
Appendix G

Hazards and Hazardous Materials Technical Memorandum

MEMORANDUM

To: Mr. Michael Haberkorn, Gatkze Dillon & Ballance
From: Audrey Herschberger, Dudek
Subject: SDSU Brawley Sciences Building Project - Hazards Technical Study
Date: August 28, 2023
cc: Sarah Lozano and Kirsten Burrowes, Dudek
Attachments: A - Figures 1 and 2
B - Historical Aerial Photographs
C - Laboratory Report and QA/QC

Dudek has conducted an evaluation pursuant to the requirements of the California Environmental Quality Act (CEQA), California Public Resources Code 21000, et seq., to determine the presence and potential impacts related to hazards and hazardous materials associated with construction and development of the proposed California State University/San Diego State University (CSU/SDSU) Imperial Valley Campus Brawley Sciences Building Project (project or proposed project), located east of Brawley, California. The purpose of this hazards technical study was to determine if there are potential environmental concerns on the project site related to current or historical handling and storage of hazardous materials and/or wastes. This hazards technical memo includes a summary of the project background and environmental setting; a review and summary of regulatory agency records, historical aerial photographs, and surface soil sampling; and evaluation of potential site hazards due to hazardous material pipelines and/or oil and gas wells.

1 Project Location and Setting

The project is located at 560 California State Route (SR) 78 (also referred to as Ben Hulse Highway) in Imperial County, east of the city of Brawley. Regional access to the campus is provided by SR-111 and SR-86 to the west and northwest, respectively, and SR-115 to the east (see Figure 1; all figures can be found in Attachment A). The proposed project site is surrounded by agricultural uses to the north, south, and west. Undeveloped land and a solar farm are located directly east of the proposed project site. The proposed sciences building would be constructed northeast of existing campus Building 101, and the associated parking lot. Project construction staging areas would occupy the area of campus located southeast of the site and north of SR-78 (see Figure 2).

2 Project Description

In September 2003, CSU certified an environmental impact report (EIR) and approved a Campus Master Plan for development of the SDSU Brawley Campus (Brawley campus or campus), which would serve as an extension of the existing SDSU Imperial Valley Campus (IVC) located in Imperial County. The IVC is an extension of SDSU's main campus located in San Diego and furthers the university's regional educational mission to provide additional educational opportunities to the outlying communities of Imperial County. The approved Campus Master Plan and certified EIR provided sufficient environmental analysis and authorization necessary for enrollment of up to 850

full-time equivalent (FTE) students and corresponding faculty and staff, and a framework for development of the facilities necessary to serve the approved campus enrollment.

The Brawley campus is approximately 200 acres in size and is located east of the city of Brawley (city). Currently, the campus has been partially built out with educational and support facilities, although much of the campus remains undeveloped or used for active agriculture. As noted above, the environmental impacts associated with development of the Brawley campus, including a student enrollment up to 850 FTE, were evaluated at a program level of review in the previously certified SDSU Imperial Valley Campus Master Plan Project EIR (2003 EIR) (SCH 200251010). In CSU's effort to build out the IVC consistent with the previously approved Campus Master Plan, SDSU now proposes construction and operation of a sciences building that would be located on the Brawley campus.

The proposed project involves the construction and operation of a sciences building (including STEM activities: science, technology, engineering, and mathematics) that would house teaching labs, lecture spaces, faculty/administration offices, research spaces, and conference rooms, as well as mechanical, electrical, and telecom support spaces. The proposed project does not include/propose any increase in the previously authorized and approved maximum student enrollment of 850 FTE.

The proposed project site is approximately 3.2-acres in size and the construction staging areas would occupy approximately 1 acre in the area of campus located southeast of the site and north of SR-78. The project includes 61,119 sf of on-site landscaping, including the construction of bio-retention areas to capture stormwater runoff from stormwater drainages systems that will be located throughout the project site. Hardscape improvements will include 41,297 sf of sidewalks and pedestrian walkways, which will connect the project site to existing campus buildings and parking lot.

Additionally, the project will require new points of connection to domestic water, fire water, and sewer lines from existing utility lines to serve the new building, as well as new domestic water line infrastructure. Potable water will be provided by the city of Brawley, as well as sewer and wastewater collection services. New utility infrastructure will also be required to support electrical services for the building, as well as a back-up diesel operated generator.

The proposed project building would have an area of 36,900 gross sf and would be approximately 35 feet in height. The project is projected to be built over the course of 19 months, with construction estimated to begin in January 2024. Construction and equipment staging would require 1 acre of space within the campus, directly east of the existing building (Building 101) and parking lot. The project would involve site preparation, grading, and excavation associated with project construction. Excavation depths are anticipated to be 2 to 5 feet. Waste (i.e., excavated gravel/soil) generated during project construction would be balanced within the site.

3 Analysis Methodology

This analysis considers the potential environmental impacts of the proposed project relative to existing conditions. Establishment of the project site's existing hazards and hazardous materials conditions has been prepared using information contained in the previously certified SDSU Imperial Valley Campus Master Plan Project EIR (SDSU 2003), with the information updated, as applicable, through review of existing documents, online environmental regulatory databases, and online historical documents (aerial photographs and topographic maps).

4 Hazards and Hazardous Materials

4.1 Existing Conditions

The majority of the approximately 200-acre Brawley campus is actively used for agriculture, specifically crops, and was historically used for crops from as early as 1953. As agricultural use generally includes the use of pesticides and herbicides, and these compounds were generally unregulated prior to the 1980s, there is a likelihood that pesticide- and herbicide-related contaminants are present in surface soils on the project site. As such, a surface soil sampling was included as part of this hazards technical study.

4.1.1 Topography and Groundwater

The topography of the project site is relatively flat, with an average elevation of approximately 130 feet below mean sea level (Google Earth 2023). Limited groundwater information is available, as there are no groundwater wells on record within 1 mile of the project site (GAMA 2023). The nearest groundwater data are from 1.9 miles west of the project site; shallow groundwater was measured at 20 to 25 feet below ground surface in a monitoring well (SCS Engineers 2023).

4.1.2 Online Regulatory Databases

The following online regulatory databases were searched by Dudek in March 2023.

Cortese List Sites

Government Code Section 65962.5 requires the California Environmental Protection Agency to compile a list of hazardous waste and substances sites (Cortese List). While the Cortese List is no longer maintained as a single list, the following databases provide information that meet the Cortese List requirements:

1. List of hazardous waste and substances sites from the Department of Toxic Substances Control (DTSC) EnviroStor database (California Health and Safety Code Sections 25220, 25242, 25356, and 116395)
2. List of leaking underground storage tank sites by county and fiscal year from the State Water Resources Control Board GeoTracker database (California Health and Safety Code Section 25295)
3. List of solid waste disposal sites identified by the State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit (California Water Code Section 13273[e] and 14 CCR 18051)
4. List of active Cease and Desist Orders and Cleanup and Abatement Orders from the State Water Resources Control Board (California Water Code Sections 13301 and 13304)
5. List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC

Dudek conducted a search of the above-described databases that provide information on Cortese List sites. No sites were identified on the project site or within 1 mile of the project site.

Non-Cortese List Hazardous Materials Sites

Dudek reviewed other online databases that provide environmental information on release and cleanup cases in the State of California. While these databases are not included in the Cortese List, they may provide additional information regarding potential environmental contamination on the project site. These sites may include military cleanups and voluntary cleanups. Table 1 provides a summary of the databases searched.

Table 1. Non-Cortese Online Database Listings

Database	Details
Department of Toxic Substance Control (DTSC) EnviroStor https://www.envirostor.dtsc.ca.gov/	The DTSC's data management system for tracking cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known contamination or sites where there may be reasons for further investigation.
Regional Water Quality Control Board (RWQCB) GeoTracker http://geotracker.waterboards.ca.gov/	The California RWQCBs' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. GeoTracker contains records for sites that require cleanup, various unregulated projects, and permitted facilities. Sites include leaking underground storage tanks (LUSTs), Department of Defense, Cleanup Program, Irrigated Lands, Oil and Gas Production, Permitted underground storage tanks (USTs), and Land Disposal Sites.
California Environmental Protection Agency (CalEPA) https://siteportal.calepa.ca.gov/nsite/	The CalEPA Regulated Site Portal is a website that combines data about environmentally regulated sites and facilities in California into a single, searchable database and interactive map. Data sources include California Environmental Reporting System (CERS), EnviroStor, GeoTracker, California Integrated Water Quality System (CIWQS), and Toxics Release Inventory (TRI).
California Geologic Energy Management Division (CalGEM) https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx	CalGEM online mapping application Well Finder provides the location of oil and gas wells and other types of related facilities throughout the state.
National Pipeline Mapping System Public Viewer (NPMS) https://pvnpm.phmsa.dot.gov/PublicViewer/	NPMS allows the user to view NPMS pipeline, liquefied natural gas plant and breakout tank data, including details and pipeline operator contact information. Gas transmission and hazardous liquid pipeline accidents and incidents going back to 2002 for the entire US can also be viewed.

EnviroStor Database

Dudek reviewed the EnviroStor database, the DTSC's data management system for tracking cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known contamination or sites where there may be reasons for further investigation (DTSC 2023). Non-Cortese listings include Voluntary Cleanup, School Cleanup, Evaluation, School Investigation, Military Evaluation, Tiered Permit, Corrective Actions and Permitted Sites. No sites were identified on the project site or within 1 mile of the project site.

GeoTracker Database

Dudek reviewed the GeoTracker database, the California RWQCB's data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater (SWRCB 2023). Non-Cortese listings include Department of Defense, Cleanup Program, Irrigated Lands, Oil and Gas Production, Permitted USTs, and Land Disposal Sites. No sites were identified on the project site or within 1 mile of the project site.

California Environmental Protection Agency

Dudek reviewed the CalEPA's Regulated Site Portal, which contains data on environmentally regulated sites and facilities in California (CalEPA 2023). CalEPA's sites are generally administrative in nature, identifying sites that have environmental permits or that handle hazardous materials or generate hazardous waste, but that do not necessarily have an uncontrolled release of hazardous substances to the environment. No sites were identified on the project site or within 1 mile of the project site.

California Geologic Energy Management Division

Dudek searched the CalGEM database for oil and gas wells (CalGEM 2023). No active oil and gas wells were identified within 1 mile of the project site.

National Pipeline Mapping System

Dudek searched the NPMS and did not identify any pipelines on or adjoining the project site; three north-south trending pipelines were identified approximately 1.2 miles west of the project site along Old Highway 111 (NPMS 2023). Two of the pipelines transport natural gas; the third pipeline is abandoned. One incident associated with excavation work along a natural gas pipeline was identified approximately 1.3 miles west of the project site in 2007. No additional information is provided.

4.1.3 Site History

Historical Summary

Based on a review of the historical aerial photographs, the project site was used for agriculture, specifically row crops, as early as 1953. Between 2002 and 2005, the southern portion of the project site was graded as part of the development of the current campus. Two shade canopies were constructed on the southern portion of the project site as early as 2010. The northern portion of the proposed STEM Building site is still used as agricultural land and has not been graded for development. The proposed staging area remained agricultural row crops until

approximately 2018, when the area was graded for development. The staging area currently contains a campus-related agricultural project.

The project site is surrounded by campus property. Campus areas adjoining the project site were used for agriculture since as early as 1953. Development of the campus began between 2002 and 2005, which included Building 101 and the associated parking lot. Projects began on the agricultural land east of Building 101 as early as 2014; these projects required grading of the previously agricultural land. A solar array was constructed on the easternmost portion of the campus, adjacent to Moorhead Canal, between 2012 and 2014.

Surrounding properties include row crops with limited residential/farming properties. These surrounding agricultural uses began as early as 1953.

Historical Aerial Photographs

Dudek reviewed historical aerial photographs obtained from Nationwide Environmental Title Research (NETR 2023) for 1953, 1984, 1996, 2002, 2005, 2010, 2012, 2014, 2018, and 2020 (Attachment B). The photographs provided background information to assess the possibility of past activities that could present environmental concerns. The aerial photographs are described in Table 2.

Table 2. Summary of Aerial Photographs

Date	Project Site and Campus	Adjoining and Surrounding Areas
1953	The project site appears to be developed with row crops, as does the entire campus.	The majority of the area adjoining and surrounding the project site appears to be developed with row crops. Several roads appear throughout the surrounding property. Residential/farming properties appear to the east and west of the project site.
1984	The project site and campus appear similar to the 1953 aerial photograph.	The surrounding property to the east appears developed with a series of small structures. The remaining adjoining and surrounding properties appear similar to the 1953 aerial photograph.
1996	The project site and campus appear similar to the 1984 aerial photograph.	The series of structures to the east are no longer observed. The remaining adjoining and surrounding properties appear similar to the 1984 aerial photograph.
2002	The project site and campus appear similar to the 1996 aerial photograph.	The surrounding property to the east appears further developed with additional buildings and vehicles. The property appears to be a working farm. The remaining adjoining and surrounding properties appear similar to the 1996 aerial photograph.
2005	The southern portion of the project site appears to be graded for development of the campus. The northern portion remains row crops. The construction staging area remains planted with row crops. The campus is under development with Building 101 and the associated parking areas.	The adjoining and surrounding properties appear similar to the 2002 aerial photograph.

Table 2. Summary of Aerial Photographs

Date	Project Site and Campus	Adjoining and Surrounding Areas
	The entirety of Assessor's Parcel No. 047-390-002 has been graded.	
2010	Two canopies appear in the southern corner of the project site, specifically the proposed STEM Building area. The proposed construction staging area remains planted with row crops.	The adjoining and surrounding properties appear similar to the 2005 aerial photograph.
2012	The project site appears similar to the 2010 aerial photograph. Additional grading is observed on the campus to the east of the parking lot. This grading extends onto Assessor's Parcel No. 047-390-003.	The adjoining and surrounding properties appear similar to the 2010 aerial photograph.
2014	The project site appears similar to the 2012 aerial photograph. A solar array has been constructed on the easternmost portion of the campus, adjacent to Moorhead Canal. An agricultural project is observed east of Building 101, north of the proposed construction staging area.	The adjoining and surrounding properties appear similar to the 2012 aerial photograph.
2018	The project site appears similar to the 2014 aerial photograph. The staging area has been graded and now contains multiple agriculture-related structures covering the area.	The adjoining and surrounding properties appear similar to the 2014 aerial photograph.
2020	The project site appears similar to the 2018 aerial photograph. Additional grading is observed east of the proposed construction staging area.	The adjoining and surrounding properties appear similar to the 2018 aerial photograph.

Note: See Attachment B for corresponding photographs for 1953 through 2020.

4.1.4 Soil Sampling

The majority of the campus is actively used for agriculture, specifically crops, and was historically used for crop growth as early as 1953. As agricultural use generally includes the use of pesticides and herbicides, and these compounds were generally unregulated prior to the 1980s, there is a likelihood that pesticide- and herbicide-related contaminants are present in shallow soils on the campus. The northern portion of the proposed STEM Building site is currently ungraded agricultural land, the use of which has not changed since at least 1953. As such, this area has the potential for pesticide- and herbicide-related contamination. The southern portion of the proposed STEM Building site and the proposed construction staging area have been graded. As such, potentially impacted soils have been redistributed, mixed, buried, or removed and therefore are not likely to be present at levels exceeding risk-based thresholds. Dudek generally followed the DTSC Interim Guidance for Sampling Agricultural Properties (DTSC 2008).

All sampling work was conducted under a site-specific health and safety plan (HSP). The HSP was prepared to protect the health and safety of the sampling personnel and the general public during sampling activities. The HSP

assessed potential site-related hazards and provided safe operating procedures for personnel and equipment. Site personnel were briefed on the contents of the HSP at the beginning of the sampling event.

Sample Collection

Dudek conducted shallow soil sampling to evaluate the presence of arsenic and organochlorine pesticide contamination in soils at the project site. Three soil samples and one duplicate were collected from the area where the proposed STEM building would be constructed and that is currently being used for agricultural purposes. The sampling was completed on February 28, 2023. The sampling locations are shown in Figure 2. Sampling results are summarized in Table 3, Summary of Analytical Data. The complete results are presented in Attachment C, Laboratory Report.

As noted, a total of four soil samples from three sampling locations were collected during the soil investigation. Soil was collected from the ground surface, with a maximum depth of 6 inches, using a disposable hand trowel for each location. Soil was collected in lab-prepared glass sampling containers, labeled, placed in a sealable plastic bag, logged on a chain-of-custody form, and placed in an ice-chilled cooler. Nitrile gloves were worn during sampling, and changed in between sample locations. Soil samples were shipped to Jones Environmental Inc. to be analyzed for the following constituents:

- Pesticides (organochlorine pesticides) by U.S. Environmental Protection Agency Method 8081A/3546
- Arsenic by U.S. Environmental Protection Agency Method 6010B

Waste materials (i.e., trowels and nitrile gloves) were disposed of in between sample locations.

Results

The intended use of the project site is as a research and instructional facility/building for the SDSU Brawley campus. As such, the laboratory analytical sample results were compared to the San Francisco Bay Regional Water Quality Control Board's 2019 Environmental Screening Levels for residential, commercial, and industrial soils. Sample results for arsenic were also compared using a DTSC guidance document on regional background arsenic concentrations in soil found in Southern California. The analytical sample results are summarized in Table 3.

Table 3. Summary of Analytical Data

Sample Location	Sample ID	Sample Depth (ft bgs)	Sample Date	Arsenic (mg/kg)	Chlorinated Pesticides (µg/kg)
SS-1	SS-1	<0.5	2/28/2023	5.7	ND
SS-2	SS-2	<0.5	2/28/2023	5.7	ND
SS-3	SS-3	<0.5	2/28/2023	5.2	ND
SS-3 (duplicate)	SS-4	<0.5	2/28/2023	5.4	ND
ESL – Residential Soil ¹				0.067	—
ESL – Commercial/Industrial Soil ¹				0.31	—
Southern CA Regional Background Arsenic Concentration in Soil ²				12	—

Notes: ft bgs = feet below ground surface; mg/kg = milligram per kilogram; µg/kg = microgram per kilogram; ND = Non-detect, analyte not detected at or above the method reporting limit.
Complete results with reporting limits presented in Attachment C.

— = Chlorinated pesticide screening levels range from 0.034 mg/kg to 7,000 mg/kg, based on the individual analyte. All chlorinated pesticide concentrations were found to be below the various applicable screening levels.

¹ SFRWQCB 2019.

² DTSC 2020.

As shown on Table 3, arsenic was detected above the laboratory reporting limits in each of the soil samples, although each detection was below the regional background arsenic concentration in soil. As further discussed below, the background arsenic concentration in soil represents typical regional concentrations, due to the fact that arsenic occurs naturally in soils; levels below the background concentration are not considered to pose a risk to human health or the environment. Ambient concentrations of arsenic can be affected by anthropogenic contributions, naturally occurring metals, and/or site-specific releases, which makes it difficult to determine site-specific risk, as ambient concentrations of arsenic are typically found at much higher concentrations than established regulatory risk-based soil concentrations. To address this, the DTSC has established a regional background concentration of 12 mg/kg in soil for arsenic, used as a screening tool for Southern California sites. This background concentration encompasses anthropogenic and naturally occurring concentrations in shallow soil (DTSC 2020). All of the sample concentrations of arsenic were found to be above applicable regulatory screening levels, but below the DTSC's applicable background concentrations, which are the pertinent levels of concern.

Chlorinated pesticides consist of multiple analytes; none were detected above their associated laboratory reporting limits. Each of the respective samples taken was below the laboratory method detection limits.

Quality Assurance and Quality Control

Quality assurance and quality control measures were performed in the field by the Dudek field sampler and Jones Environmental. Field measures included duplicate sample collection. Laboratory measures included analysis of surrogates, blank samples, and laboratory control samples. The laboratory analytical report is presented in Attachment C. Dudek evaluated the analytical results for quality assurance/quality control, which is included with the laboratory report in Attachment C.

4.1.5 Schools

In March 2023, Dudek consulted the California School Campus Database (GreenInfo Network 2021) and the California School Directory (CDE 2023) to determine if there were any existing or proposed kindergarten through 12th grade schools within 0.25 miles of the project site. No schools were identified.

4.1.6 Airports

In March 2023, Dudek accessed the Airport Land Use Compatibility Plan Imperial County Airports (Imperial County 1996) and reviewed data for the following three airports located within 10 miles of the project site: Brawley Municipal Airport, Imperial County Airport, and Cliff Hatfield Memorial Airport. Imperial County Airport and Cliff Hatfield Memorial Airport are located more than 9 miles from the project site. Brawley Municipal Airport is located approximately 1.5 miles northwest of the project site. According to the Brawley Municipal Airport Land Use Compatibility Map (Imperial County 1996), the project site does not fall within the airport's land use compatibility influence area. According to background data also presented in the Compatibility Plan, the project site does not fall within Brawley Municipal Airport's Noise Impact Area (Imperial County 1996).

The Federal Aviation Administration has filing requirements for proposed structures that vary based on factors such as height, location, and proximity to an airport, as defined by Title 14 of the Code of Federal Regulations, Part 77.9. Based on the analysis of the project using the Federal Aviation Administration Obstruction Evaluation/Airport Airspace Analysis Notice Criteria Tool (FAA 2023), using an assumed maximum building height of 35 feet, the project does not exceed Notice Criteria.

4.1.7 Fire Hazards

The project site and campus are located within an area mapped as Local Responsibility Area (LRA) by CAL FIRE (CAL FIRE 2007). The LRA designation means that fire response services for the project site and campus are within the responsibility of a local, rather than state agency, in this case the Imperial County Fire Department. As to the hazard severity designation, the project site and entire campus are located within a non-wildland/non-urban area and are not identified by CAL FIRE as within a mapped Fire Hazard Severity Zone (FHSZ). The nearest identified FHSZ areas are over 30 miles southwest (a Moderate Fire Hazard Severity Zone near Ocotillo), and over 45 miles northwest (a Very High Fire Hazard Severity Zone near the community of Oasis) (CAL FIRE 2007). Specific to the provision of fire services on the campus, Imperial County contracts with the City of Brawley for the provision of fire services to areas within the City's sphere of influence (SOI), which includes in the Brawley campus. Further, mutual aid agreements have been established with all cities in the county to address incidents requiring equipment and/or personnel beyond the City Fire Department's capacity to respond (City of Brawley and Imperial County LAFCo 2012).

5 Hazards and Hazardous Materials Impact Analysis and Conclusions

5.1 Thresholds of Significance

The thresholds of significance used to evaluate the impacts of the proposed project related to hazards and hazardous materials are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (Cal. Code Regs., Title 14, Chptr. 3, sections 15000-15387.). A significant impact under CEQA would occur if the proposed project would:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.

- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

5.2 Hazards and Hazardous Materials Impact Analysis

- a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Section 3.3 of the Campus Master Plan EIR determined that previous uses of the Brawley site did not result in hazardous material impacts. While hazardous materials, such as petroleum products, were stored on the Brawley site, and pesticides were historically applied, a Phase I ESA and Phase II ESA were prepared for the 2003 EIR that confirmed no contamination was present in collected samples. Mitigation adopted as part of the EIR recommended hazardous materials be removed from the Brawley site and that additional sampling be conducted following removal of hazardous materials (See MMRP page 11-2).¹ With implementation of the mitigation, impacts were determined to be less than significant.

The proposed project involves construction and operation of a new campus building generally within the footprint of Building 102, as identified in the Campus Master Plan and previously analyzed in the 2003 EIR. The new building would be located within the existing Brawley campus boundaries. The northern portion of the proposed project area is presently used for agricultural purposes, similar to the land use observed during the 2003 EIR; and, the southern portion of the proposed project site and the proposed staging area have been graded as part of the existing Brawley campus development. As such, as part of the analysis presented here, additional soil samples were collected in the existing agricultural land to verify the presence or absence of hazardous materials, such as organochlorine compounds and arsenic. As discussed in Section 4.1.4, Soil Sampling, three samples collected in the remaining agricultural areas did not contain concentrations of organochlorine compounds above environmental screening levels for unrestricted land use (ESLs; SFRWQCB 2019), nor did they contain arsenic levels above regional background concentrations (DTSC 2020). As such, there is no evidence of hazardous materials due to former agricultural land use that would affect the proposed project. While construction and operation of the proposed project would require routine use, transport, and disposal of hazardous materials, such as paints, greases, cleaning supplies, and small amounts of diesel and oil (for heavy equipment), as well as any chemicals that may be used as part of the educational function of the proposed project, these materials are regulated under federal, state, and local laws, rules, and regulations such that the use, transport, and disposal must be documented and, if quantities exceed reportable thresholds (55 gallons of liquid, 200 cubic feet of gas, or 500 pounds of a solid), additional reporting and safety measures are required to ensure there are no significant hazards to the public or environment. As such this impact would be **less than significant**, and no additional mitigation is required.

¹ 3.3 Hazardous Materials/Public Safety Mitigation Measures included on Page 11-2 of the 2003 EIR: (1) The Phase I ESA recommends that any identified hazardous materials shall be removed from the site. (2) The Phase II ESA recommends additional soil sampling following removal of the hazardous wastes to confirm the absence of elevated concentrations of removed wastes (e.g. petroleum hydrocarbons in the vicinity of the 55-gallon waste oil storage drum located in the partially covered shed on the southwestern portion of the property).

- b) ***Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?***

Section 3.3 of the Campus Master Plan EIR determined that previous uses of the Brawley site did not result in hazardous material impacts. As discussed in Significance Standard A, mitigation provided in the 2003 EIR recommended hazardous materials be removed from the Brawley site and recommended additional sampling be conducted following removal of hazardous materials (See MMRP page 11-2, Footnote 1). With implementation of the mitigation, impacts were determined to be less than significant.

As discussed above in Significance Standard A, soil samples were collected in the agricultural land that would underlie the proposed STEM building to verify the presence or absence of hazardous materials, and no evidence of hazardous materials related to former agricultural land use that may impact the proposed project was found. Also discussed in Significance Standard A, while construction and operation of the proposed project would require the use of hazardous materials, such as paints, greases, cleaning supplies, and small amounts of diesel and oil (for heavy equipment), as well as any chemicals that may be used as part of the educational function of the proposed project, these materials are regulated under federal, state, and local laws, rules, and regulations such that quantities in excess of reportable thresholds (55 gallons of liquid, 200 cubic feet of gas, or 500 pounds of a solid) require additional reporting and safety measures to ensure there are no significant hazards to the public or environment. These measures may include, but are not limited to, emergency response plans, spill prevention plans, and reporting of both stored materials and response measures to the local response agency, either the Certified Unified Program Agency and/or the local fire department. As such this impact would be **less than significant** and no additional mitigation is required.

- c) ***Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

Section 3.3 of the Campus Master Plan EIR determined that previous uses of the Brawley site did not result in hazardous material impacts. As discussed in Significance Standard A, the mitigation in the 2003 EIR recommended hazardous materials be removed from the Brawley site and recommended additional sampling following removal of any hazardous materials (See MMRP page 11-2).² With implementation of the mitigation, impacts were determined to be less than significant.

As previously stated in Section 4.1.5, Schools, there are no current nor proposed K-12 schools within 0.25 miles of the proposed project. As such, **no impact** would occur, and no additional mitigation is required.

- d) ***Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?***

Impacts related to whether the project would be located on a site that is included on a hazardous materials site were evaluated in Section 3.3, Hazardous Materials/Public Safety, of the Campus Master Plan 2003 EIR. A search for hazardous materials sites was conducted as part of the EIR; the Brawley site was not

² See footnote 1.

identified on any regulatory databases and impacts were determined to be less than significant. As such, mitigation was not required.

An updated search was prepared, as discussed in Section 4.1.2, Online Regulatory Databases, as part of the current analysis. The Brawley site was not identified on a hazardous materials site regulatory database, nor were any sites identified near the Brawley site with hazardous materials that potentially could impact the environmental condition of the proposed project. As such, **no impact** would occur, and no mitigation is required.

- e) ***For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?***

Impacts related to the project's location relative to an airport land use plan or within 2 miles of a public use airport were evaluated in Section 3.1, Land Use and Planning, of the Campus Master Plan EIR. The EIR identified the northwesternmost extremity of the Brawley campus as located within Zone D of the Airport Land Use Compatibility Plan (ALUCP). The EIR determined construction and operation of the university campus would not be considered hazardous to aircraft and, therefore, the Brawley campus would not conflict with the ALUCP. Accordingly, impacts were determined to be less than significant and mitigation was not required.

A review of nearby airports was completed as part of the current analysis, as discussed in Section 4.1.6, Airports. The proposed project would not be located within any current ALUCP boundaries, nor would construction of the proposed project require notification to FAA under 14 CFR Part 77.9. As such, **no impact** would occur.

- f) ***Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

The Initial Study (IS) prepared as part of the Campus Master Plan EIR determined that no impact would occur. Additionally, as discussed in Chapter 3.7, Public Services/Utilities, of the EIR, the proposed Brawley campus was not anticipated to significantly increase demand for emergency services as the campus was expected to provide campus security and emergency services. SDSU would enter into a mutual aid agreement with the City of Brawley for fire and police services to ensure adequate response and services. Mitigation was not required.

At the time of the 2003 EIR, the nearest primary fire agency providing assistance to the Brawley campus area was the City of Calipatria Station, 10 miles and 15 minutes north of the Brawley campus. Currently, the nearest fire station to the campus is the Brawley Fire Department Station 2, located 2.5 miles and 7 response minutes away. This response time is better than that evaluated in the 2003 EIR, and as such, emergency response has improved. As described in Section 4.1.7, Fire Hazards, Imperial County contracts with the city of Brawley through a mutual aid agreement for the provision of fire services to areas within the city's SOI, including the Brawley campus. As such, the Imperial County Fire Department would continue to provide assistance to the city of Brawley, as discussed in the 2003 EIR. The proposed project would not impact evacuation routes, as there is no proposed construction or shutdown of CA-78. As such, **no impact** would occur, and no additional mitigation is required.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The IS prepared as part of the Campus Master Plan EIR determined that no impact would occur. As discussed in Section 4.1.7, Fire Hazards, the proposed project is located within a non-wildland/non-urban area, for which there is no identified wildfire hazard. As such, **no impact** would occur. For additional discussion related to potential wildfire impacts, please refer to Section 6, Wildfire Impact Analysis and Conclusions, below.

6 Wildfire Impact Analysis and Conclusions

6.1 Thresholds of Significance

The thresholds of significance used to evaluate the impacts of the proposed project related to wildfire are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (Cal. Code Regs., Title 14, Chptr. 3, sections 15000-15387.). Based on Appendix G, if the proposed project would be located in or near state responsibility areas or lands classified as very high fire hazard severity zones, the proposed project would result in a potentially significant impact if the project would result in any of the following:

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan.
- b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

6.2 Wildfire Impact Analysis

- a) *Would the project be located in or near state responsibility areas or lands classified as very high fire hazard severity zones and do any of the following:*

Substantially impair an adopted emergency response plan or emergency evacuation plan; due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; and/or expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Impacts related to wildfire were introduced as part of the CEQA Guidelines Appendix G in 2019. As such, the wildfire thresholds described in Appendix G were not previously evaluated in the 2003 EIR or IS.

As described in Section 4.1.7, Fire Hazards, applicable mapping of the project site shows that the site is not located within the SRA or a Very High Fire Hazard Severity Zone (VHFHSZ) (CAL FIRE 2007; the 2007 mapping is the current mapping). The nearest mapped fire hazard severity zones are located approximately 30 miles southwest and 45 miles northwest of the project site. Additionally, because the project site is located within the city of Brawley's sphere of influence (SOI), mutual aid agreements between the city and Imperial County have been entered into to ensure that adequate fire protection and services are provided to the project site by the City Fire Department.

Because the project site is not located in or near state responsibility areas or lands classified as VHFHSZ, it is not necessary to address the other inquiries presented in Appendix G. However, for information purposes, the following additional information is provided.

As described above, the project does not propose any closures of SR-78 nor any modifications to existing emergency access or evacuation routes. Because the site is not located in or near an area presenting wildfire hazard conditions, the project is not anticipated to exacerbate wildfire risk and therefore result in exposure to pollutant concentrations or the spread of a wildfire. The project would also not involve installation or maintenance of infrastructure that may exacerbate fire risk. Further, the project and larger campus is located on a relatively flat site with no known previous fire events. As a result, the potential to expose people or structure to significant risk associated with post-fire conditions is not anticipated.

Furthermore, construction and operation of the project would comply with all required building, fire, and safety code standards (e.g., Titles 19 and 24 of the California Code of Regulations and the California Health and Safety Code). As such, the project is not expected to exacerbate any wildfire risks, which may expose onsite occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. For the reasons presented here, **no impact** related to wildfire would occur as a result of development of the project.

MEMORANDUM

SUBJECT: SDSU BRAWLEY SCIENCES BUILDING PROJECT HAZARDS TECHNICAL STUDY

7 References

- CalEPA (California Environmental Protection Agency). 2023. "CalEPA Regulated Site Portal" [web-based mapping application]. Accessed March 6, 2023. <https://siteportal.calepa.ca.gov/nsite/map/measure>.
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- SCS Engineers. 2023. Site Assessment Report, Assessor's Parcel Numbers 047-373-020, 021, 022, 1313 Main Street, Brawley, California. January 31, 2023.
- SFRWQCB (San Francisco Bay Regional Water Quality Control Board). 2019. Environmental Screening Levels. 2019.

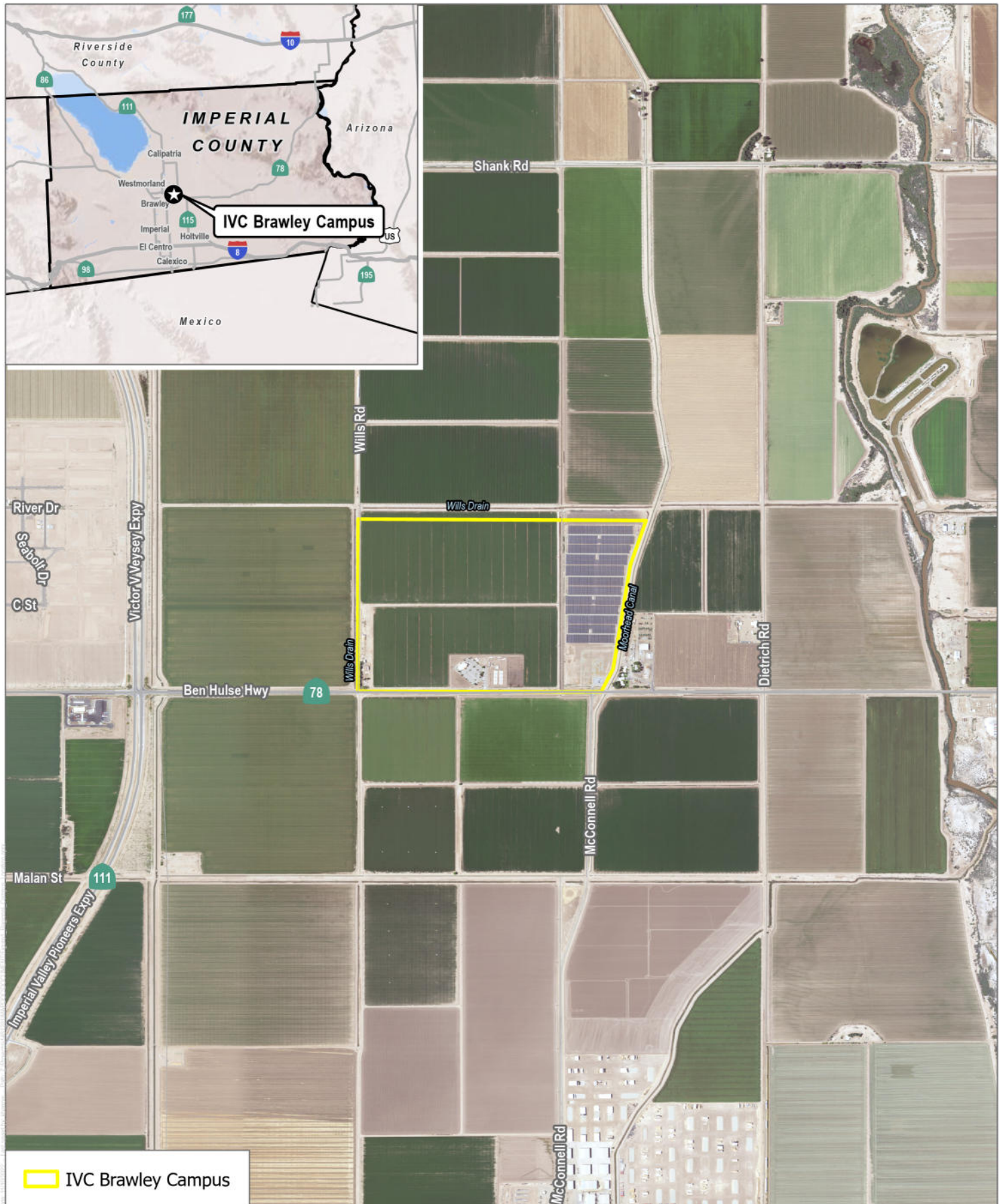
MEMORANDUM

SUBJECT: SDSU BRAWLEY SCIENCES BUILDING PROJECT HAZARDS TECHNICAL STUDY

SWRCB (State Water Resources Control Board). 2023. "GeoTracker" [online database]. California Water Quality Control Board. Accessed February 16, 2023. <https://geotracker.waterboards.ca.gov>.

Attachment A

Figures 1 and 2



SOURCE: NAIP 2020, Open Streets Map 2019

FIGURE 1

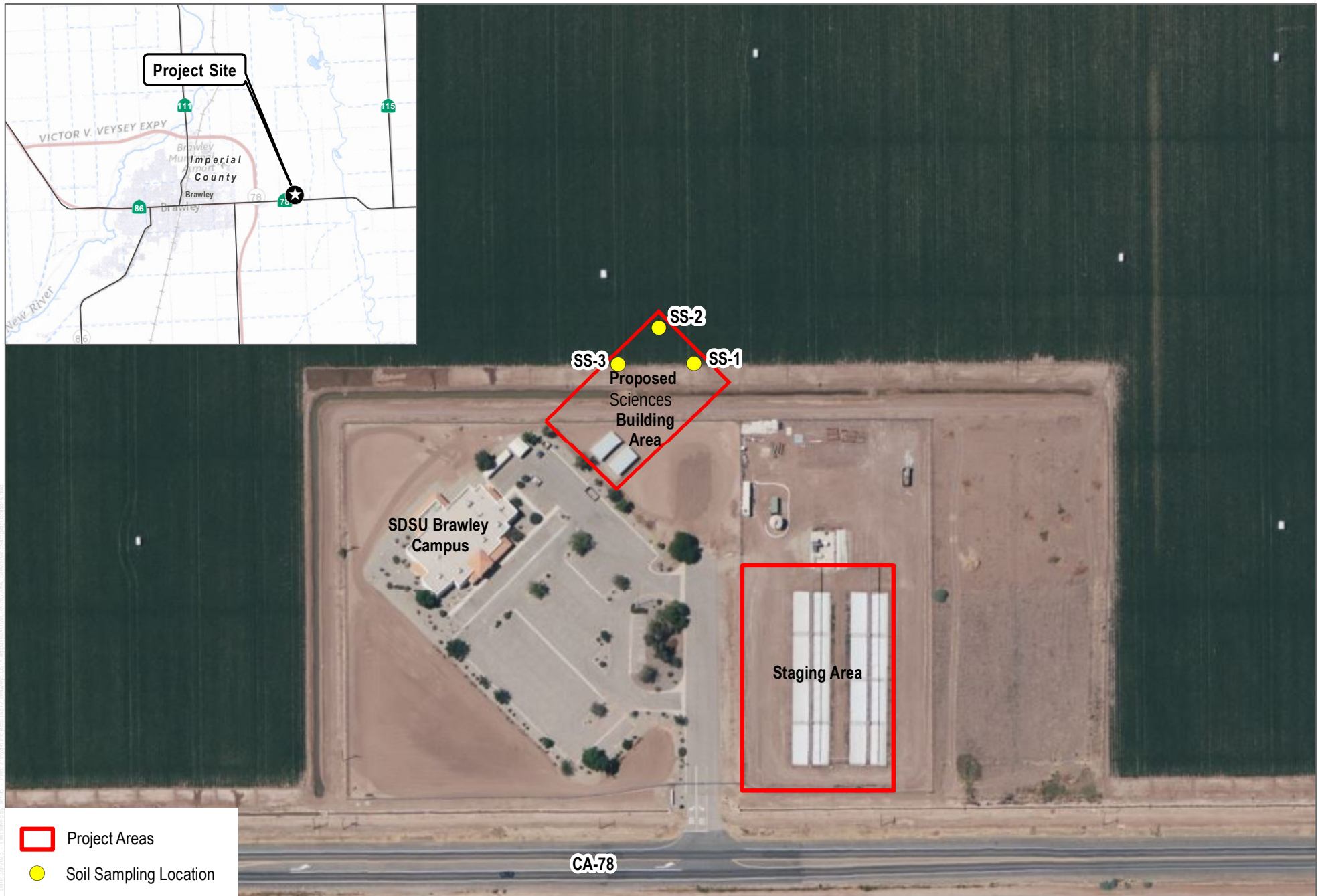


Figure 2

Site Map and Sampling Locations

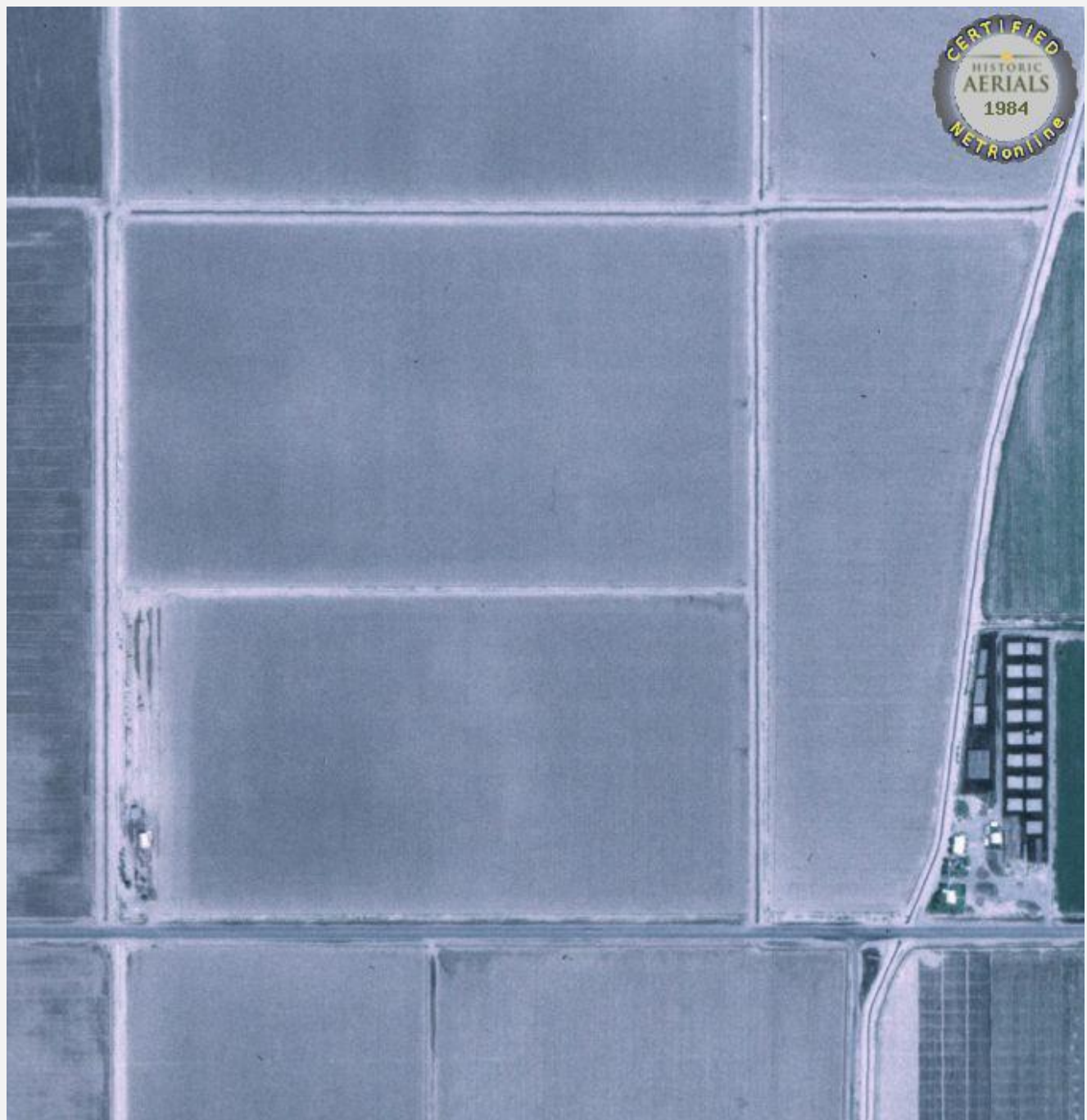
SDSU Brawley Sciences Building Project Hazards Technical Memo

Attachment B

Historical Aerial Photographs



1953 Aerial Photograph: Project Site and SDSU Brawley Campus



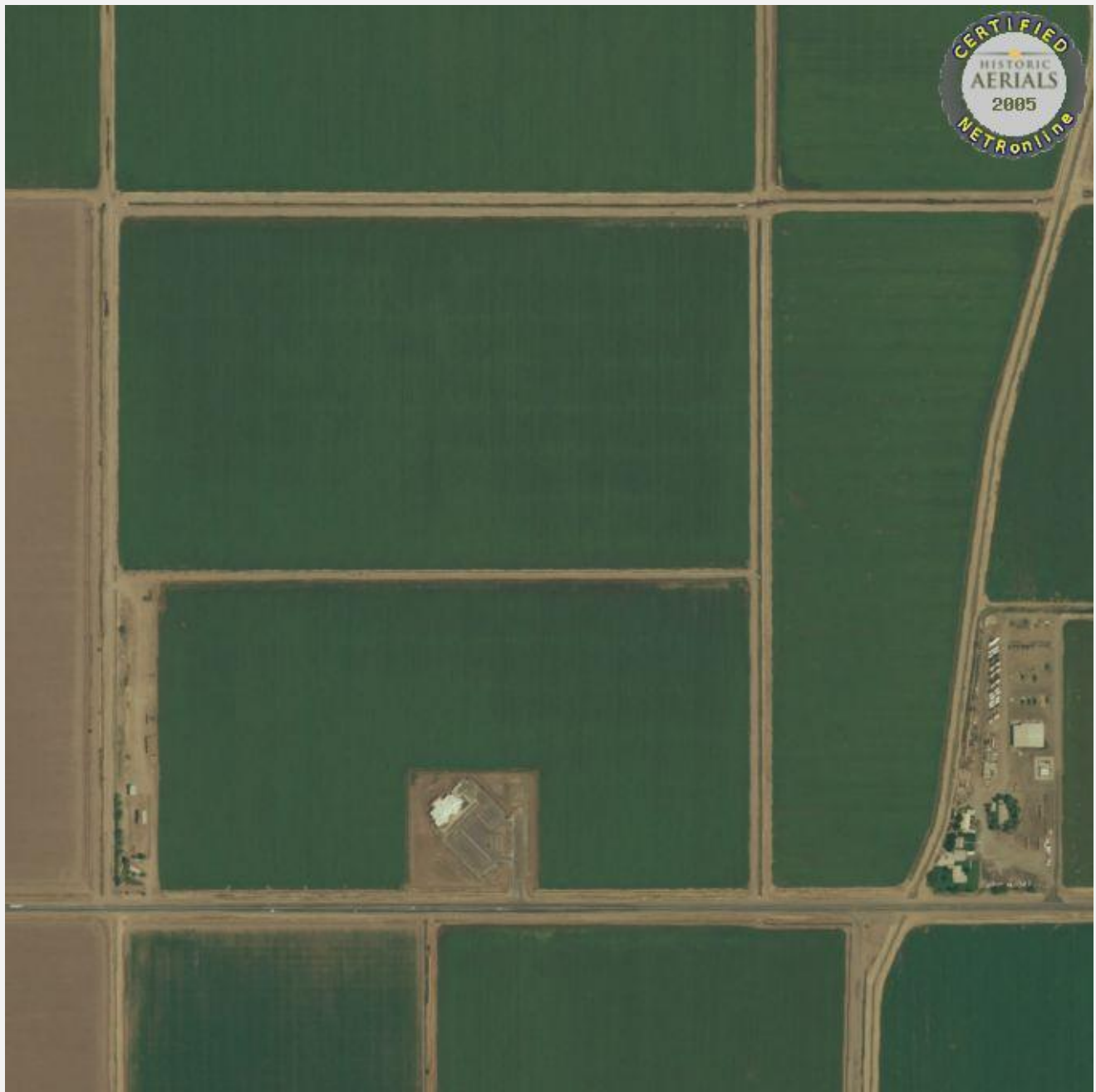
1984 Aerial Photograph: Project Site and SDSU Brawley Campus



1996 Aerial Photograph: Project Site and SDSU Brawley Campus



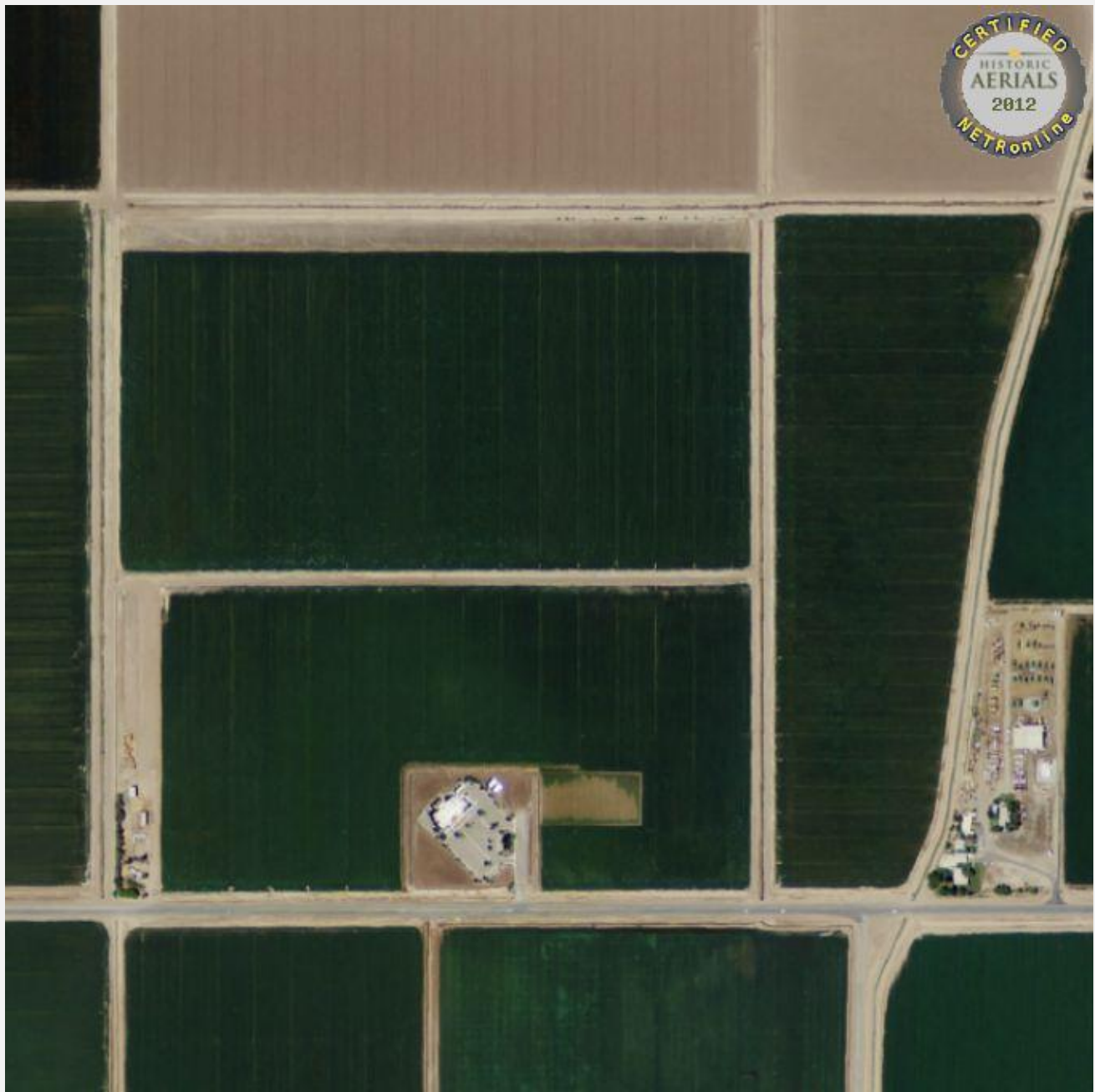
2002 Aerial Photograph: Project Site and SDSU Brawley Campus



2005 Aerial Photograph: Project Site and SDSU Brawley Campus



2010 Aerial Photograph: Project Site and SDSU Brawley Campus



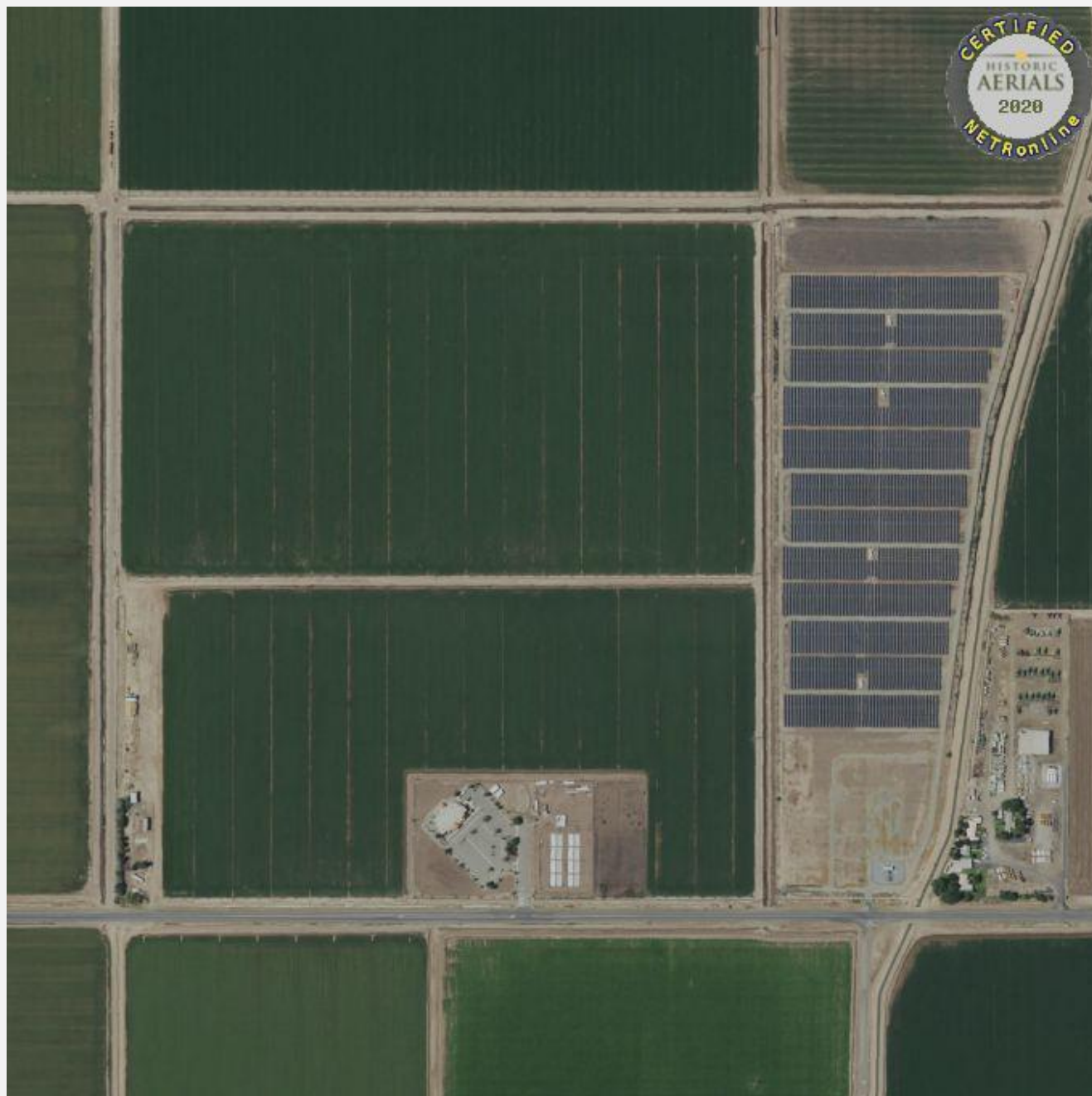
2012 Aerial Photograph: Project Site and SDSU Brawley Campus



2014 Aerial Photograph: Project Site and SDSU Brawley Campus



2018 Aerial Photograph: Project Site and SDSU Brawley Campus



2020 Aerial Photograph: Project Site and SDSU Brawley Campus

Attachment C

Laboratory Report and QA/QC



714-449-9937
562-646-1611

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
WWW.JONESENV.COM

08 March 2023

Audrey Herschberger
Dudek & Associates
605 Third Street
Encinitas, CA 92024

Re: SDSU-Brawley Campus

Enclosed are the results of analyses for samples received by the laboratory on 03/01/23. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Colby Wakeman".

Colby Wakeman
Lab Director

Dudek & Associates
605 Third Street
Encinitas, CA 92024

Project: SDSU-Brawley Campus
Project Number: 14812
Project Manager: Audrey Herschberger

Reported
03/08/23 10:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-1	JEI230487-01	Soil	02/28/2023 11:39	03/01/2023 10:17
SS-2	JEI230487-02	Soil	02/28/2023 11:56	03/01/2023 10:17
SS-3	JEI230487-03	Soil	02/28/2023 12:09	03/01/2023 10:17
SS-4	JEI230487-04	Soil	02/28/2023 12:26	03/01/2023 10:17

DETECTIONS SUMMARY

Sample ID: SS-1

Laboratory ID: JEI230487-01

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic, As	5.7	5.0	mg/kg	EPA 6010	

Sample ID: SS-2

Laboratory ID: JEI230487-02

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic, As	5.7	5.0	mg/kg	EPA 6010	

Sample ID: SS-3

Laboratory ID: JEI230487-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic, As	5.2	5.0	mg/kg	EPA 6010	

Sample ID: SS-4

Laboratory ID: JEI230487-04

Analyte	Result	Reporting Limit	Units	Method	Notes
Arsenic, As	5.4	5.0	mg/kg	EPA 6010	

Jones Environmental, Inc.



Colby Wakeman
Lab Director

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.

Dudek & Associates
605 Third Street
Encinitas, CA 92024

Project: SDSU-Brawley Campus
Project Number: 14812
Project Manager: Audrey Herschberger

Reported
03/08/23 10:12

SS-I
JEI230487-01(Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic, As by EPA 6010									
Arsenic, As	5.7	5.0	mg/kg	1	QC2303059		03/06/23	EPA 6010	
Chlorinated Pesticides by GC/ECD by EPA 8081									
alpha-BHC	ND	10	µg/kg	1	QC2303062		03/02/23	EPA 8081	
beta-BHC	ND	10	µg/kg	"	"		"	"	
gamma-BHC (Lindane)	ND	10	µg/kg	"	"		"	"	
Heptachlor	ND	10	µg/kg	"	"		"	"	
delta-BHC	ND	10	µg/kg	"	"		"	"	
Aldrin	ND	10	µg/kg	"	"		"	"	
Heptachlor epoxide	ND	10	µg/kg	"	"		"	"	
gamma-Chlordane	ND	10	µg/kg	"	"		"	"	
alpha-Chlordane	ND	10	µg/kg	"	"		"	"	
Endosulfan I	ND	10	µg/kg	"	"		"	"	
4,4'-DDE	ND	10	µg/kg	"	"		"	"	
Dieldrin	ND	10	µg/kg	"	"		"	"	
Endrin	ND	10	µg/kg	"	"		"	"	
4,4'-DDD	ND	10	µg/kg	"	"		"	"	
Endosulfan II	ND	10	µg/kg	"	"		"	"	
4,4'-DDT	ND	10	µg/kg	"	"		"	"	
Endrin aldehyde	ND	10	µg/kg	"	"		"	"	
Endosulfan sulfate	ND	10	µg/kg	"	"		"	"	
Methoxychlor	ND	20	µg/kg	"	"		"	"	
Endrin ketone	ND	10	µg/kg	"	"		"	"	
Toxaphene	ND	20	µg/kg	"	"		"	"	
Technical Chlordane	ND	20	µg/kg	"	"		"	"	
Surrogate: TCMX	70.96 %	30 - 120							
Surrogate: Decachlorobiphenyl	95.65 %	30 - 120							

Dudek & Associates
605 Third Street
Encinitas, CA 92024

Project: SDSU-Brawley Campus
Project Number: 14812
Project Manager: Audrey Herschberger

Reported
03/08/23 10:12

SS-2
JEI230487-02(Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic, As by EPA 6010									
Arsenic, As	5.7	5.0	mg/kg	1	QC2303059		03/06/23	EPA 6010	
Chlorinated Pesticides by GC/ECD by EPA 8081									
alpha-BHC	ND	10	µg/kg	1	QC2303062		03/02/23	EPA 8081	
beta-BHC	ND	10	µg/kg	"	"		"	"	
gamma-BHC (Lindane)	ND	10	µg/kg	"	"		"	"	
Heptachlor	ND	10	µg/kg	"	"		"	"	
delta-BHC	ND	10	µg/kg	"	"		"	"	
Aldrin	ND	10	µg/kg	"	"		"	"	
Heptachlor epoxide	ND	10	µg/kg	"	"		"	"	
gamma-Chlordane	ND	10	µg/kg	"	"		"	"	
alpha-Chlordane	ND	10	µg/kg	"	"		"	"	
Endosulfan I	ND	10	µg/kg	"	"		"	"	
4,4'-DDE	ND	10	µg/kg	"	"		"	"	
Dieldrin	ND	10	µg/kg	"	"		"	"	
Endrin	ND	10	µg/kg	"	"		"	"	
4,4'-DDD	ND	10	µg/kg	"	"		"	"	
Endosulfan II	ND	10	µg/kg	"	"		"	"	
4,4'-DDT	ND	10	µg/kg	"	"		"	"	
Endrin aldehyde	ND	10	µg/kg	"	"		"	"	
Endosulfan sulfate	ND	10	µg/kg	"	"		"	"	
Methoxychlor	ND	20	µg/kg	"	"		"	"	
Endrin ketone	ND	10	µg/kg	"	"		"	"	
Toxaphene	ND	20	µg/kg	"	"		"	"	
Technical Chlordane	ND	20	µg/kg	"	"		"	"	
Surrogate: TCMX	65.40 %	30 - 120							
Surrogate: Decachlorobiphenyl	87.63 %	30 - 120							

Jones Environmental, Inc.



Colby Wakeman
Lab Director

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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605 Third Street
Encinitas, CA 92024

Project: SDSU-Brawley Campus
Project Number: 14812
Project Manager: Audrey Herschberger

Reported
03/08/23 10:12

SS-3
JEI230487-03(Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic, As by EPA 6010									
Arsenic, As	5.2	5.0	mg/kg	1	QC2303059		03/06/23	EPA 6010	
Chlorinated Pesticides by GC/ECD by EPA 8081									
alpha-BHC	ND	10	µg/kg	1	QC2303062		03/02/23	EPA 8081	
beta-BHC	ND	10	µg/kg	"	"		"	"	
gamma-BHC (Lindane)	ND	10	µg/kg	"	"		"	"	
Heptachlor	ND	10	µg/kg	"	"		"	"	
delta-BHC	ND	10	µg/kg	"	"		"	"	
Aldrin	ND	10	µg/kg	"	"		"	"	
Heptachlor epoxide	ND	10	µg/kg	"	"		"	"	
gamma-Chlordane	ND	10	µg/kg	"	"		"	"	
alpha-Chlordane	ND	10	µg/kg	"	"		"	"	
Endosulfan I	ND	10	µg/kg	"	"		"	"	
4,4'-DDE	ND	10	µg/kg	"	"		"	"	
Dieldrin	ND	10	µg/kg	"	"		"	"	
Endrin	ND	10	µg/kg	"	"		"	"	
4,4'-DDD	ND	10	µg/kg	"	"		"	"	
Endosulfan II	ND	10	µg/kg	"	"		"	"	
4,4'-DDT	ND	10	µg/kg	"	"		"	"	
Endrin aldehyde	ND	10	µg/kg	"	"		"	"	
Endosulfan sulfate	ND	10	µg/kg	"	"		"	"	
Methoxychlor	ND	20	µg/kg	"	"		"	"	
Endrin ketone	ND	10	µg/kg	"	"		"	"	
Toxaphene	ND	20	µg/kg	"	"		"	"	
Technical Chlordane	ND	20	µg/kg	"	"		"	"	
Surrogate: TCMX	75.49 %	30 - 120							
Surrogate: Decachlorobiphenyl	95.59 %	30 - 120							

Dudek & Associates
605 Third Street
Encinitas, CA 92024

Project: SDSU-Brawley Campus
Project Number: 14812
Project Manager: Audrey Herschberger

Reported
03/08/23 10:12

SS-4
JEI230487-04(Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic, As by EPA 6010									
Arsenic, As	5.4	5.0	mg/kg	1	QC2303059		03/06/23	EPA 6010	
Chlorinated Pesticides by GC/ECD by EPA 8081									
alpha-BHC	ND	10	µg/kg	1	QC2303062		03/02/23	EPA 8081	
beta-BHC	ND	10	µg/kg	"	"		"	"	
gamma-BHC (Lindane)	ND	10	µg/kg	"	"		"	"	
Heptachlor	ND	10	µg/kg	"	"		"	"	
delta-BHC	ND	10	µg/kg	"	"		"	"	
Aldrin	ND	10	µg/kg	"	"		"	"	
Heptachlor epoxide	ND	10	µg/kg	"	"		"	"	
gamma-Chlordane	ND	10	µg/kg	"	"		"	"	
alpha-Chlordane	ND	10	µg/kg	"	"		"	"	
Endosulfan I	ND	10	µg/kg	"	"		"	"	
4,4'-DDE	ND	10	µg/kg	"	"		"	"	
Dieldrin	ND	10	µg/kg	"	"		"	"	
Endrin	ND	10	µg/kg	"	"		"	"	
4,4'-DDD	ND	10	µg/kg	"	"		"	"	
Endosulfan II	ND	10	µg/kg	"	"		"	"	
4,4'-DDT	ND	10	µg/kg	"	"		"	"	
Endrin aldehyde	ND	10	µg/kg	"	"		"	"	
Endosulfan sulfate	ND	10	µg/kg	"	"		"	"	
Methoxychlor	ND	20	µg/kg	"	"		"	"	
Endrin ketone	ND	10	µg/kg	"	"		"	"	
Toxaphene	ND	20	µg/kg	"	"		"	"	
Technical Chlordane	ND	20	µg/kg	"	"		"	"	
Surrogate: TCMX	40.45 %	30 - 120							
Surrogate: Decachlorobiphenyl	46.33 %	30 - 120							

Dudek & Associates
605 Third Street
Encinitas, CA 92024

Project: SDSU-Brawley Campus
Project Number: 14812
Project Manager: Audrey Herschberger

Reported
03/08/23 10:12

Arsenic, As by EPA 6010 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
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Batch QC2303059 - EPA 6010

CCV 1

Arsenic, As	1.1	5.0	%	1		106	90 - 110		110	
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LCS 1

Arsenic, As	196	5.0	%	200		98	80 - 120			
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LCSD 1

Arsenic, As	189	5.0	%	200		94	80 - 120	3.95	120	
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Method Blank 1

Arsenic, As	ND	5.0	mg/kg							
-------------	----	-----	-------	--	--	--	--	--	--	--



Dudek & Associates
605 Third Street
Encinitas, CA 92024

Project: SDSU-Brawley Campus
Project Number: 14812
Project Manager: Audrey Herschberger

Reported
03/08/23 10:12

Chlorinated Pesticides by GC/ECD by EPA 8081 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	%REC Limits	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	-----	----------------	-------

Batch QC2303062 - EPA 8081

CCV 1

alpha-BHC	59	10	%	50		117	80 - 120	120	
Heptachlor	59	10	%	50		118	80 - 120	120	
Aldrin	58	10	%	50		115	80 - 120	120	
Heptachlor epoxide	59	10	%	50		118	80 - 120	120	
gamma-Chlordane	54	10	%	50		109	80 - 120	120	
Endosulfan I	59	10	%	50		119	80 - 120	120	
4,4'-DDE	117	10	%	100		117	80 - 120	120	
Dieldrin	120	10	%	100		120	80 - 120	120	
Endrin	118	10	%	100		118	80 - 120	120	
4,4'-DDD	116	10	%	100		116	80 - 120	120	
Endosulfan II	107	10	%	100		107	80 - 120	120	
4,4'-DDT	107	10	%	100		107	80 - 120	120	
Endrin ketone	116	10	%	100		116	80 - 120	120	

LCS 1

alpha-BHC	126	10	%	100		126	60 - 140		
Heptachlor	124	10	%	100		124	60 - 140		
Aldrin	125	10	%	100		125	60 - 140		
Heptachlor epoxide	129	10	%	100		129	60 - 140		
gamma-Chlordane	117	10	%	100		117	60 - 140		
Endosulfan I	128	10	%	100		128	60 - 140		
4,4'-DDE	134	10	%	100		134	60 - 140		
Dieldrin	135	10	%	100		135	60 - 140		
Endrin	123	10	%	100		123	60 - 140		
4,4'-DDD	135	10	%	100		135	60 - 140		
Endosulfan II	138	10	%	100		138	60 - 140		
4,4'-DDT	129	10	%	100		129	60 - 140		
Endrin ketone	137	10	%	100		137	60 - 140		

Surrogate: TCMX 118.68 % 30 - 120
Surrogate: Decachlorobiphenyl 119.22 % 30 - 120

Jones Environmental, Inc.



Colby Wakeman
Lab Director

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Dudek & Associates
605 Third Street
Encinitas, CA 92024

Project: SDSU-Brawley Campus
Project Number: 14812
Project Manager: Audrey Herschberger

Reported
03/08/23 10:12

Chlorinated Pesticides by GC/ECD by EPA 8081 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
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Batch QC2303062 - EPA 8081

LCSD 1

alpha-BHC	118	10	%	100		118	60 - 140	6.45	140	
Heptachlor	122	10	%	100		122	60 - 140	2.02	140	
Aldrin	120	10	%	100		120	60 - 140	3.60	140	
Heptachlor epoxide	124	10	%	100		124	60 - 140	3.54	140	
gamma-Chlordane	118	10	%	100		118	60 - 140	0.42	140	
Endosulfan I	120	10	%	100		120	60 - 140	6.11	140	
4,4'-DDE	122	10	%	100		122	60 - 140	8.82	140	
Dieldrin	133	10	%	100		133	60 - 140	1.69	140	
Endrin	121	10	%	100		121	60 - 140	1.13	140	
4,4'-DDD	128	10	%	100		128	60 - 140	5.02	140	
Endosulfan II	134	10	%	100		134	60 - 140	3.10	140	
4,4'-DDT	123	10	%	100		123	60 - 140	4.96	140	
Endrin ketone	139	10	%	100		139	60 - 140	1.05	140	

Surrogate: TCMX 111.28 % 30 - 120
Surrogate: Decachlorobiphenyl 117.40 % 30 - 120

Method Blank 1

alpha-BHC	ND	10	µg/kg							
beta-BHC	ND	10	µg/kg							
gamma-BHC (Lindane)	ND	10	µg/kg							
Heptachlor	ND	10	µg/kg							
delta-BHC	ND	10	µg/kg							
Aldrin	ND	10	µg/kg							
Heptachlor epoxide	ND	10	µg/kg							
gamma-Chlordane	ND	10	µg/kg							
alpha-Chlordane	ND	10	µg/kg							
Endosulfan I	ND	10	µg/kg							
4,4'-DDE	ND	10	µg/kg							
Dieldrin	ND	10	µg/kg							
Endrin	ND	10	µg/kg							
4,4'-DDD	ND	10	µg/kg							
Endosulfan II	ND	10	µg/kg							
4,4'-DDT	ND	10	µg/kg							
Endrin aldehyde	ND	10	µg/kg							
Endosulfan sulfate	ND	10	µg/kg							

Jones Environmental, Inc.



Colby Wakeman
Lab Director

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Dudek & Associates
605 Third Street
Encinitas, CA 92024

Project: SDSU-Brawley Campus
Project Number: 14812
Project Manager: Audrey Herschberger

Reported
03/08/23 10:12

Chlorinated Pesticides by GC/ECD by EPA 8081 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2303062 - EPA 8081										
Method Blank 1										
Methoxychlor	ND	20	µg/kg							
Endrin ketone	ND	10	µg/kg							
Toxaphene	ND	20	µg/kg							
Technical Chlordane	ND	20	µg/kg							
Surrogate: TCMX		118.69 %	30 - 120							
Surrogate: Decachlorobiphenyl		117.00 %	30 - 120							

Dudek & Associates
605 Third Street
Encinitas, CA 92024Project: SDSU-Brawley Campus
Project Number: 14812
Project Manager: Audrey HerschbergerReported
03/08/23 10:12**Notes and Definitions**

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry

RPD Relative Percent Difference

E Estimated Concentration; concentration exceeds calibration range.

LCC Leak Check Compound

MDL Compound Reported to Method Detection Limit

I Recovery outside of acceptable limits. LCS/LCSD recoveries and %RSD were within QC limits, therefore data was accepted.

Jones Environmental, Inc.

Colby Wakeman
Lab Director

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11007 Forest Pl.
Santa Fe Springs, CA 90670
(714) 449-9937
reports@jonesenv.com
www.jonesenv.com

Chain-of-Custody Record

Turn Around Requested:

- ☐ Immediate Attention - 200%
- ☐ Rush 24 Hours - 100%
- ☐ Rush 48 Hours - 50%
- ☐ Rush 72 Hours - 25%
- ☐ Rush 96 Hours - 10%
- ☒ Normal - No Surcharge

LAB USE ONLY

Jones Project #

JE1230487

Page

of 1

Report Options

EDD _____
EDF* - 10% Surcharge _____
*Global ID _____

3.5

Client <u>Dudek</u>	Date <u>2/28/2023</u>
Project Name <u>SDSU - Brawley Campus</u>	Client Project # <u>14812</u>
Project Address <u>560 CA-78</u>	Sample Container / Preservative Abbreviations
<u>Brawley, CA 92227</u>	AS - Acetate Sleeve SS - Stainless Steel Sleeve BS - Brass Sleeve G - Glass AB - Amber Bottle P - Plastic SOBI - Sodium Bisulfate MeOH - Methanol HCl - Hydrochloric Acid HNO3 - Nitric Acid O - Other (See Notes)
Email <u>aherschberger@dudek.com</u>	
Phone <u>971-930-1706</u>	
Report To <u>Audrey Herschberger</u>	Sampler <u>Stephanie Chao, SC</u>

Analysis Requested

Sample ID	Sample Collection Date	Sample Collection Time	Laboratory Sample ID	Preservative	Sample Container	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Free Product (FP)	EPA 8081A	EPA 6010B	Number of Containers	Notes & Special Instructions
SS-1	2/28/23	11:39	1 JE1230487-01	-	G	S	/	/	1	Arsenic ONLY by EPA 6010B-JC 030323
SS-2	2/28/23	11:50	2 JE1230487-02	-	G	S	/	/	1	
SS-3	2/28/23	12:09	3 JE1230487-03	-	G	S	/	/	1	
SS-4	2/28/23	12:26	4 JE1230487-04	-	G	S	/	/	1	

Relinquished By (Signature) <u>[Signature]</u>	Printed Name <u>Stephanie Chao</u>	Date <u>2/28/23</u>	Time <u>3:16 pm</u>	Received By (Signature) <u>[Signature]</u>	Printed Name <u>Kiara T.</u>	Date <u>3/1/23</u>	Time <u>1010</u>	4	Total Number of Containers
Company <u>Dudek</u>				Company <u>Jones</u>					
Relinquished By (Signature) <u>[Signature]</u>	Printed Name <u>Stephanie Chao</u>	Date <u>2/28/23</u>	Time <u>3:16 pm</u>	Received By Laboratory (Signature) <u>[Signature]</u>	Printed Name <u>Kiara T.</u>	Date <u>3/1/23</u>	Time <u>1010</u>		
Company <u>Dudek</u>				Company <u>Jones</u>					

Client signature on this Chain of Custody form constitutes acknowledgement that the above analyses have been requested, and the information provided herein is correct and accurate.

QUALITY CONTROL

Laboratory Data Validation

In accordance with the principles for data validation presented in the U.S. Environmental Protection Agency (U.S. EPA) National Functional Guidelines for Organic Laboratory Data Review, Dudek reviewed the sampling data in the following areas to evaluate potential impact on data quality:

- Analytical Holding Times
- Continuing Calibration Verification Sample
- Laboratory Control Sample/Laboratory Control Sample Duplicate
- Surrogate Compound Recovery

A total of 4 soil samples were analyzed. The soil samples were analyzed for arsenic by EPA 6010 as well as chlorinated pesticides by EPA 8081, by Jones Environmental, Inc. labs.

The analytical data obtained during the sampling event are considered to be usable for the intended monitoring purposes. Below is a summary of the validation results.

Technical Holding Times and Sample Preservation

All samples were analyzed within the required hold times.

The temperature measured for the sample cooler was between 0-6°C and therefore met laboratory guidelines.

Laboratory and Field Blanks

A method blank was run on each batch of soil samples, one for each sample batch up. For this sampling event, one method blank was analyzed for arsenic and another was analyzed for chlorinated pesticides.

No arsenic or chlorinated pesticides were identified above the laboratory reporting limits in the method blanks for the soil sample batches.

Surrogate Spikes

Two surrogates were spiked and analyzed for the soil samples analyzed for the chlorinated pesticides screen. The percent recoveries of surrogates were within associated control limits.

Matrix Spike/Matrix Duplicate Spikes

There were no matrix spike/matrix spike duplicate (MS/MSD) samples run for these samples.

Continuing Calibration Verification Samples

A continuing calibration verification sample was analyzed for arsenic and another for chlorinated pesticides for the soil samples. All percent recoveries and/or RPDs for the CCV samples were within their associated limits; thus, the data are acceptable.

Laboratory Control Samples

One LCS/LCSD sample was analyzed for arsenic and another for chlorinated pesticides for the soil samples. All percent recoveries and/or RPDs for the LCS/LCSD samples were within their associated limits; thus, the data are acceptable.

Duplicate Samples

One duplicate sample/duplicate pair was collected and analyzed during this sampling event (samples SS-3 and SS-4, both collected from soil sample location SS-3). The sample was analyzed for arsenic and chlorinated pesticides. The relative percent difference between the original and duplicate sample was not calculated for arsenic or chlorinated pesticides as the reported concentrations were less than reporting limits for chlorinated pesticides and less than five times the reporting limit for arsenic.