0.45μm
Samplers Name: Meli	ca B = 0		6	Siz==1 \ \	10, 12	
Samplers Name: \v\v\)	<u>SSC 1700</u> I	souz-tein	Samplers	Signature: W	òlume/Area (Air)	Date/Time
Sample #		Sample Descripti	on	"	HA # (Bulk)	Sampled
		See attached la	~. ·			
		the actualities it	<u> </u>			
						1
					<u> </u>	·
		· · ·	<u> </u>			
Client Sample # (s):	2017100	4-01 - 21	 L-2001	2 Tota	al # of Samples: (2 (ZCV)
Relinquished (Client):	12 arote	Bacaroto Date:	10/04/1			: 17:17
Received (Lab):	MAY.	C/a `	100	110		0424
Comments/Special Instru	uctions:	Date:		<u>5~ [</u>	Time	: Tille
						Ţ

Page 1 of _____ pages

Controlled Document - Asbestos COC - R10 - 05/09/2016

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P		Air Sc	Air Sampling Record	rd		Date:	L1/20/al
Stantec	ň	Proji	Project Name: For	Former North	hen Landfill	[] Client:	Phillips 66
3437 Apreto Drive, Suite A			Project #: 1858	#: 18585D429.300.1	<u> </u>	Laboratory: EMSL	ENSL.
(805) 250-254		Collected &	ted & Calibrated by:	M. Bos	snatein	Calibration Sc	Calibration Source: 1858-01
Sample No.	γpe	месіа Туре	Start Time Total Time	20	Average (LPM)	Volume (L)	Comments sustained wind
20171004-01	D PCM B Area	25mm, 0.8vm	Stop Time	10.54	1 10.54	1.517.76	0.0,2.0 mgh 20
N BO MOTES	_ i	37mm, 0.8üm			1	<u> </u>	Christing
Sample No.	Sample Type	Media Type	Start Time Total Time	ime Pre (LPM)	Average (LPM)	Volume (L)	Comments
Sample Location		25mm, 0.45um	<u>ا</u>	(Wall Itola	10,417	1,510.47	
E perineter	☐ Lead ☐ Clearance	☐ 37mm, 0.8um	69:39	┸	Averoge (IPM)	Volume II I	Comments
Α.	ST PCM R Area	125mm, 0.8um		10.54	_	<u>}</u>	
Sample Location	☐ TEM ☐ Blank	25mm, 0,45um	<u>~</u>	16 Post (LPM)	10.66	1,000.36	down/crasswind
	ype a	Media Type	Start Time Total Time	, g	Average (LPM)	Valume (L)	Comments
Sample Location		25mm, 0,45um	Stop Time	 हा	10.54	1,549.38	
M perimeter	Sample Type	Media Type	Start Time Total Time	ime Pre (LPM)	Average (LPM)	Volume (L)	Comments Sustained wind
	PCM X Area	🖾 25mm, 0.8um	<u> </u>		<u>!</u>		2.0 mph - 5.5 mph NW
•	☐ TEM ☐ Blank	25mm, 0.45vm	Stop Time LUD	_	155	1,528.50	Christwind
Sample Nb.	ğ	Media Type	Start Time Total Time	7	Averoge (LPM)	Volume (L)	Comments
20(71604 136	⊠ PCM ⊠ Area	25mm, 0.8um	Stop Time 12	43 Post (LPM)		77.22	
E perimeter	Lead [☐ 37mm, 0.8um	۴	1			downwind
Sample No.	Sample Type The PCM The Area	Media Type /	Start time. Hotal time	ime Fre (LPM)	Average (LPM)		Comments
Sample Location		25mm, 0.45um	<u>. </u>	Post (LPM)	15:01	1,507.22	down
Sample No.	уре	Media Type	Start Time Total Time	Pa	Average (LPM)	Volume (L)	Comments
201 ((Q)4 - 58	□ TEM □ Blank	25mm, 0.45um	Stop Time 149	9 Post [LPM]	1054	1,496.68	
W perimeter	☐ Lead ☐ Clearance	☐ 37mm, 0.8um	\mathcal{L}	1_			MONING
Sample No.	Sample Type AP-PCM AP Area	Media Type Da-25mm, 0.8um	Start time (Total time	1) lo Pre [LPM]	ح	Volume (L)	10-9.0 mgh Wasterly
Samplé Location		25mm, 0.45um			15:01	(,222.04	Crosswin)
	ype 1	Media Type	Start Time Total Time	Pn	Average (LPM)	Volume (L)	Comments
20 7 60 100 4 7 (C)	I IEM D Blank	25mm, 0.45um		Post (LPM)	_	1,201.56	,
E perimeter		1	115:54	15.0)			advance V

Page 2 Of

3

		Air S	Air Sampling Record	Record			Date:	Date: 10/04/(1	
Stantec		Pro	Project Name: Forme	Form		bothern Landfill		client: Phillips ldo	
3437 ImprezaDrive, Suite A		_	Project #:		13555429,300.0007	0007	Laboratory: EUS	EWS	
San Luis Obispo, CA 93401 (805) 236-2854		Collec	ted & Cali	orated by:\	Collected & Calibrated by: \\\ \Decrystein	stein	Calibration S	Calibration Source: [858-0]	
Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre (LPM)	<u> </u>	Volume (L)	Comments	1
11-hadil	; 1727:	25mm, 0.8vm	13:41		t				
	3 🗆	25mm. 0.45vm	Stop Time	9	Post (LPM)	[6.54]	(,222,64)	2 2256	
Somple Mr O	Sample Type	Media Type	Stort Time	Total Time	Pie (LPM)	Average (LPM)	Volume (L)	Comments	-
15-15 15-15	ATPCM ⊠ Area	⊠ 25mm, 0,8um	C DE		10,54				
	□ TEM □ Blank	□ 25mm, 0.45um	Slop Time	=	Post (LPM)	45.Ö)	F-2561	,	
moderate C	Lead Clearance	37mm, 0.8um	(5:39)		(0, 57		١.	V-DAJA	
	j Ž	Media Type	Start Time	Total Time	Pre.(LPM)	Average (LPM)	Volume (L)	Comments	
Sample Longtion	☐ TEM ☐ Blonk	25mm, 0.45um	Stop Time		Post (LPM)				
	֡֟֡֡֡֡֡	☐ 37mm, 0.8vm							
Sample No.	Sample Type	Media Type	Start Time	Total Time	Pre (LPM)	Averoge (LPM)	Volume (L)	Comments	
Sample Location	<u> </u>	25mm, 0.45um	Stop Time		Post (LPM)				
	_	37mm, 0.8um	-			<u> 1</u>			
Sample No.	Sample Type PCM D Area	Media Type 25mm, 0.8vm	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
Sample Location	□ Blank	25mm. 0.45vm	Stop Time		Post (LPM)				
	☐ Lead ☐ Clearance	☐ 37mm, 0.8um				1			
Sample No.	Sample Type PCM	Media Type 25mm, 0.8um	Start Time:	Total Time	Pre (LPM)	Average (LPM)	Yalume (L)	Comments	
Sample Location	0		Slop Time	<i></i>	Post (LPM)				
	֡֡֡֡֡	37mm, 0.8vm		1					
Sample No.	mple Type	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Yolume (L)	Comments	
Sample Localion	I TEM I Blank	25mm, 0.45um	Stop Time :		Post (LPM)	/			
		☐ 37mm, 0.8um							
Sample No.	mple lype	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
Sample Location	□ TEM □ Blank	25mm, 0.45vm	Stop Time		Post (LPM)		/	7	
	Lead []	☐ 37mm. 0.8um			_			/	
Sample No.	mple Type	Media Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
Sample Location	□ TEM □ Blonk		Stop Time		Post (LPM)				•
	Lead 🔲	☐ 37mm, 0.8úm		ł		,			/
Sample No.	Somple Type	Medio Type	Start Time	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
Sample Location	EM !		Stop Time		Post (LPM)				
	Clearance	□ 37mm, 0.8vm							

Page 2 of 2.



3437 Empresa Drive

Attention: Melissa Baernstein

EMSL Order: 041729272 Customer ID: 32STAN25

Customer PO: Project ID:

Phone: (805) 546-0455

Fax:

Received Date: 10/06/2017 9:20 AM

Analysis Date: 10/06/2017 **Collected Date:** 10/05/2017

Suite A San Luis Obispo, CA 93401

Stantec Consulting Services Inc

Project: 185850429 / Former Northern Landfill / Phillips 66

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method - A Rules, Revision 3, Issue 2, 8/15/94

Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/ mm²	Fibers/ cc	Notes
20171005-01	N Perimeter	10/05/2017	1354.21	16	100	0.002	20.4	0.006	
041729272-0001									
20171005-02	E Perimeter	10/05/2017	1364.63	3 7	100	0.002	8.92	0.003	
041729272-0002									
20171005-03	S Perimeter	10/05/2017	1391.28	6	100	0.002	7.64	0.002	
041729272-0003									
20171005-04	W Perimeter	10/05/2017	1412.36	23	100	0.002	29.3	0.008	
041729272-0004									
20171005-05	N Perimeter	10/05/2017	1370.20	16	100	0.002	20.4	0.006	
041729272-0005									
20171005-06	E Perimeter	10/05/2017	1359.66	6	100	0.002	7.64	0.002	
041729272-0006									
20171005-07	S Perimeter	10/05/2017	1338.58	3 7	100	0.002	8.92	0.003	
041729272-0007									
20171005-08	W Perimeter	10/05/2017	1328.04	10	100	0.002	12.7	0.004	
041729272-0008									

This method requires the submission of field blanks with each sample set. No discernable field blanks were submitted, samples are not blank corrected.

Analyst(s):	
Susan Muir PCM (8)	

Benjamin Ellis, Laboratory Manager or Other Approved Signatory

Limit of detection is 7 fibers/mm². Intra-laboratory Sr values: 5-20 fibers = 0.36, 21-50 fibers = 0.39, 51-100 fibers = 0.22. Inter-laboratory Sr values (Average of EMSL round robin data) = 0.30. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. EMSL is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. The results in this report meet all requirements of the NELAC standards unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NYS ELAP 10872, AIHA-LAP, LLC--IHLAP Accredited #100194, NJ DEP 03036, PA ID# 68-00367

OrderID: 041729272



Asbestos Chain of Custody EMSL Order Number (Lab Use Only):

			110		(Lab Co)	Omy,
0	ار -	/	7	2	₽	7

Empley (Ort 1) thought a from the					በቦ፣
Company Name : Stantec Consu	ılting Services, Inc.	EMSL Custo	mer ID:		0CI -6 P II: 0
Street: 3437 Empresa Drive, Suite A		City: San Lu	s Obispo	State/Provi	nce:`CA
Zip/Postal Code: 93401	Country: USA	Telephone #:	909-362-39	42 Fax #: 909-	335-6120
Report To (Name): Melissa Baernstei	in	Please Provi	le Results:	☐ Fax ☑ Email	
Email Address: Melissa.Baernsteir		Purchase Or	der:		
Project Name/Number: 185850429		EMSL Projec			
U.S. State Samples Taken: California	itt to D Come D Different				idential/Tax Exempt
EMSL-B	ill to: Same Different - Third Party Billing requires writ				
	Turnaround Time (TAT)	Options* - Ple	ase Check	·	
3 Hour G Hour 6 Hour For TEM Air 3 hr through 6 hr, please call ah	24 Hour 48 Hour	72 Hou		Hour 1 Week	
authorization form for this service.					
PCM - Air Check if samples are from NY	<u>TEM – Air</u>	AHERA only)	TEM- Dust		
NIOSH 7400	AHERA 40 CFR, Part 76	3	Microvac	- ASTM D 5755	
w/ OSHA 8hr. TWA	☐ NIOSH 7402		∭Wipe - A	STM D6480	
PLM - Bulk (reporting limit)	EPA Level II		☐Carpet S	onication (EPA 600/J-	93/167)
☐PLM EPA 600/R-93/116 (<1%)	☐ ISO 10312		Soil/Rock/V	<u>/ermiculite</u>	
☐PLM EPA NOB (<1%)	TEM - Buik			A 600/R-93/116 with π	
Point Count	TEM EPA NOB			A 600/R-93/116 with n	
☐ 400 (<0.25%) ☐ 1000 (<0.1%) Point Count w/Gravimetric	NYS NOB 198.4 (non-fria	ible-NY)	=	A 600/R-93/116 with n	
Point Count wideravimetric 	☐ Chatfield SOP☐ TEM Mass Analysis-EPA	600 sec 2.5		alitative via Filtration F alitative via Drop Mou	•
NYS 198.1 (friable in NY)	TEM - Water: EPA 100.2	000 000: 2:0		ti Method EPA 600/R-	
· · · · · · · · · · · · · · · · · · ·		¬	(BC only)		
□ NYS 198.6 NOB (non-friable-NY) □ NYS 198.8 SOF-V	Fibers >10μm Waste	Drinking	Other:		
NIOSH 9002 (<1%)	All Fiber Sizes Waste	Drinking]		
☐Check For Positive Stop – Clearly	Identify Homogenous Group	p Filter I	ore Size (Ai	r Samples): 🎜 0.8	um
Samplers Name: Melissa Bo	vernstein	Samplers	Signature: /	VelisatBae	work
Sample #				Volume/Area (Air)	Date/Time
	Sample Descripti			HA # (Bulk)	Sampled
	See attached l	095			-
		\cup			'
				-	
	2 -	171005-6	<u>8 т</u>	otal # of Samples: 8	
Relinquished (Client):	Sourson Date:	10/05/1	7	Time	: 15:15
Received (Lab):	X Date:	: W-6	-17	Time	: 4:20
Comments/Special Instructions:					

Controlled Document - Asbestos COC - R10 - 05/09/2016

2

Z(•		
		Air S	Air Sampling Record	ecord			Date:	Date: 10/05/17	Ī
- Called Called			ject Name:	Forme	ic Nact	hernlan	Off() Client:	Project Name: Former Northern Landfill Client: Phillips (ab	
3337 Impreza Drive, Suite A			Project #:	1858504	Project #: 185850429,300.0007	2007	Laboratory: EMSI	EMSI	
San Life Oppoo, CA 93401 (805)2250-2854		Collec	Collected & Calibrated by: M. Baernstein	rated by:	M. Bae	noskin	Calibration S	Calibration Source: ($858-0$ /	
Sample No.	λbe	Media Type		Total Time	Pre (LPM)	Average (LPM) (Volume (L)	Volume (L)	Comments	Г
2017(005-0) Sample Location	TEW TO Blank	18 25mm, 0.8um □ 25mm, 0.45um	Stop Time	12	Post (LPM)	10417	1,354.21	no wind	_
N perimeter	☐ Lead, ☐ Clearance		굮	3	10.295	111.94			
Sample NB.	Sample Type Key PCM ** Key Area	Mêdla Type 🛛 25mm, 0.8um		Total Time	Pre (IPM)	Average (LPM)	Volume (L)	Comments	_
Sample Location		1 25mm, 0.45um	Stop Time	131	Post (LPM)	10.417	(364.63	SO WIND	
Sample No.	1 8		Start Time	otal Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	- -
2011,005-03	PCM E	🔁 25mm, 0.8um	07:32		125-07			2000	
Sample Location	C Lead Clearance	1 25mm, 0.45um	Stop Time	137	Post (LPM)) D. St	1,391.28	2	
Sample No.	, be	+	1	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
40-8001 LIOS	K PCM K Area		67:34		(0.54			nowind	
10 periodeter	☐ Lead ☐ Clearance		37:48 39:48	<u> </u>	10.54	10.54	1417.36		
Sample No.	Sample Type	Media Type	_	fotat Time	Pre (LPM)	Average (LPM)	Volume (L)		_
Somple Location	TEN D Blank	Da ZSmm, 0.80m ☐ 25mm, 0.45um	Stop Time		Post ILPMI	7	40 VC 4	O.O-4.0 mp. Fasterly	
N pertmeter			~	l	10.54	k ezo 1	2.0		
Sample Nd	Sample Type CA PCM IX Area	Media Type Tel 25mm 0 8 im	Start Time' Tr	otal Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
Sample Location			Stop Time	129	Post (LPM)	0.54	1,359.66	Laurente	
Somple No.	Sample Type	Ince U 3/mm, 0.8um	+-	otol Time	Pre (IPM)	Average (LPM)	Volume (I.I	Comments	
2011005-07	⊠ 1	☑ 25mm, 0.8um	•		10.54				
Sample Location	☐ TEM ☐ Blank ☐ Lead ☐ Clearance	☐ 25mm, 0.45um	Sep Time	12.1	Post (LPM)	10.59	1,550,58	grosswing	
Sample Nb.	Sample Type	Media Type		otal Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	1
Sample Location			Sign Time	126	Post [LPM]	10.54	1,328.04		-
Sample Not	١ĕ	\dashv	_		Pre (LPM)	₹	Volume (t.)	Comments	_
	þ			1					
Sample Location	☐ Lead ☐ Clearance	☐ 25mm; 0.45um ince ☐ 37mm, 0.8um	Slop Time	<u> </u>	Post (LPM)				
Sample No.	Sample Type	Media Type	Start Time 14	Total Time	Pre (LPM)	Average (LPM)	Volume (L)	Comments	
Sample Location	TEM Disork		Stop Time	15	Post (LPM)			~	
		ince 3/mm, 0.8um							_

2

Emissions in SLOAPCD	Em	issions (lb/	day)
			PM10
Source	ROG	NOX	Exhaust
Offroad Equipment	2.89	30.67	1.53
Fugitive Dust	0.00	0.00	0.00
Worker (Gasoline)	0.07	0.16	0.01
Trucks (Diesel)	0.01	0.36	0.00
Rail	0.42	7.49	0.26
Totals	3.38	38.67	1.80
SLOAPCD Daily Threshold ¹	1	37	7
Exceeds Threshold?	N	No	No

Notes:

1. SLOAPCD, CEQA Air Quality Handbook, April 2012.

OFFROAD EMISSIONS

Project Schedule¹

				# of Workers Trips
Phase	Start Date	End Date	Total Workdays	per day (In/Out)
Site Access & Access Road	9/21/2021	9/27/2021	4	8
Excavation	9/28/2021	12/10/2021	44	12
Backfill & Compaction	12/14/2021	12/18/2021	4	4
Access Road Removal	12/21/2021	12/23/2021	3	4
Rail Loadout	9/28/2021	12/17/2021	48	8

Project Equipment⁴

									# of Workers	Worker Trip
Phase	Offroad Equipment	CalEEMod Equipment Type	# of Equipment	Usage (Hours/day)	Horsepower	Load Factor	Location	# of Workers ⁷	Trips/day (In/Out) ⁷	Length (mi)
Site Access & Access Road	Tractors/Loaders/Backhoes ³	Tractors/Loaders/Backhoes	2	10	97	0.37	Excavation Site	4	8	13
Excavation	Heavy Forklift ²	Rough Terrain Forklifts	1	10	100	0.4	Excavation Site	2	4	13
Excavation	Man-lifts ²	Aerial Lifts	1	10	63	0.31	Excavation Site	2	4	13
Excavation	Tracked Excavator ²	Excavators	1	10	158	0.38	Excavation Site	2	4	13
Rail Loadout	Heavy Forklift ²	Rough Terrain Forklifts	1	10	100	0.4	Railyard	2	4	13
Backfill & Compaction	Tracked Dozers ²	Rubber Tired Dozers	1	10	247	0.4	Excavation Site	2	4	13
Access Road Removal	Tractors/Loaders/Backhoes ³	Tractors/Loaders/Backhoes	2	10	97	0.37	Excavation Site	4	8	13

Emission Factors ⁵	Construction Ye	ear: 2021				Exhaust Emission	Factor (g/bhp-hr)			
Phase	Offroad Equipment	CalEEMod Equipment Type	ROG	NOX	со	SOX	PM10	PM2.5	CO2	CH4
Site Access & Access Road	Tractors/Loaders/Backhoes ³	Tractors/Loaders/Backhoes	0.296	2.995	3.571	0.005	0.177	0.162	475.362	0.154
Excavation	Heavy Forklift ²	Rough Terrain Forklifts	0.175	2.285	3.252	0.005	0.089	0.081	473.110	0.153
Excavation	Man-lifts ²	Aerial Lifts	0.109	1.744	3.176	0.005	0.033	0.031	472.114	0.153
Excavation	Tracked Excavator ²	Excavators	0.216	2.034	3.090	0.005	0.099	0.091	472.359	0.153
Rail Loadout	Heavy Forklift ²	Rough Terrain Forklifts	0.175	2.285	3.252	0.005	0.089	0.081	473.110	0.153
Backfill & Compaction	Tracked Dozers ²	Rubber Tired Dozers	0.600	6.296	2.317	0.005	0.306	0.281	474.798	0.154
Access Road Removal	Tractors/Loaders/Backhoes ³	Tractors/Loaders/Backhoes	0.296	2.995	3.571	0.005	0.177	0.162	475.362	0.154

Daily Emissions						Exhaust Emis	sions (lb/day)			
Phase	Offroad Equipment	CalEEMod Equipment Type	ROG	NOX	со	SOX	PM10	PM2.5	CO2	CH4
Site Access & Access Road	Tractors/Loaders/Backhoes ³	Tractors/Loaders/Backhoes	0.47	4.74	5.65	0.01	0.28	0.26	752.24	0.24
Excavation	Heavy Forklift ²	Rough Terrain Forklifts	0.15	2.02	2.87	0.00	0.08	0.07	417.20	0.13
Excavation	Man-lifts ²	Aerial Lifts	0.05	0.75	1.37	0.00	0.01	0.01	203.27	0.07
Excavation	Tracked Excavator ²	Excavators	0.29	2.69	4.09	0.01	0.13	0.12	625.23	0.20
Rail Loadout	Heavy Forklift ²	Rough Terrain Forklifts	0.15	2.02	2.87	0.00	0.08	0.07	417.20	0.13
Backfill & Compaction	Tracked Dozers ²	Rubber Tired Dozers	1.31	13.71	5.05	0.01	0.67	0.61	1034.17	0.34
Access Road Removal	Tractors/Loaders/Backhoes ³	Tractors/Loaders/Backhoes	0.47	4.74	5.65	0.01	0.28	0.26	752.24	0.24
		Total Emissions	2.89	30.67	27.54	0.04	1.53	1.40	4201.56	1.36

		CO2	CH4	
		1	25	
		Exha	ust Emissions (MT)	
PM10	PM2.5	CO2	CH4	CO2e
0.00	0.00	1.36	0.00	1.376
0.00	0.00	8.33	0.00	8.394
0.00	0.00	4.06	0.00	4 000

GWP⁶

Annual Emissions					Exhaust Emi	ssion (tons)			Exhai	ust Emissions (MT)
Phase	Offroad Equipment	Total Workdays	ROG	NOX	со	SOX	PM10	PM2.5	CO2	CH4	CO2e
Site Access & Access Road	Tractors/Loaders/Backhoes ³	4	0.00	0.01	0.01	0.00	0.00	0.00	1.36	0.00	1.376
Excavation	Heavy Forklift ²	44	0.00	0.04	0.06	0.00	0.00	0.00	8.33	0.00	8.394
Excavation	Man-lifts ²	44	0.00	0.02	0.03	0.00	0.00	0.00	4.06	0.00	4.090
Excavation	Tracked Excavator ²	44	0.01	0.06	0.09	0.00	0.00	0.00	12.48	0.00	12.579
Rail Loadout	Heavy Forklift ²	48	0.00	0.05	0.07	0.00	0.00	0.00	9.08	0.00	9.157
Backfill & Compaction	Tracked Dozers ²	4	0.00	0.03	0.01	0.00	0.00	0.00	1.88	0.00	1.892
Access Road Removal	Tractors/Loaders/Backhoes ³	3	0.00	0.01	0.01	0.00	0.00	0.00	1.02	0.00	1.032
		Total Emissions	0.02	0.21	0.28	0.00	0.01	0.01	38.21	0.01	38.52

Notes:

- 1 Based on information provided from client-"ENTACT Budget Estimate"
- 2 Equipment based on information provided from client
- 3 Added equipment to account for development/removal of access road
- 4 Horsepower and Load Factors based on CalEEMod User's Guide, Appendix D, Default Data Tables
- 5 2021 Emission Factors from CalEEMod User's Guide, Appendix D, Default Data Tables
- 6 CARB, GWPs based on IPCC AR4

https://ww2.arb.ca.gov/ghg-gwps

^{7 #} of workers dervied based on CalEEMod methodologies

FUGITIVE DUST EMISSIONS

Truck Loading				Emission Fa	ctor (lb/ton)	Daily Emissi	on (lbs/day)	Total Emis	sions (lbs)
			Days in Grading						
Quantity (CY)	tons/CY	Throughput (tons)	Phase	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
14520	1.2641662	18355.69	44	1.45E-04	2.20E-05	6.06E-02	9.18E-03	2.67E+00	4.04E-01

Bulldozing				Emission Fa	actor (lb/hr)	Daily Emissi	on (lbs/day)	Total Emis	sions (lbs)
Phase	CalEEMod Equipment Type	# of Equipment	Usage (Hours/day)	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
i nasc	Cultiliou Equipment Type	# Of Equipment	Osuge (Hours/ duy)	1 14110	1 1412.3	1 14110	1 1412.3	1 14110	1 1412.3
Backfill & Compaction	Rubber Tired Dozers	1	10	7.53E-01	4.14E-01	7.53E+00	4.14E+00	3.01E+01	1.66E+01

Grading

Phase	CalEEMod Equipment Type	# of Equipment	Usage (Hours/day)	Acres/8-hr day	Scaling Factor
Backfill & Compaction	Rubber Tired Dozers	1	10	0.5	8

Grading Estimates for equipment

Grading Estimates for equipmen	•
Equipment Type	Acres/8-hr day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1
Paremeters:	Value
Width of grading blade	12
Feet/acre conversion	43560
feet/mile conversion	5280
Acres graded per day	0.625
VMT	0.4297

Emission Fac	tor (lb/VMT)	Daily Emissi	on (lbs/day)	Total Emis	ssions (lbs)
PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
1.54E+00	1.67E-01	6.63E-01	7.16E-02	2.65E+00	2.86E-01

Total Dust Emissions

Daily Emissi	on (lbs/day)	Total Emis	sions (lbs)
PM10	PM2.5	PM10	PM2.5
8.25E+00	4.22E+00	3.54E+01	1.72E+01
		Total Emiss	sions (tons)
		PM10	PM2.5
		1.77E-02	8.62E-03

Notes:

^{1.} Fugitive dust calculations consistent with CalEEMod methodologies

MOBILE EMISSIONS

Worker Emissions

WOLKEL EIIIISSIOLIS					
			# of Workers		
	Vehicle		Trips per day	Trip Length	Total
Phase	Category/Fuel	Year	(In/Out)	(mi)	Workdays
Site Access & Access Road	LDA, GAS	2021	8	13	4
Excavation	LDA, GAS	2021	12	13	44
Backfill & Compaction	LDA, GAS	2021	4	13	4
Access Road Removal	LDA, GAS	2021	4	13	3
Rail Loadout	LDA, GAS	2021	8	13	48

EMFAC2017 LDA Emission Factors

					Ru	nning Emiss	ion Factors (g	/mi)					
						PM10		PM2.5	PM2.5	Total			
Phase	ROG	NOX	со	sox	PM10 Fugitive	Exhaust	Total PM10	Fugitive	Exhaust	PM2.5	CO2	CH4	N2O
Site Access & Access Road	1.14E-02	4.91E-02	6.89E-01	2.63E-03	3.45E-01	1.45E-03	3.46E-01	9.14E-02	1.34E-03	9.27E-02	2.66E+02	2.85E-03	5.16E-03
Excavation	1.14E-02	4.91E-02	6.89E-01	2.63E-03	3.45E-01	1.45E-03	3.46E-01	9.14E-02	1.34E-03	9.27E-02	2.66E+02	2.85E-03	5.16E-03
Rail Loadout	1.14E-02	4.91E-02	6.89E-01	2.63E-03	3.45E-01	1.45E-03	3.46E-01	9.14E-02	1.34E-03	9.27E-02	2.66E+02	2.85E-03	5.16E-03
Backfill & Compaction	1.14E-02	4.91E-02	6.89E-01	2.63E-03	3.45E-01	1.45E-03	3.46E-01	9.14E-02	1.34E-03	9.27E-02	2.66E+02	2.85E-03	5.16E-03
Access Road Removal	1.14E-02	4.91E-02	6.89E-01	2.63E-03	3.45E-01	1.45E-03	3.46E-01	9.14E-02	1.34E-03	9.27E-02	2.66E+02	2.85E-03	5.16E-03
					Non-F	Running Emi	ssion Factors	(g/trip)					
						PM10		PM2.5	PM2.5	Total			
Phase	ROG	NOX	со	sox	PM10 Fugitive	Exhaust	Total PM10	Fugitive	Exhaust	PM2.5	CO2	CH4	N2O
Site Access & Access Road	7.66E-01	2.24E-01	2.50E+00	5.71E-04	0.00E+00	2.07E-03	2.07E-03	0.00E+00	1.90E-03	1.90E-03	5.77E+01	6.39E-02	2.87E-02
Francisco de la ca	7 005 01	2 245 04	2 505.00	F 71 F 04	0.005.00	2.075.02	2.075.02	0.005.00	1 005 03	1 005 03	E 77E+01	6 205 02	2 075 02

						PM10		PM2.5	PM2.5	Total			
Phase	ROG	NOX	со	sox	PM10 Fugitive	Exhaust	Total PM10	Fugitive	Exhaust	PM2.5	CO2	CH4	N2O
Site Access & Access Road	7.66E-01	2.24E-01	2.50E+00	5.71E-04	0.00E+00	2.07E-03	2.07E-03	0.00E+00	1.90E-03	1.90E-03	5.77E+01	6.39E-02	2.87E-02
Excavation	7.66E-01	2.24E-01	2.50E+00	5.71E-04	0.00E+00	2.07E-03	2.07E-03	0.00E+00	1.90E-03	1.90E-03	5.77E+01	6.39E-02	2.87E-02
Rail Loadout	7.66E-01	2.24E-01	2.50E+00	5.71E-04	0.00E+00	2.07E-03	2.07E-03	0.00E+00	1.90E-03	1.90E-03	5.77E+01	6.39E-02	2.87E-02
Backfill & Compaction	7.66E-01	2.24E-01	2.50E+00	5.71E-04	0.00E+00	2.07E-03	2.07E-03	0.00E+00	1.90E-03	1.90E-03	5.77E+01	6.39E-02	2.87E-02
Access Road Removal	7.66E-01	2.24E-01	2.50E+00	5.71E-04	0.00E+00	2.07E-03	2.07E-03	0.00E+00	1.90E-03	1.90E-03	5.77E+01	6.39E-02	2.87E-02

Daily Emissions

					Emission	s (Running +	 Non-Running 	(lb/day)					
						PM10		PM2.5	PM2.5	Total			
Phase	ROG	NOX	со	sox	PM10 Fugitive	Exhaust	Total PM10	Fugitive	Exhaust	PM2.5	CO2	CH4	N2O
Site Access & Access Road	1.61E-02	3.32E-02	1.65E-01	6.22E-04	7.91E-02	1.50E-03	7.93E-02	2.15E-02	3.09E-04	2.18E-02	6.09E+01	6.56E-04	1.34E-03
Excavation	2.42E-02	3.88E-02	3.11E-01	9.24E-04	1.19E-01	1.66E-03	1.19E-01	3.20E-02	4.62E-04	3.25E-02	9.14E+01	9.82E-04	1.93E-03
Rail Loadout	8.06E-03	2.76E-02	8.58E-02	3.21E-04	3.96E-02	1.33E-03	3.97E-02	1.11E-02	1.56E-04	1.12E-02	3.05E+01	3.29E-04	7.48E-04
Backfill & Compaction	8.06E-03	2.76E-02	8.41E-02	3.21E-04	3.96E-02	1.33E-03	3.97E-02	1.11E-02	1.56E-04	1.12E-02	3.05E+01	3.29E-04	7.48E-04
Access Road Removal	1.61E-02	3.32E-02	2.39E-01	6.22E-04	7.91E-02	1.50E-03	7.93E-02	2.15E-02	3.09E-04	2.18E-02	6.09E+01	6.56E-04	1.34E-03
Totals	7.26E-02	1.60E-01	8.85E-01	2.81E-03	3.56E-01	7.32E-03	3.57E-01	9.72E-02	1.39E-03	9.86E-02	2.74E+02	2.95E-03	6.11E-03

MOBILE EMISSIONS

												GWP	
											CO2	CH4	N2O
	LDA Emissi	ions									1	25	298
						Running	g Emissions	(lb/day)					
					PM10	PM10	Total	PM2.5	PM2.5	Total			
Phase	ROG	NOX	со	SOX	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	CO2	CH4	N2O
Site Access & Access Road	2.62E-03	1.13E-02	1.58E-01	6.03E-04	7.90E-02	3.33E-04	7.93E-02	2.09E-02	3.07E-04	2.13E-02	6.09E+01	6.53E-04	1.18E-03
Excavation	3.92E-03	1.69E-02	2.37E-01	9.04E-04	1.19E-01	5.00E-04	1.19E-01	3.14E-02	4.60E-04	3.19E-02	9.14E+01	9.80E-04	1.77E-03
Rail Loadout	1.31E-03	5.63E-03	7.90E-02	3.01E-04	3.95E-02	1.67E-04	3.97E-02	1.05E-02	1.53E-04	1.06E-02	3.05E+01	3.27E-04	5.92E-04
Backfill & Compaction	1.31E-03	5.63E-03	7.90E-02	3.01E-04	3.95E-02	1.67E-04	3.97E-02	1.05E-02	1.53E-04	1.06E-02	3.05E+01	3.27E-04	5.92E-04
Access Road Removal	2.62E-03	1.13E-02	1.58E-01	6.03E-04	7.90E-02	3.33E-04	7.93E-02	2.09E-02	3.07E-04	2.13E-02	6.09E+01	6.53E-04	1.18E-03
						Non-Runn	ing Emissio	ns (lb/day)					
					PM10	PM10	Total	PM2.5	PM2.5	Total			
Phase	ROG	NOX	co	SOX	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	CO2	CH4	N2O
Site Access & Access Road	1.35E-02	2.20E-02	6.75E-03	1.93E-05	8.30E-05	1.16E-03	4.44E-06	5.82E-04	2.46E-06	5.84E-04	1.54E-04	2.26E-06	1.57E-04
Excavation	2.03E-02	2.20E-02	7.43E-02	1.93E-05	8.30E-05	1.16E-03	4.44E-06	5.82E-04	2.46E-06	5.84E-04	1.54E-04	2.26E-06	1.57E-04
Rail Loadout	6.75E-03	2.20E-02	6.75E-03	1.93E-05	8.30E-05	1.16E-03	4.44E-06	5.82E-04	2.46E-06	5.84E-04	1.54E-04	2.26E-06	1.57E-04
Backfill & Compaction	6.75E-03	2.20E-02	5.07E-03	1.93E-05	8.30E-05	1.16E-03	4.44E-06	5.82E-04	2.46E-06	5.84E-04	1.54E-04	2.26E-06	1.57E-04
Access Road Removal	1.35E-02	2.20E-02	8.11E-02	1.93E-05	8.30E-05	1.16E-03	4.44E-06	5.82E-04	2.46E-06	5.84E-04	1.54E-04	2.26E-06	1.57E-04
	Annual Em	nissions											

Annua		

					To	ns						Metri	c Tons	
					PM10	PM10	Total	PM2.5	PM2.5	Total				
Phase	ROG	NOX	со	SOX	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	CO2	CH4	N2O	CO2e
Site Access & Access Road	6.45E-02	1.33E-01	6.59E-01	2.49E-03	3.16E-01	5.99E-03	3.17E-01	8.61E-02	1.24E-03	8.73E-02	2.44E+02	2.62E-03	5.36E-03	2.45E+02
Excavation	1.06E+00	1.71E+00	1.37E+01	4.06E-02	5.22E+00	7.32E-02	5.24E+00	1.41E+00	2.03E-02	1.43E+00	4.02E+03	4.32E-02	8.50E-02	4.05E+03
Rail Loadout	3.22E-02	1.10E-01	3.43E-01	1.28E-03	1.58E-01	5.32E-03	1.59E-01	4.42E-02	6.23E-04	4.48E-02	1.22E+02	1.32E-03	2.99E-03	1.23E+02
Backfill & Compaction	2.42E-02	8.28E-02	2.52E-01	9.62E-04	1.19E-01	3.99E-03	1.19E-01	3.32E-02	4.67E-04	3.36E-02	9.14E+01	9.87E-04	2.24E-03	9.21E+01
Access Road Removal	7.74E-01	1.59E+00	1.15E+01	2.99E-02	3.80E+00	7.19E-02	3.81E+00	1.03E+00	1.48E-02	1.05E+00	2.92E+03	3.15E-02	6.43E-02	2.94E+03
Totals	1.96E+00	3.63E+00	2.64E+01	7.52E-02	9.61E+00	1.60E-01	9.64E+00	2.60E+00	3.75E-02	2.64E+00	7.40E+03	7.96E-02	1.60E-01	7.45E+03

Heavy Duty Trucks Emissions (HHDT, Diesel-powered)

Phase/Vehicle Type	Vehicle Category/Fuel	Year	Trips per day (onsite)	Trip Length (mi)	Total Workdays
Rail Loadout (Tractor- Trailer)	HHDT/DSL	2021	24	0.75	48
Excavation (Water Truck)	HHDT/DSL	2021	6	0.5	48

EMFAC2017 HHDT Emission Factors

					Rui	nning Emiss	ion Factors (g/	mi)					
						PM10		PM2.5	PM2.5	Total			
Phase	ROG	NOX	co	sox	PM10 Fugitive	Exhaust	Total PM10	Fugitive	Exhaust	PM2.5	CO2	CH4	N2O
Rail Loadout (Tractor-Trailer)	0.14	4.91	0.53	0.01	408.83	0.07	408.90	40.77	0.06	40.83	1558.14	0.01	0.24
Excavation (Water Truck)	0.14	4.91	0.53	0.01	408.83	0.07	408.90	40.77	0.06	40.83	1558.14	0.01	0.24
		Non-Running Emission Factors (g/trip)											
						PM10		PM2.5	PM2.5	Total			
Phase	ROG	NOX	co	sox	PM10 Fugitive	Exhaust	Total PM10	Fugitive	Exhaust	PM2.5	CO2	CH4	N2O
Rail Loadout (Tractor-Trailer)	0.00	1.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavation (Water Truck)	0.00	1.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HHDT Emissions

		Running Emissions (lb/day)											
					PM10	PM10	Total	PM2.5	PM2.5	Total			
Phase	ROG	NOX	СО	SOX	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	CO2	CH4	N2O
Rail Loadout (Tractor-Trailer)	0.01	0.19	0.02	0.00	16.22	0.00	16.23	1.62	0.00	1.62	61.83	0.00	0.01
Excavation (Water Truck)	0.00	0.03	0.00	0.00	2.70	0.00	2.70	0.27	0.00	0.27	10.31	0.00	0.00
	Non-Running Emissions (lb/day)												
					PM10	PM10	Total	PM2.5	PM2.5	Total			
Phase	ROG	NOX	СО	SOX	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	CO2	CH4	N2O
Rail Loadout (Tractor-Trailer)	0	0.102755	0	0	0	0	0	0	0	0	0	0	0
Excavation (Water Truck)	0	0.025689	0	0	0	0	0	0	0	0	0	0	0
	6.68E-03	3.56E-01	2.45E-02	6.82E-04	1.89E+01	3.09E-03	1.89E+01	1.89E+00	2.96E-03	1.89E+00	7.21E+01	3.10E-04	1.13E-02

RAIL EMISSIONS

					Emission Factors (g/bhp-hr)								
Equipment	Quantity	ВНР	Load Factor	Hours/Trip	ROG	NOX	со	sox	PM10	PM2.5	CO2	CH4	N2O
Locomotive	3	4000	0.28	26.1	0.45	8.09	1.32	0.1006	0.28	0.25	487	0.01	0.04

Trip Emissions				Emissions (lb/trip)								
	Segment Lengtl	h										
Air District	(miles)	Distribution (%)	# of Trips	ROG	NOX	CO	SOX	PM10	PM2.5	CO2	CH4	N2O
One-Way Trip	1045	100%	26	87.08	1565.56	255.44	19.47	54.19	48.38	94243.52	1.94	7.74
SLOAPCD	5	0.48%	26	0.42	7.49	1.22	0.09	0.26	0.23	450.93	0.01	0.04
SBAPCD	110	10.53%	26	9.17	164.80	26.89	2.05	5.70	5.09	9920.37	0.20	0.81
VCAPCD	60	5.74%	26	5.00	89.89	14.67	1.12	3.11	2.78	5411.11	0.11	0.44
SCAQMD	105	10.05%	26	8.75	157.31	25.67	1.96	5.44	4.86	9469.44	0.19	0.78
MDAQMD	160	15.31%	26	13.33	239.70	39.11	2.98	8.30	7.41	14429.63	0.30	1.19
Out-of-State	605	57.89%	26	50.42	906.38	147.89	11.27	31.37	28.01	54562.04	1.12	4.48

	GWP ¹	
CO2	CH4	N2O
1	25	298

Total Project Emissions			Total Emissions (tons)						Total Emissions (MT)				
	Segment Length		# of One-Way					PM10	PM2.5				
Air District	(miles)	Distribution (%)	Trips	ROG	NOX	co	sox	Exhaust	Exhaust	CO2	CH4	N2O	CO2e
One-Way Trip	1045	100%	26	1.150	20.665	3.372	0.257	0.715	0.639	1128.552	0.023	0.093	1156.75
SLOAPCD	5	0.48%	26	0.006	0.099	0.016	0.001	0.003	0.003	5.400	0.000	0.000	5.53
SBAPCD	110	10.53%	26	0.121	2.175	0.355	0.027	0.075	0.067	118.795	0.002	0.010	121.76
VCAPCD	60	5.74%	26	0.066	1.187	0.194	0.015	0.041	0.037	64.797	0.001	0.005	66.42
SCAQMD	105	10.05%	26	0.116	2.076	0.339	0.026	0.072	0.064	113.395	0.002	0.009	116.23
MDAQMD	160	15.31%	26	0.176	3.164	0.516	0.039	0.110	0.098	172.793	0.004	0.014	177.11
Out-of-State	605	57.89%	26	0.666	11.964	1.952	0.149	0.414	0.370	653.372	0.013	0.054	669.70

Transport Parameters	Value
Total CY	14520
Excavation Rate (CY per day)	300
Containers per day	12
CY/container	25
Transport Parameters	Value
Containers per Railcar	4
Railcars per unit train	11
Containers per unit train	44
CY/container	25
Total CY/unit Train	1100

Rail Trips to ECDC (Utah)

Roundtrips	Total One-Way (In/Out)
13	26

Notes:

These emissions respresent a conservative scenario where a unit train is required solely for the purpose of transporting only the Project's soil to the disposal site in Utah. However, in reality, trains would travel through the area with cargo loads from other facilities and these trips would occur regardless of the Project.