



Project No. 2018-31
October 19, 2018

Mr. Jim Sullivan
SCS Development Company
404 Saratoga Avenue, Suite 100
Santa Clara, California 95050

Subject: Proposed Residential Development – 1.69 Acres
Proposed Catalina II Development
1433 to 1493 El Camino Real
Santa Clara, California
ADDITIONAL SOIL SAMPLING ACTIVITIES

- References:
- 1) Phase I Environmental Site Assessment and Preliminary Soil, Soil-Vapor, and Groundwater Quality Evaluation at 1433 to 1493 El Camino Real, Santa Clara, California
By Cornerstone Earth Group
Dated May 16, 2017
 - 2) Soil and Soil-Vapor Quality Evaluation and Soil Removal Work Plan at 1433 to 1493 El Camino Real, Santa Clara, California
By Cornerstone Earth Group
Dated April 26, 2018
 - 3) Approval of Soil Removal Work Plan for Voluntary Cleanup Agreement for Case No. 2018-17s at 1433 to 1493 El Camino Real in Santa Clara, California
By County of Santa Clara Department of Environmental Health
Dated July 9, 2018

Dear Mr. Sullivan:

At your request, **GeoSolve, Inc.** presents our Additional Soil Sampling Activities report, which summarizes shallow soil sampling activities at the above referenced site. The subject property of additional concern is located at 1433, 1453, 1463, 1483 and 1493 El Camino Real, Santa Clara, California, with Assessor's Parcel Numbers (APNs) 224-48-004, 224-48-005, and 224-48-006. The property had mixed use and was used as a car wash, an auto repair shop and has an older residence situated on the site. The property encompasses approximately 1.69-acres of land. The site vicinity is shown on Figure 1, Site Vicinity Map.



Background

Cornerstone Earth Group (CEG) conducted a Phase I Environmental Site Assessment (ESA) and Preliminary Soil, Soil-Gas, and Groundwater Quality Evaluation at the property (Reference 1) and prepared a Soil and Soil-Vapor Quality Evaluation and Soil Removal Work Plan (Reference 2) for the elevated concentrations of petroleum hydrocarbons detected in subsurface soil beneath the former underground storage tank (UST) on 1483 El Camino Real. Based on CEG's References 1 and 2, the extent of groundwater contamination is defined and limited primarily to the former UST excavation. Benzene and ethylbenzene were detected in a grab groundwater sample collected from within the former UST excavation at 3,000 micrograms per liter ($\mu\text{g/L}$) and 5,200 $\mu\text{g/L}$, respectively. The benzene and ethylbenzene concentrations exceed their respective Regional Water Quality Control Board (RWQCB) residential environmental screening levels (ESLs) for groundwater vapor intrusion to indoor air. Although groundwater concentrations exceed their respective ESLs, a soil vapor sample collected from within the former UST excavation indicated concentrations of benzene and ethylbenzene in soil vapor to be below their respective residential vapor intrusion ESLs.

Based on these results, the County of Santa Clara Department of Environmental Health (CSCDEH) approved the Soil Removal Work Plan (Reference 3) with specific requirements, including additional shallow soil sampling at the site.

The purpose of this work was to evaluate the shallow soil for organochlorine pesticides and metals in the shallow soil in the data gap areas outlined by the CSCDEH.

ADDITIONAL SOIL SAMPLING ACTIVITIES

Fieldwork

On October 3 and 11, 2018, a *GeoSolve, Inc.* field geologist visited the subject site and observed Exploration GeoServices, Inc., a State-certified drilling contractor, advance seven shallow borings and collected seven shallow soil samples SS-1 through SS-7 using clean glass jars supplied by McCampbell Analytical, Inc. The location of shallow soil samples SS-1 through SS-7 are shown on Figure 2, Site Plan. The borings were backfilled with neat cement to grade. The soil samples were delivered under chain-of-custody documentation to McCampbell Analytical, Inc., a State-certified hazardous waste laboratory (Certification No. 1644), in Pittsburg, California, for analysis.

Laboratory Analytical Methods and Results

Soil samples SS-1 through SS-7 were analyzed by McCampbell Analytical, Inc. for organochlorine pesticides and CAM 17 metals using Environmental Protection Agency (EPA) Methods SW846/SW3550B/3640Am/3630Cm/SW8081A and SW3050B/SW6020. The laboratory analytical results are shown on Tables 1 and 2 below and the McCampbell Analytical, Inc. laboratory reports and chain-of-custody documentation are attached to this letter report.



Table 1
Proposed Catalina II Development
Laboratory Results of Shallow Soil Samples – Organochlorine Pesticides
1433 to 1493 El Camino Real
Santa Clara, California
October 3 and 11, 2018

Sample ID	Depth (feet)	DDT (mg/Kg)	DDE (mg/Kg)	DDD (mg/Kg)	Chlordane* (mg/Kg)	Dieldrin (mg/Kg)	Endrin (mg/Kg)	Heptachlor epoxide (mg/Kg)
SS-1	1	0.00014	0.00012	<0.0001	<0.025	<0.0001	<0.0001	<0.0001
SS-2	1	0.00034	0.00097	<0.0001	<0.025	0.00028	<0.0001	<0.0001
SS-3	1	0.017	0.054	<0.0001	0.0109	<0.0001	0.0061	0.00030
SS-4	1	0.030	0.029	<0.0001	<0.025	<0.001	<0.0001	<0.0001
SS-5	1	0.0016	0.012	0.00045	0.00028	<0.0001	<0.0001	<0.0001
SS-6	1	0.0056	0.01	0.00032	0.01123	0.00036	<0.0001	0.00026
SS-7	1	<0.0001	<0.0001	<0.0001	<0.025	<0.0001	<0.0001	<0.0001
ESLs	---	1.9	1.9	2.7	0.048	0.0038	21	0.067

mg/Kg = milligrams per kilogram, equivalent to parts per million (ppm).

< = less than laboratory detection limits

ESLs = Environmental Screening Levels (RWQCB – Region 2, February 2013, Summary of Soil)

* = Chlordane includes total Chlordane, a-Chlordane and g-Chlordane concentrations.

Table 2
Proposed Catalina II Development
Laboratory Results of Shallow Soil Samples – Metals
1433 to 1493 El Camino Real
Santa Clara, California
October 3 and 11, 2018

Sample ID	Depth (feet)	Antimony (mg/Kg)	Arsenic (mg/Kg)	Cadmium (mg/Kg)	Chromium (mg/Kg)	Cobalt (mg/Kg)	Copper (mg/Kg)	Lead (mg/Kg)	Mercury (mg/Kg)
SS-1	1	<0.50	7.7	<0.25	38	9.6	20	8.3	<0.050
SS-2	1	0.68	5.1	<0.25	39	7.6	19	70	0.18
SS-3	1	<0.50	3.9	<0.25	44	7.9	25	16	0.065
SS-4	1	2.5	5.8	2.0	53	10	49	340	0.16
SS-5	1	<0.50	3.6	<0.25	58	11	22	18	0.079
SS-6	1	<0.50	5.5	0.25	88	10	19	32	0.072
SS-7	1	1.1	4.5	1.0	59	14	30	170	0.10
ESLs	---	31	0.067*	39	120,000	23	3,100	80	13

mg/Kg = milligrams per kilogram, equivalent to parts per million (ppm).

< = less than laboratory detection limits

ESLs = Environmental Screening Levels (RWQCB – Region 2, February 2013, Summary of Soil)

* = Background is the screening level for arsenic according to Cal EPA.



The laboratory analytical results of shallow soil samples SS-1 through SS-7 indicated no detectable to very low concentrations of organochlorine pesticides. DDT was detected up to 0.030 milligram per kilogram (mg/Kg), dieldrin was detected up to 0.00036 mg/Kg, and DDE was detected up to 0.054 mg/Kg. Metals were detected within background concentrations in soil samples SS-1 through SS-7 within the Santa Clara Valley of the San Francisco Bay area, except for lead. Lead was detected at 340 mg/Kg in soil sample SS-4 and was detected at 170 mg/Kg in soil sample SS-7.

Discussion

All the shallow soil samples SS-1 through SS-7 indicated organochlorine pesticide concentrations below the California Regional Water Quality Control Board – Region 2 (RWQCB) Environmental Screening Levels (ESLs) for shallow soil exposure for residential development (February 2016). Most metals were also detected below ESLs for shallow soil exposure for residential development. However, arsenic and lead were detected above the shallow soil exposure for residential development ESLs of 0.067 mg/Kg and 80 mg/Kg, respectively.

Arsenic was detected at concentrations ranging from 3.6 mg/Kg to 7.7 mg/Kg, which represents background arsenic concentrations in the Santa Clara Valley. Although the residential ESL for arsenic is 0.067 mg/Kg, the current standard of care methodology through the California Environmental Protection Agency (Cal EPA) and its divisions Department of Toxic Substances Control (DTSC) and the RWQCB utilize background arsenic concentrations to establish permissible levels.

Potential Natural Arsenic Sources and Background Concentrations

Arsenic occurs in more than 200 minerals and is present mainly in the heavy-mineral fraction of soil as arsenate (As^{+5}) or the oxidized form of arsenic. Arsenic is naturally found in the arsenic-ore mineral arsenopyrite (FeAsS) and abundant concentrations of arsenic have been detected in the mineral pyrite (up to 77,000 mg/Kg), marcasite (up to 126,000 mg/Kg), ferric oxyhydroxide and hematite (up to 77,000 mg/Kg) as trace elements (Campbell, 2006). Conversely, the lowest levels of arsenic are found in granitic sandy soils (Chang and et. al., 2004). Higher arsenic levels are associated with alluvial soils, rich in organic matter and soils derived from shales and hydrothermally and metamorphically altered bedrock, ancient hot-spring deposits (Campbell, 2006). Furthermore, in the Background Metal Concentrations in Soils within Northern Santa Clara County, California (Scott, 1991), the maximum concentration detected for arsenic was reported as 20 mg/Kg.



Upper Confidence Limit (UCL) Concentration Calculations for Arsenic

GeoSolve, Inc. utilized the EPA's ProUCL 4.00.02 statistical computer program to calculate the 95% UCL for arsenic at the subject site. The 95% UCL for arsenic was calculated at 6.171 mg/Kg and an average arsenic concentration of 5.175 mg/Kg was calculated using the 95% Student's-t UCL.

Conclusions and Recommendations

Based on the laboratory analytical results of the shallow soil samples collected and analyzed from the site, *GeoSolve, Inc.* concludes and recommends the following:

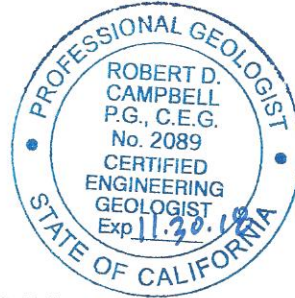
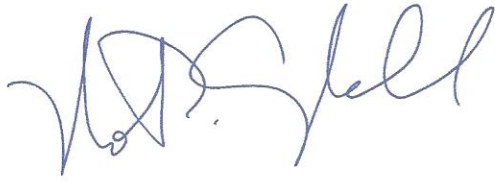
- Organochlorine pesticides were either not detected or detected well below the RWQCB's ESLs for shallow soil in residential land use in shallow soil samples SS-1 through SS-7.
- CAM 17 metals were detected below most RWQCB's ESLs for shallow soil in residential land use, except for arsenic and lead. Arsenic was detected above the residential ESL for shallow soil of 0.067 mg/Kg in all soil samples; however, arsenic concentrations were detected within background concentrations, which is the current screening level for residential development.
- Lead was detected below the RWQCB's ESL for residential land development in shallow soil of 80 mg/Kg in shallow soil samples SS-1 through SS-3, SS-5 and SS-6. Lead was detected at 340 mg/Kg and 170 mg/Kg in shallow soil samples SS-4 and SS-7, which exceeded the ESL.
- The areas around shallow soil samples SS-4 and SS-7 must be excavated and properly disposed at an approved landfill under signed manifests. The excavations should be 10 feet by 10 feet from the centers of each soil sample location and extend to 2.5 feet below ground surface. Confirmation soil samples must be collected at the excavation sidewalls and bottoms and be analyzed for total lead. If lead is detected above 80 mg/kg, then additional excavation, disposal and confirmation sampling activities must be conducted until lead is detected below the ESL of 80 mg/Kg.



If you have any questions or comments regarding this Additional Soil Sampling Activities letter report, please call us at your convenience.

Sincerely,

GeoSolve, Inc.



Robert D. Campbell, M.S., P.G., C.E.G., Q.S.D.
Principal Engineering Geologist

Attachments: Figure 1, Site Vicinity Map

Figure 2, Site Plan

McC Campbell Analytical, Inc. Laboratory Reports and Chain-of-Custody Documents



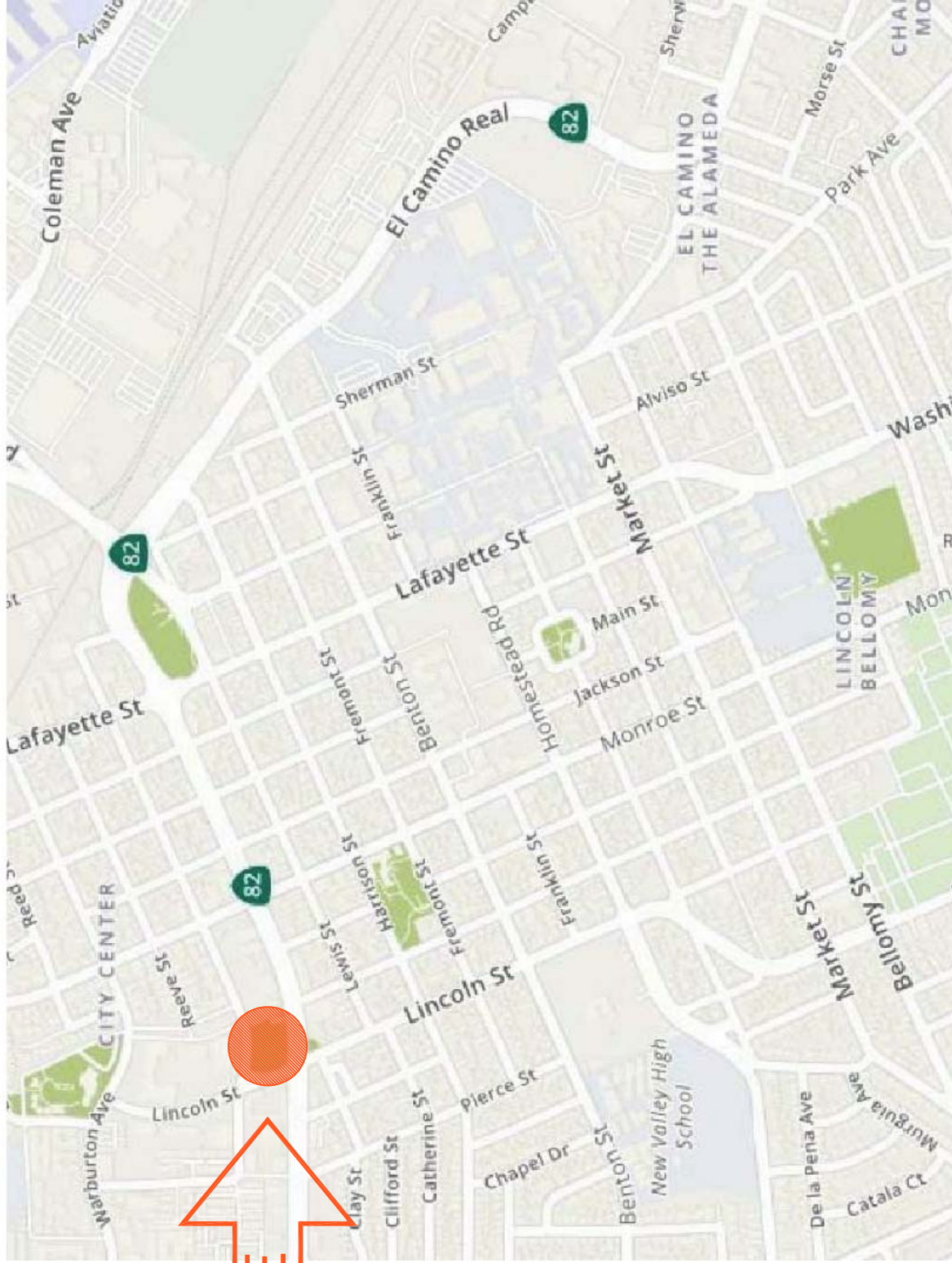


Figure No.

1

VICINITY MAP

SCS DEVELOPMENT
1433-1493 EL CAMINO REAL
SANTA CLARA, CALIFORNIA

Drawn by:

GC

Date:

10/2018

Project No.

2018-31

Scale:

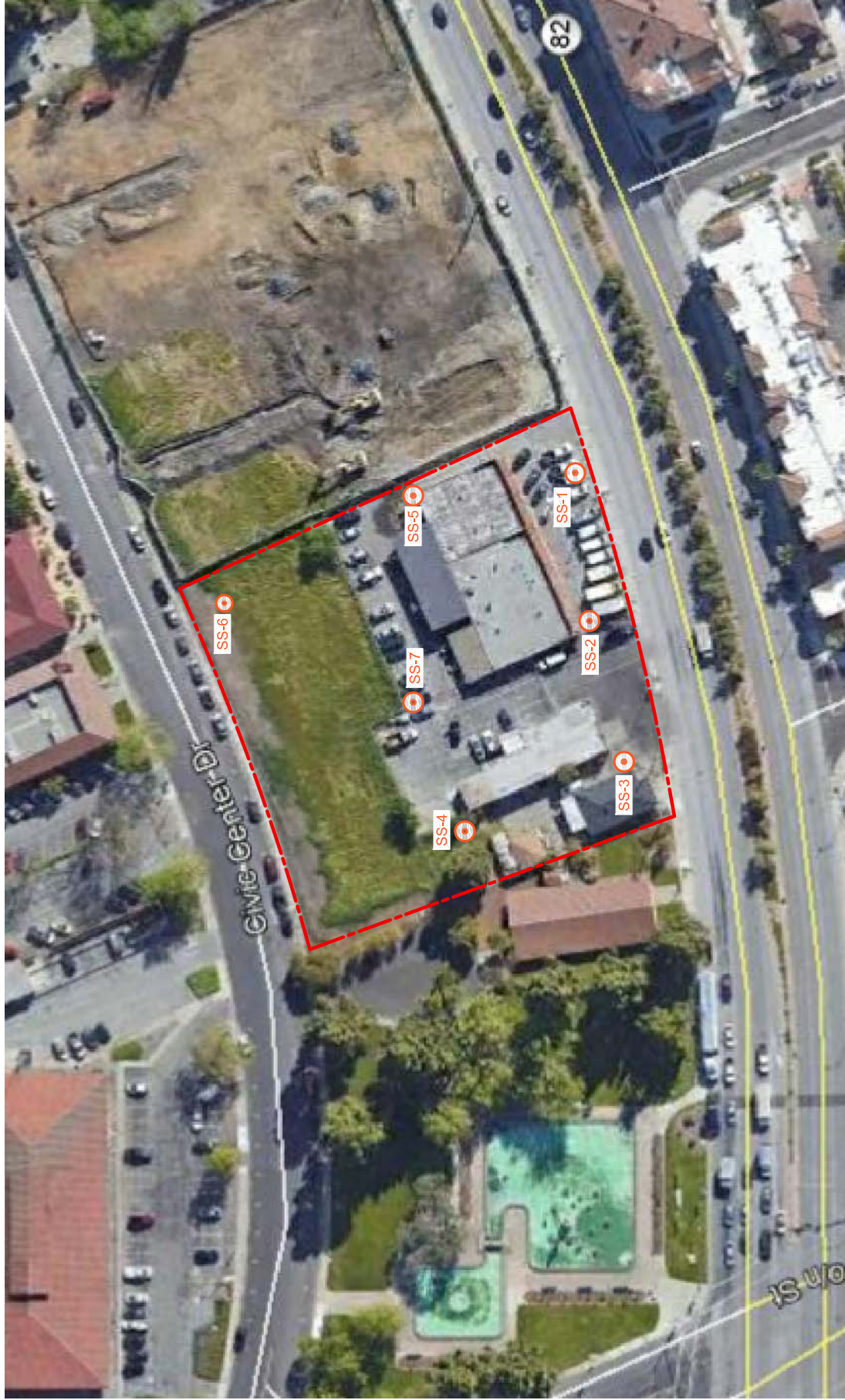
NTS

GeoSolve, Inc.
Geoscience solutions rather than Status-Quo

Address: 1807 Santa Rita Rd, Suite D-165
Pleasanton, California 94566



Visit us at www.geosolve-inc.com



LEGEND

Property Line



Shallow Soil Sample Location



Approximate Scale (feet)



GeoSolve, Inc.
Geoscience solutions rather than Status-Quo
 Address: 1807 Santa Rita Rd, Suite D-165
 Pleasanton, California 94566

Find us at www.geosolve-inc.com

SITE PLAN

SCS DEVELOPMENT
 1433-1493 EL CAMINO REAL
 SANTA CLARA, CALIFORNIA

Project No.
 2018-31

Scale:
 AS SHOWN

Drawn by:
 GC

Date:
 10/2018

Figure No.

2



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1810274

Report Created for: Geosolve, Inc.

1807 Santa Rita Road, Suite D-165
Pleasanton, CA 94566

Project Contact: Rob Campbell
Project P.O.: 2018-31
Project: 2018-31; Catalina II

Project Received: 10/04/2018

Analytical Report reviewed & approved for release on 10/11/2018 by:

Christine Askari
Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Geosolve, Inc.
Project: 2018-31; Catalina II
WorkOrder: 1810274

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)



Glossary of Terms & Qualifier Definitions

Client: Geosolve, Inc.
Project: 2018-31; Catalina II
WorkOrder: 1810274

Analytical Qualifiers

P Agreement between quantitative confirmation results exceed method recommended limits
h7 Copper (EPA 3660B) cleanup



Analytical Report

Client: Geosolve, Inc.
Date Received: 10/4/18 18:35
Date Prepared: 10/5/18
Project: 2018-31; Catalina II

WorkOrder: 1810274
Extraction Method: SW3550B/3640Am/3630Cm
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-1	1810274-001A	Soil	10/03/2018	GC40 10081850.d	166139
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DE</u>	<u>Date Analyzed</u>
Aldrin	ND		0.00010	1	10/09/2018 02:29
a-BHC	ND		0.00010	1	10/09/2018 02:29
b-BHC	ND		0.00030	1	10/09/2018 02:29
d-BHC	ND		0.00020	1	10/09/2018 02:29
g-BHC	ND		0.00010	1	10/09/2018 02:29
Chlordane (Technical)	ND		0.0025	1	10/09/2018 02:29
a-Chlordane	ND		0.00010	1	10/09/2018 02:29
g-Chlordane	ND		0.00010	1	10/09/2018 02:29
p,p-DDD	ND		0.00010	1	10/09/2018 02:29
p,p-DDE	0.00012		0.00010	1	10/09/2018 02:29
p,p-DDT	0.00014		0.00010	1	10/09/2018 02:29
Dieldrin	ND		0.00010	1	10/09/2018 02:29
Endosulfan I	ND		0.00010	1	10/09/2018 02:29
Endosulfan II	ND		0.00010	1	10/09/2018 02:29
Endosulfan sulfate	ND		0.00010	1	10/09/2018 02:29
Endrin	ND		0.00010	1	10/09/2018 02:29
Endrin aldehyde	ND		0.00010	1	10/09/2018 02:29
Endrin ketone	ND		0.00010	1	10/09/2018 02:29
Heptachlor	ND		0.00010	1	10/09/2018 02:29
Heptachlor epoxide	ND		0.00010	1	10/09/2018 02:29
Hexachlorobenzene	ND		0.0010	1	10/09/2018 02:29
Hexachlorocyclopentadiene	ND		0.0020	1	10/09/2018 02:29
Methoxychlor	ND		0.00020	1	10/09/2018 02:29
Toxaphene	ND		0.0050	1	10/09/2018 02:29
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Decachlorobiphenyl	93		20-145		10/09/2018 02:29
Analyst(s): LT					

(Cont.)



Analytical Report

Client: Geosolve, Inc.
Date Received: 10/4/18 18:35
Date Prepared: 10/5/18
Project: 2018-31; Catalina II

WorkOrder: 1810274
Extraction Method: SW3550B/3640Am/3630Cm
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-2	1810274-002A	Soil	10/03/2018	GC40 10081858.d	166139
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DE</u>	<u>Date Analyzed</u>
Aldrin	ND		0.00010	1	10/09/2018 04:21
a-BHC	ND		0.00010	1	10/09/2018 04:21
b-BHC	ND		0.00030	1	10/09/2018 04:21
d-BHC	ND		0.00020	1	10/09/2018 04:21
g-BHC	0.00036		0.00010	1	10/09/2018 04:21
Chlordane (Technical)	ND		0.0025	1	10/09/2018 04:21
a-Chlordane	ND		0.00010	1	10/09/2018 04:21
g-Chlordane	ND		0.00010	1	10/09/2018 04:21
p,p-DDD	ND		0.00010	1	10/09/2018 04:21
p,p-DDE	0.00097		0.00010	1	10/09/2018 04:21
p,p-DDT	0.00034		0.00010	1	10/09/2018 04:21
Dieldrin	0.00028		0.00010	1	10/09/2018 04:21
Endosulfan I	ND		0.00010	1	10/09/2018 04:21
Endosulfan II	ND		0.00010	1	10/09/2018 04:21
Endosulfan sulfate	ND		0.00010	1	10/09/2018 04:21
Endrin	ND		0.00010	1	10/09/2018 04:21
Endrin aldehyde	ND		0.00010	1	10/09/2018 04:21
Endrin ketone	ND		0.00010	1	10/09/2018 04:21
Heptachlor	ND		0.00010	1	10/09/2018 04:21
Heptachlor epoxide	ND		0.00010	1	10/09/2018 04:21
Hexachlorobenzene	ND		0.0010	1	10/09/2018 04:21
Hexachlorocyclopentadiene	ND		0.0020	1	10/09/2018 04:21
Methoxychlor	ND		0.00020	1	10/09/2018 04:21
Toxaphene	ND		0.0050	1	10/09/2018 04:21
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Decachlorobiphenyl	76		20-145		10/09/2018 04:21
Analyst(s): LT					

(Cont.)



Analytical Report

Client: Geosolve, Inc.
Date Received: 10/4/18 18:35
Date Prepared: 10/5/18
Project: 2018-31; Catalina II

WorkOrder: 1810274
Extraction Method: SW3550B/3640Am/3630Cm
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-3	1810274-003A	Soil	10/03/2018	GC40 10081859.d	166139
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DE</u>	<u>Date Analyzed</u>
Aldrin	ND		0.00010	1	10/09/2018 04:35
a-BHC	ND		0.00010	1	10/09/2018 04:35
b-BHC	ND		0.00030	1	10/09/2018 04:35
d-BHC	ND		0.00020	1	10/09/2018 04:35
g-BHC	ND		0.00010	1	10/09/2018 04:35
Chlordane (Technical)	ND		0.0025	1	10/09/2018 04:35
a-Chlordane	0.0061		0.00010	1	10/09/2018 04:35
g-Chlordane	0.0048		0.00010	1	10/09/2018 04:35
p,p-DDD	ND		0.00010	1	10/09/2018 04:35
p,p-DDE	0.054		0.0010	10	10/09/2018 22:41
p,p-DDT	0.017		0.00010	1	10/09/2018 04:35
Dieldrin	ND		0.00010	1	10/09/2018 04:35
Endosulfan I	ND		0.00010	1	10/09/2018 04:35
Endosulfan II	ND		0.00010	1	10/09/2018 04:35
Endosulfan sulfate	ND		0.00010	1	10/09/2018 04:35
Endrin	0.0061		0.00010	1	10/09/2018 04:35
Endrin aldehyde	ND		0.00010	1	10/09/2018 04:35
Endrin ketone	ND		0.00010	1	10/09/2018 04:35
Heptachlor	ND		0.00010	1	10/09/2018 04:35
Heptachlor epoxide	0.00030		0.00010	1	10/09/2018 04:35
Hexachlorobenzene	ND		0.0010	1	10/09/2018 04:35
Hexachlorocyclopentadiene	ND		0.0020	1	10/09/2018 04:35
Methoxychlor	ND		0.00020	1	10/09/2018 04:35
Toxaphene	ND		0.0050	1	10/09/2018 04:35
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Decachlorobiphenyl	82		20-145		10/09/2018 04:35
<u>Analyst(s):</u> LT					

(Cont.)



Analytical Report

Client: Geosolve, Inc.
Date Received: 10/4/18 18:35
Date Prepared: 10/5/18
Project: 2018-31; Catalina II

WorkOrder: 1810274
Extraction Method: SW3550B/3640Am/3630Cm
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-4	1810274-004A	Soil	10/03/2018	GC40 10091842.d	166139
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DE</u>	<u>Date Analyzed</u>
Aldrin	ND		0.0010	10	10/09/2018 22:55
a-BHC	ND		0.0010	10	10/09/2018 22:55
b-BHC	ND		0.0030	10	10/09/2018 22:55
d-BHC	ND		0.0020	10	10/09/2018 22:55
g-BHC	ND		0.0010	10	10/09/2018 22:55
Chlordane (Technical)	ND		0.025	10	10/09/2018 22:55
a-Chlordane	ND		0.0010	10	10/09/2018 22:55
g-Chlordane	ND		0.0010	10	10/09/2018 22:55
p,p-DDD	ND		0.0010	10	10/09/2018 22:55
p,p-DDE	0.029		0.0010	10	10/09/2018 22:55
p,p-DDT	0.030		0.0010	10	10/09/2018 22:55
Dieldrin	ND		0.0010	10	10/09/2018 22:55
Endosulfan I	ND		0.0010	10	10/09/2018 22:55
Endosulfan II	ND		0.0010	10	10/09/2018 22:55
Endosulfan sulfate	ND		0.0010	10	10/09/2018 22:55
Endrin	ND		0.0010	10	10/09/2018 22:55
Endrin aldehyde	ND		0.0010	10	10/09/2018 22:55
Endrin ketone	ND		0.0010	10	10/09/2018 22:55
Heptachlor	ND		0.0010	10	10/09/2018 22:55
Heptachlor epoxide	ND		0.0010	10	10/09/2018 22:55
Hexachlorobenzene	ND		0.010	10	10/09/2018 22:55
Hexachlorocyclopentadiene	ND		0.020	10	10/09/2018 22:55
Methoxychlor	ND		0.0020	10	10/09/2018 22:55
Toxaphene	ND		0.050	10	10/09/2018 22:55
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Decachlorobiphenyl	103		20-145		10/09/2018 22:55
<u>Analyst(s):</u> LT					

(Cont.)



Analytical Report

Client: Geosolve, Inc.
Date Received: 10/4/18 18:35
Date Prepared: 10/5/18
Project: 2018-31; Catalina II

WorkOrder: 1810274
Extraction Method: SW3550B/3640Am/3630Cm
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-5	1810274-005A	Soil	10/03/2018	GC40 10091843.d	166139
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DE</u>	<u>Date Analyzed</u>
Aldrin	ND		0.00010	1	10/09/2018 23:09
a-BHC	ND		0.00010	1	10/09/2018 23:09
b-BHC	ND		0.00030	1	10/09/2018 23:09
d-BHC	ND		0.00020	1	10/09/2018 23:09
g-BHC	ND		0.00010	1	10/09/2018 23:09
Chlordane (Technical)	ND		0.0025	1	10/09/2018 23:09
a-Chlordane	0.00012		0.00010	1	10/09/2018 23:09
g-Chlordane	0.00016		0.00010	1	10/09/2018 23:09
p,p-DDD	0.00045		0.00010	1	10/09/2018 23:09
p,p-DDE	0.012		0.00010	1	10/09/2018 23:09
p,p-DDT	0.0016		0.00010	1	10/09/2018 23:09
Dieldrin	ND		0.00010	1	10/09/2018 23:09
Endosulfan I	ND		0.00010	1	10/09/2018 23:09
Endosulfan II	ND		0.00010	1	10/09/2018 23:09
Endosulfan sulfate	ND		0.00010	1	10/09/2018 23:09
Endrin	ND		0.00010	1	10/09/2018 23:09
Endrin aldehyde	ND		0.00010	1	10/09/2018 23:09
Endrin ketone	ND		0.00010	1	10/09/2018 23:09
Heptachlor	ND		0.00010	1	10/09/2018 23:09
Heptachlor epoxide	ND		0.00010	1	10/09/2018 23:09
Hexachlorobenzene	ND		0.0010	1	10/09/2018 23:09
Hexachlorocyclopentadiene	ND		0.0020	1	10/09/2018 23:09
Methoxychlor	ND		0.00020	1	10/09/2018 23:09
Toxaphene	ND		0.0050	1	10/09/2018 23:09
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Decachlorobiphenyl	93		20-145		10/09/2018 23:09
<u>Analyst(s):</u> LT		<u>Analytical Comments:</u> h7			

(Cont.)



Analytical Report

Client: Geosolve, Inc.
Date Received: 10/4/18 18:35
Date Prepared: 10/5/18
Project: 2018-31; Catalina II

WorkOrder: 1810274
Extraction Method: SW3550B/3640Am/3630Cm
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-6	1810274-006A	Soil	10/03/2018	GC40 10081862.d	166139
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DE</u>	<u>Date Analyzed</u>
Aldrin	ND		0.00010	1	10/09/2018 05:17
a-BHC	ND		0.00010	1	10/09/2018 05:17
b-BHC	ND		0.00030	1	10/09/2018 05:17
d-BHC	ND		0.00020	1	10/09/2018 05:17
g-BHC	ND		0.00010	1	10/09/2018 05:17
Chlordane (Technical)	0.0092		0.0025	1	10/09/2018 05:17
a-Chlordane	0.00073		0.00010	1	10/09/2018 05:17
g-Chlordane	0.0013		0.00010	1	10/09/2018 05:17
p,p-DDD	0.00032		0.00010	1	10/09/2018 05:17
p,p-DDE	0.010		0.00010	1	10/09/2018 05:17
p,p-DDT	0.0056		0.00010	1	10/09/2018 05:17
Dieldrin	0.00036		0.00010	1	10/09/2018 05:17
Endosulfan I	ND		0.00010	1	10/09/2018 05:17
Endosulfan II	ND		0.00010	1	10/09/2018 05:17
Endosulfan sulfate	ND		0.00010	1	10/09/2018 05:17
Endrin	ND		0.00010	1	10/09/2018 05:17
Endrin aldehyde	ND		0.00010	1	10/09/2018 05:17
Endrin ketone	0.00012	P	0.00010	1	10/09/2018 05:17
Heptachlor	ND		0.00010	1	10/09/2018 05:17
Heptachlor epoxide	0.00026		0.00010	1	10/09/2018 05:17
Hexachlorobenzene	ND		0.0010	1	10/09/2018 05:17
Hexachlorocyclopentadiene	ND		0.0020	1	10/09/2018 05:17
Methoxychlor	ND		0.00020	1	10/09/2018 05:17
Toxaphene	ND		0.0050	1	10/09/2018 05:17
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Decachlorobiphenyl	76		20-145		10/09/2018 05:17
Analyst(s): LT					



Analytical Report

Client: Geosolve, Inc.
Date Received: 10/4/18 18:35
Date Prepared: 10/4/18
Project: 2018-31; Catalina II

WorkOrder: 1810274
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-1	1810274-001A	Soil	10/03/2018	ICP-MS2 077SMPL.D	166114
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Antimony	ND		0.50	1	10/08/2018 16:25
Arsenic	7.7		0.50	1	10/08/2018 16:25
Barium	120		5.0	1	10/08/2018 16:25
Beryllium	0.55		0.50	1	10/08/2018 16:25
Cadmium	ND		0.25	1	10/08/2018 16:25
Chromium	38		0.50	1	10/08/2018 16:25
Cobalt	9.6		0.50	1	10/08/2018 16:25
Copper	20		0.50	1	10/08/2018 16:25
Lead	8.3		0.50	1	10/08/2018 16:25
Mercury	ND		0.050	1	10/08/2018 16:25
Molybdenum	0.53		0.50	1	10/08/2018 16:25
Nickel	53		0.50	1	10/08/2018 16:25
Selenium	ND		0.50	1	10/08/2018 16:25
Silver	ND		0.50	1	10/08/2018 16:25
Thallium	ND		0.50	1	10/08/2018 16:25
Vanadium	42		0.50	1	10/08/2018 16:25
Zinc	61		5.0	1	10/08/2018 16:25
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	102		70-130		10/08/2018 16:25
<u>Analyst(s):</u> MIG					

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Analytical Report

Client: Geosolve, Inc.
Date Received: 10/4/18 18:35
Date Prepared: 10/4/18
Project: 2018-31; Catalina II

WorkOrder: 1810274
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-2	1810274-002A	Soil	10/03/2018	ICP-MS2 078SMPL.D	166114

Analytes	Result	RL	DF	Date Analyzed
Antimony	0.68	0.50	1	10/08/2018 16:31
Arsenic	5.1	0.50	1	10/08/2018 16:31
Barium	110	5.0	1	10/08/2018 16:31
Beryllium	ND	0.50	1	10/08/2018 16:31
Cadmium	ND	0.25	1	10/08/2018 16:31
Chromium	39	0.50	1	10/08/2018 16:31
Cobalt	7.6	0.50	1	10/08/2018 16:31
Copper	19	0.50	1	10/08/2018 16:31
Lead	70	0.50	1	10/08/2018 16:31
Mercury	0.18	0.050	1	10/08/2018 16:31
Molybdenum	ND	0.50	1	10/08/2018 16:31
Nickel	60	0.50	1	10/08/2018 16:31
Selenium	ND	0.50	1	10/08/2018 16:31
Silver	ND	0.50	1	10/08/2018 16:31
Thallium	ND	0.50	1	10/08/2018 16:31
Vanadium	28	0.50	1	10/08/2018 16:31
Zinc	70	5.0	1	10/08/2018 16:31

Surrogates	REC (%)	Limits	
Terbium	99	70-130	10/08/2018 16:31

Analyst(s): MIG



Analytical Report

Client: Geosolve, Inc.
Date Received: 10/4/18 18:35
Date Prepared: 10/4/18
Project: 2018-31; Catalina II

WorkOrder: 1810274
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-3	1810274-003A	Soil	10/03/2018	ICP-MS2 079SMPL.D	166114
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Antimony	ND		0.50	1	10/08/2018 16:37
Arsenic	3.9		0.50	1	10/08/2018 16:37
Barium	110		5.0	1	10/08/2018 16:37
Beryllium	0.55		0.50	1	10/08/2018 16:37
Cadmium	ND		0.25	1	10/08/2018 16:37
Chromium	44		0.50	1	10/08/2018 16:37
Cobalt	7.9		0.50	1	10/08/2018 16:37
Copper	25		0.50	1	10/08/2018 16:37
Lead	16		0.50	1	10/08/2018 16:37
Mercury	0.065		0.050	1	10/08/2018 16:37
Molybdenum	ND		0.50	1	10/08/2018 16:37
Nickel	49		0.50	1	10/08/2018 16:37
Selenium	ND		0.50	1	10/08/2018 16:37
Silver	ND		0.50	1	10/08/2018 16:37
Thallium	ND		0.50	1	10/08/2018 16:37
Vanadium	34		0.50	1	10/08/2018 16:37
Zinc	63		5.0	1	10/08/2018 16:37
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	97		70-130		10/08/2018 16:37
<u>Analyst(s):</u> MIG					



Analytical Report

Client: Geosolve, Inc.
Date Received: 10/4/18 18:35
Date Prepared: 10/4/18
Project: 2018-31; Catalina II

WorkOrder: 1810274
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-4	1810274-004A	Soil	10/03/2018	ICP-MS2 113SMPL.D	166114

Analytes	Result	RL	DF	Date Analyzed
Antimony	2.5	0.50	1	10/08/2018 20:06
Arsenic	5.8	0.50	1	10/08/2018 20:06
Barium	190	5.0	1	10/08/2018 20:06
Beryllium	ND	0.50	1	10/08/2018 20:06
Cadmium	2.0	0.25	1	10/08/2018 20:06
Chromium	53	0.50	1	10/08/2018 20:06
Cobalt	10	0.50	1	10/08/2018 20:06
Copper	49	0.50	1	10/08/2018 20:06
Lead	340	0.50	1	10/08/2018 20:06
Mercury	0.16	0.050	1	10/08/2018 20:06
Molybdenum	1.6	0.50	1	10/08/2018 20:06
Nickel	78	0.50	1	10/08/2018 20:06
Selenium	0.55	0.50	1	10/08/2018 20:06
Silver	ND	0.50	1	10/08/2018 20:06
Thallium	ND	0.50	1	10/08/2018 20:06
Vanadium	41	0.50	1	10/08/2018 20:06
Zinc	300	5.0	1	10/08/2018 20:06

Surrogates	REC (%)	Limits	
Terbium	98	70-130	10/08/2018 20:06

Analyst(s): MIG



Analytical Report

Client: Geosolve, Inc.
Date Received: 10/4/18 18:35
Date Prepared: 10/4/18
Project: 2018-31; Catalina II

WorkOrder: 1810274
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-5	1810274-005A	Soil	10/03/2018	ICP-MS2 121SMPL.D	166114
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Antimony	ND		0.50	1	10/08/2018 20:55
Arsenic	3.6		0.50	1	10/08/2018 20:55
Barium	100		5.0	1	10/08/2018 20:55
Beryllium	ND		0.50	1	10/08/2018 20:55
Cadmium	ND		0.25	1	10/08/2018 20:55
Chromium	58		0.50	1	10/08/2018 20:55
Cobalt	11		0.50	1	10/08/2018 20:55
Copper	22		0.50	1	10/08/2018 20:55
Lead	18		0.50	1	10/08/2018 20:55
Mercury	0.079		0.050	1	10/08/2018 20:55
Molybdenum	ND		0.50	1	10/08/2018 20:55
Nickel	140		0.50	1	10/08/2018 20:55
Selenium	0.72		0.50	1	10/08/2018 20:55
Silver	ND		0.50	1	10/08/2018 20:55
Thallium	ND		0.50	1	10/08/2018 20:55
Vanadium	30		0.50	1	10/08/2018 20:55
Zinc	61		5.0	1	10/08/2018 20:55
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	95		70-130		10/08/2018 20:55
<u>Analyst(s):</u> MIG					

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Analytical Report

Client: Geosolve, Inc.
Date Received: 10/4/18 18:35
Date Prepared: 10/4/18
Project: 2018-31; Catalina II

WorkOrder: 1810274
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-6	1810274-006A	Soil	10/03/2018	ICP-MS2 122SMPL.D	166114

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	10/08/2018 21:01
Arsenic	5.5	0.50	1	10/08/2018 21:01
Barium	100	5.0	1	10/08/2018 21:01
Beryllium	ND	0.50	1	10/08/2018 21:01
Cadmium	0.25	0.25	1	10/08/2018 21:01
Chromium	88	0.50	1	10/08/2018 21:01
Cobalt	10	0.50	1	10/08/2018 21:01
Copper	19	0.50	1	10/08/2018 21:01
Lead	32	0.50	1	10/08/2018 21:01
Mercury	0.072	0.050	1	10/08/2018 21:01
Molybdenum	0.56	0.50	1	10/08/2018 21:01
Nickel	160	0.50	1	10/08/2018 21:01
Selenium	ND	0.50	1	10/08/2018 21:01
Silver	ND	0.50	1	10/08/2018 21:01
Thallium	ND	0.50	1	10/08/2018 21:01
Vanadium	30	0.50	1	10/08/2018 21:01
Zinc	72	5.0	1	10/08/2018 21:01

Surrogates	REC (%)	Limits	
Terbium	98	70-130	10/08/2018 21:01

Analyst(s): MIG



Quality Control Report

Client: Geosolve, Inc.

Date Prepared: 10/5/18

Date Analyzed: 10/7/18 - 10/8/18

Instrument: GC40

Matrix: Soil

Project: 2018-31; Catalina II

WorkOrder: 1810274

BatchID: 166139

Extraction Method: SW3550B/3640Am/3630Cm

Analytical Method: SW8081A

Unit: mg/kg

Sample ID: MB/LCS/LCSD-166139

QC Summary Report for SW8081A/8082

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aldrin	ND	0.00010	-	-	-
a-BHC	ND	0.00010	-	-	-
b-BHC	ND	0.00030	-	-	-
d-BHC	ND	0.00020	-	-	-
g-BHC	ND	0.00010	-	-	-
Chlordane (Technical)	ND	0.0025	-	-	-
a-Chlordane	ND	0.00010	-	-	-
g-Chlordane	ND	0.00010	-	-	-
p,p-DDD	ND	0.00010	-	-	-
p,p-DDE	ND	0.00010	-	-	-
p,p-DDT	ND	0.00010	-	-	-
Dieldrin	ND	0.00010	-	-	-
Endosulfan I	ND	0.00010	-	-	-
Endosulfan II	ND	0.00010	-	-	-
Endosulfan sulfate	ND	0.00010	-	-	-
Endrin	ND	0.00010	-	-	-
Endrin aldehyde	ND	0.00010	-	-	-
Endrin ketone	ND	0.00010	-	-	-
Heptachlor	ND	0.00010	-	-	-
Heptachlor epoxide	ND	0.00010	-	-	-
Hexachlorobenzene	ND	0.0010	-	-	-
Hexachlorocyclopentadiene	ND	0.0020	-	-	-
Methoxychlor	ND	0.00020	-	-	-
Toxaphene	ND	0.0050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.0035		0.0050	70	28-170

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CA ELAP 1644 • NELAP 4033ORELAP



Quality Control Report

Client: Geosolve, Inc.

Date Prepared: 10/5/18

Date Analyzed: 10/7/18 - 10/8/18

Instrument: GC40

Matrix: Soil

Project: 2018-31; Catalina II

WorkOrder: 1810274

BatchID: 166139

Extraction Method: SW3550B/3640Am/3630Cm

Analytical Method: SW8081A

Unit: mg/kg

Sample ID: MB/LCS/LCSD-166139

QC Summary Report for SW8081A/8082

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aldrin	0.0042	0.0046	0.0050	83	92	31-155	9.36	20
a-BHC	0.0039	0.0043	0.0050	78	86	32-160	9.81	20
b-BHC	0.0038	0.0043	0.0050	77	86	44-149	10.9	20
d-BHC	0.0041	0.0046	0.0050	82	92	37-157	12.3	20
g-BHC	0.0040	0.0044	0.0050	81	89	43-154	9.21	20
a-Chlordane	0.0039	0.0043	0.0050	77	85	39-150	10.1	20
g-Chlordane	0.0037	0.0041	0.0050	74	82	39-151	10.5	20
p,p-DDD	0.0033	0.0038	0.0050	66	77	30-158	14.2	20
p,p-DDE	0.0041	0.0046	0.0050	83	92	47-149	10.8	20
p,p-DDT	0.0043	0.0050	0.0050	87	99	56-166	13.8	20
Dieldrin	0.0046	0.0051	0.0050	92	103	50-163	11.5	20
Endosulfan I	0.0041	0.0046	0.0050	81	91	45-159	11.3	20
Endosulfan II	0.0038	0.0044	0.0050	75	87	41-155	15.2	20
Endosulfan sulfate	0.0039	0.0045	0.0050	78	90	45-156	14.4	20
Endrin	0.0044	0.0050	0.0050	87	99	54-154	12.8	20
Endrin aldehyde	0.0036	0.0041	0.0050	73	83	27-159	13.1	20
Endrin ketone	0.0036	0.0042	0.0050	73	83	40-147	13.4	20
Heptachlor	0.0045	0.0050	0.0050	91	99	52-165	9.32	20
Heptachlor epoxide	0.0039	0.0043	0.0050	77	87	46-145	11.5	20
Hexachlorobenzene	0.0039	0.0041	0.0050	78	82	22-156	4.46	20
Hexachlorocyclopentadiene	0.0038	0.0044	0.0050	75	89	43-173	16.1	20
Methoxychlor	0.0049	0.0056	0.0050	97	111	49-150	13.7	20
Surrogate Recovery								
Decachlorobiphenyl	0.0039	0.0042	0.0050	78	84	28-170	7.08	20



Quality Control Report

Client: Geosolve, Inc.

Date Prepared: 10/4/18

Date Analyzed: 10/8/18

Instrument: ICP-MS2, ICP-MS3

Matrix: Soil

Project: 2018-31; Catalina II

WorkOrder: 1810274

BatchID: 166114

Extraction Method: SW3050B

Analytical Method: SW6020

Unit: mg/Kg

Sample ID: MB/LCS/LCSD-166114

QC Summary Report for Metals

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Antimony	ND	0.50	-	-	-
Arsenic	ND	0.50	-	-	-
Barium	ND	5.0	-	-	-
Beryllium	ND	0.50	-	-	-
Cadmium	ND	0.25	-	-	-
Chromium	ND	0.50	-	-	-
Cobalt	ND	0.50	-	-	-
Copper	ND	0.50	-	-	-
Lead	ND	0.50	-	-	-
Mercury	ND	0.050	-	-	-
Molybdenum	ND	0.50	-	-	-
Nickel	ND	0.50	-	-	-
Selenium	ND	0.50	-	-	-
Silver	ND	0.50	-	-	-
Thallium	ND	0.50	-	-	-
Vanadium	ND	0.50	-	-	-
Zinc	ND	5.0	-	-	-
Surrogate Recovery					
Terbium	520		500	104	70-130

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Quality Control Report

Client: Geosolve, Inc.

Date Prepared: 10/4/18

Date Analyzed: 10/8/18

Instrument: ICP-MS2, ICP-MS3

Matrix: Soil

Project: 2018-31; Catalina II

WorkOrder: 1810274

BatchID: 166114

Extraction Method: SW3050B

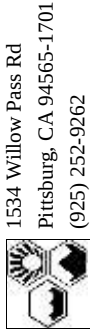
Analytical Method: SW6020

Unit: mg/Kg

Sample ID: MB/LCS/LCSD-166114

QC Summary Report for Metals

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Antimony	57	55	50	115	110	75-125	3.91	20
Arsenic	53	51	50	106	102	75-125	4.13	20
Barium	550	530	500	109	106	75-125	3.24	20
Beryllium	56	54	50	112	107	75-125	4.33	20
Cadmium	53	51	50	105	102	75-125	3.51	20
Chromium	52	51	50	105	101	75-125	3.40	20
Cobalt	55	52	50	109	105	75-125	4.21	20
Copper	53	51	50	106	102	75-125	3.84	20
Lead	53	52	50	107	104	75-125	2.53	20
Mercury	1.2	1.2	1.25	99	98	75-125	1.06	20
Molybdenum	53	51	50	106	101	75-125	4.56	20
Nickel	53	51	50	107	103	75-125	3.62	20
Selenium	53	52	50	107	105	75-125	1.59	20
Silver	52	50	50	105	100	75-125	4.61	20
Thallium	53	51	50	106	103	75-125	3.13	20
Vanadium	53	51	50	106	102	75-125	3.12	20
Zinc	530	510	500	106	102	75-125	4.21	20
Surrogate Recovery								
Terbium	550	530	500	109	106	70-130	3.33	20



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1810274 ClientCode: GSP

☐ WaterTrax ☐ WriteOn ☐ EDF

☐ Excel ☐ EQulS ☒ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

☐ Detection Summary ☐ Dry-Weight

Report to:

Rob Campbell
Geosolve, Inc.
Email: rcampbell@geosolve-inc.com
cc/3rd Party:

1807 Santa Rita Road, Suite D-165
Pleasanton, CA 94566
(925) 963-1198 FAX:

Bill to:

Lisa Campbell
Geosolve, Inc.
1807 Santa Rita Road, Suite D-165
Pleasanton, CA 94566
lcampbell@geosolve-inc.com

Requested TAT: 5 days;

Date Received: 10/04/2018
Date Logged: 10/04/2018

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12

1810274-001	SS-1	Soil	10/3/2018 00:00	☐	A	A										
1810274-002	SS-2	Soil	10/3/2018 00:00	☐	A	A										
1810274-003	SS-3	Soil	10/3/2018 00:00	☐	A	A										
1810274-004	SS-4	Soil	10/3/2018 00:00	☐	A	A										
1810274-005	SS-5	Soil	10/3/2018 00:00	☐	A	A										
1810274-006	SS-6	Soil	10/3/2018 00:00	☐	A	A										

Test Legend:

1	8081_S	2	CAM17MS_TTLC_S	3	4
5		6		7	8
9		10		11	12

Prepared by: Lilly Ortiz

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.



WORK ORDER SUMMARY

Client Name: GEOSOLVE, INC.
Client Contact: Rob Campbell
Contact's Email: rcampbell@geosolve-inc.com

Project: 2018-31; Catalina II

Work Order: 1810274
QC Level: LEVEL 2
Date Logged: 10/4/2018

Comments: Needs ESLs per email 10-5-18. Samples SS-4 & SS-5 combined to make SS-7 per clients request added for the same analysis on a
TAT 10/3/18

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1810274-001A	SS-1	Soil	SW6020 (CAM 17) SW8081A (OC Pesticides) ESLs	1	4OZ GI, Unpres	☐	10/3/2018	5 days		☐	
1810274-002A	SS-2	Soil	SW6020 (CAM 17) SW8081A (OC Pesticides) ESLs	1	4OZ GI, Unpres	☐	10/3/2018	5 days		☐	
1810274-003A	SS-3	Soil	SW6020 (CAM 17) SW8081A (OC Pesticides) ESLs	1	4OZ GI, Unpres	☐	10/3/2018	5 days		☐	
1810274-004A	SS-4	Soil	SW6020 (CAM 17) SW8081A (OC Pesticides) ESLs	1	4OZ GI, Unpres	☐	10/3/2018	5 days		☐	
1810274-005A	SS-5	Soil	SW6020 (CAM 17) SW8081A (OC Pesticides) ESLs	1	4OZ GI, Unpres	☐	10/3/2018	5 days		☐	
1810274-006A	SS-6	Soil	SW6020 (CAM 17) SW8081A (OC Pesticides) ESLs	1	4OZ GI, Unpres	☐	10/3/2018	5 days		☐	
1810274-007A	SS-7	Soil	SW6020 (CAM 17) SW8081A (OC Pesticides) ESLs	2 / (2:1)	4OZ GI, Unpres	☐	10/3/2018	1 day		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).
- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



Sample Receipt Checklist

Client Name: **Geosolve, Inc.**
Project: **2018-31; Catalina II**

Date and Time Received: **10/4/2018 18:35**

Date Logged: **10/4/2018**

Received by: **Lilly Ortiz**

Logged by: **Lilly Ortiz**

WorkOrder No: **1810274** Matrix: Soil
Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Sample IDs noted by Client on COC?	Yes ☒	No ☐	
Date and Time of collection noted by Client on COC?	Yes ☒	No ☐	
Sampler's name noted on COC?	Yes ☒	No ☐	
COC agrees with Quote?	Yes ☐	No ☐	NA ☒

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☒
Shipping container/cooler in good condition?	Yes ☒	No ☐	
Samples in proper containers/bottles?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☒	No ☐	NA ☐
Samples Received on Ice?	Yes ☒	No ☐	

(Ice Type: WET ICE)

Sample/Temp Blank temperature	Temp: 1.5°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	NA ☒
Sample labels checked for correct preservation?	Yes ☒	No ☐	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes ☐	No ☐	NA ☒

UCMR Samples:

pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes ☐	No ☐	NA ☒
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes ☐	No ☐	NA ☒

Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1810591

Report Created for: Geosolve, Inc.

1807 Santa Rita Road, Suite D-165
Pleasanton, CA 94566

Project Contact: Rob Campbell

Project P.O.: 2018-31

Project: 2018-31; Catalina II

Project Received: 10/11/2018

Analytical Report reviewed & approved for release on 10/12/2018 by:

Yen Cao

Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Geosolve, Inc.
Project: 2018-31; Catalina II
WorkOrder: 1810591

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

a3 Sample diluted due to high organic content.



Glossary of Terms & Qualifier Definitions

Client: Geosolve, Inc.
Project: 2018-31; Catalina II
WorkOrder: 1810591

Quality Control Qualifiers

F2 LCS/LCSD recovery and/or RPD is out of acceptance criteria.



Analytical Report

Client: Geosolve, Inc.
Date Received: 10/11/18 17:00
Date Prepared: 10/11/18
Project: 2018-31; Catalina II

WorkOrder: 1810591
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-7	1810591-001A	Soil	10/11/2018	GC40 10111839.d	166435
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Aldrin	ND		0.010	10	10/12/2018 00:36
a-BHC	ND		0.010	10	10/12/2018 00:36
b-BHC	ND		0.010	10	10/12/2018 00:36
d-BHC	ND		0.010	10	10/12/2018 00:36
g-BHC	ND		0.010	10	10/12/2018 00:36
Chlordane (Technical)	ND		0.25	10	10/12/2018 00:36
a-Chlordane	ND		0.010	10	10/12/2018 00:36
g-Chlordane	ND		0.010	10	10/12/2018 00:36
p,p-DDD	ND		0.010	10	10/12/2018 00:36
p,p-DDE	ND		0.010	10	10/12/2018 00:36
p,p-DDT	ND		0.010	10	10/12/2018 00:36
Dieldrin	ND		0.010	10	10/12/2018 00:36
Endosulfan I	ND		0.010	10	10/12/2018 00:36
Endosulfan II	ND		0.010	10	10/12/2018 00:36
Endosulfan sulfate	ND		0.010	10	10/12/2018 00:36
Endrin	ND		0.010	10	10/12/2018 00:36
Endrin aldehyde	ND		0.010	10	10/12/2018 00:36
Endrin ketone	ND		0.010	10	10/12/2018 00:36
Heptachlor	ND		0.010	10	10/12/2018 00:36
Heptachlor epoxide	ND		0.010	10	10/12/2018 00:36
Hexachlorobenzene	ND		0.10	10	10/12/2018 00:36
Hexachlorocyclopentadiene	ND		0.20	10	10/12/2018 00:36
Methoxychlor	ND		0.010	10	10/12/2018 00:36
Toxaphene	ND		0.50	10	10/12/2018 00:36
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Decachlorobiphenyl	125		70-130		10/12/2018 00:36
<u>Analyst(s):</u> LT		<u>Analytical Comments:</u> a3			



Analytical Report

Client: Geosolve, Inc.
Date Received: 10/11/18 17:00
Date Prepared: 10/11/18
Project: 2018-31; Catalina II

WorkOrder: 1810591
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-7	1810591-001A	Soil	10/11/2018	ICP-MS1 016SMPL.D	166432
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Antimony	1.1		0.50	1	10/12/2018 11:10
Arsenic	4.5		0.50	1	10/12/2018 11:10
Barium	100		5.0	1	10/12/2018 11:10
Beryllium	ND		0.50	1	10/12/2018 11:10
Cadmium	1.0		0.25	1	10/12/2018 11:10
Chromium	59		0.50	1	10/12/2018 11:10
Cobalt	14		0.50	1	10/12/2018 11:10
Copper	30		0.50	1	10/12/2018 11:10
Lead	170		0.50	1	10/12/2018 11:10
Mercury	0.10		0.050	1	10/12/2018 11:10
Molybdenum	0.99		0.50	1	10/12/2018 11:10
Nickel	100		0.50	1	10/12/2018 11:10
Selenium	ND		0.50	1	10/12/2018 11:10
Silver	ND		0.50	1	10/12/2018 11:10
Thallium	ND		0.50	1	10/12/2018 11:10
Vanadium	35		0.50	1	10/12/2018 11:10
Zinc	180		5.0	1	10/12/2018 11:10
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	102		70-130		10/12/2018 11:10
<u>Analyst(s):</u> JC					



Quality Control Report

Client: Geosolve, Inc.
Date Prepared: 10/11/18
Date Analyzed: 10/11/18 - 10/12/18
Instrument: GC22
Matrix: Soil
Project: 2018-31; Catalina II

WorkOrder: 1810591
BatchID: 166435
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg
Sample ID: MB/LCS/LCSD-166435

QC Summary Report for SW8081A

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aldrin	ND	0.0010	-	-	-
a-BHC	ND	0.0010	-	-	-
b-BHC	ND	0.0010	-	-	-
d-BHC	ND	0.0010	-	-	-
g-BHC	ND	0.0010	-	-	-
Chlordane (Technical)	ND	0.025	-	-	-
g-Chlordane	ND	0.0010	-	-	-
p,p-DDD	ND	0.0010	-	-	-
p,p-DDE	ND	0.0010	-	-	-
p,p-DDT	ND	0.0010	-	-	-
Dieldrin	ND	0.0010	-	-	-
Endosulfan I	ND	0.0010	-	-	-
Endosulfan II	ND	0.0010	-	-	-
Endosulfan sulfate	ND	0.0010	-	-	-
Endrin	ND	0.0010	-	-	-
Endrin aldehyde	ND	0.0010	-	-	-
Endrin ketone	ND	0.0010	-	-	-
Heptachlor	ND	0.0010	-	-	-
Heptachlor epoxide	ND	0.0010	-	-	-
Hexachlorobenzene	ND	0.010	-	-	-
Hexachlorocyclopentadiene	ND	0.020	-	-	-
Methoxychlor	ND	0.0010	-	-	-
Toxaphene	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.049		0.050	99	70-130

(Cont.)



Quality Control Report

Client: Geosolve, Inc.
Date Prepared: 10/11/18
Date Analyzed: 10/11/18 - 10/12/18
Instrument: GC22
Matrix: Soil
Project: 2018-31; Catalina II

WorkOrder: 1810591
BatchID: 166435
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg
Sample ID: MB/LCS/LCSD-166435

QC Summary Report for SW8081A

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aldrin	0.057	0.056	0.050	113	112	70-130	0.478	20
a-BHC	0.059	0.060	0.050	119	120	70-130	0.978	20
b-BHC	0.052	0.052	0.050	105	104	70-130	0.794	20
d-BHC	0.060	0.061	0.050	120	121	70-130	0.809	20
g-BHC	0.057	0.057	0.050	114	114	70-130	0	20
a-Chlordane	0.050	0.049	0.050	100	99	70-130	1.67	20
g-Chlordane	0.055	0.055	0.050	110	110	70-130	0	20
p,p-DDD	0.037	0.036	0.050	74	73	70-130	1.39	20
p,p-DDE	0.055	0.055	0.050	110	111	70-130	0.382	20
p,p-DDT	0.053	0.053	0.050	105	105	70-130	0	20
Dieldrin	0.062	0.061	0.050	123	123	70-130	0	20
Endosulfan I	0.055	0.055	0.050	110	109	70-130	0.663	20
Endosulfan II	0.050	0.050	0.050	101	100	70-130	0.733	20
Endosulfan sulfate	0.051	0.051	0.050	102	101	70-130	0.681	20
Endrin	0.059	0.059	0.050	118	117	70-130	0.295	20
Endrin aldehyde	0.049	0.048	0.050	98	96	70-130	2.02	20
Endrin ketone	0.050	0.050	0.050	101	100	70-130	1.13	20
Heptachlor	0.058	0.058	0.050	116	116	70-130	0	20
Heptachlor epoxide	0.053	0.052	0.050	106	105	70-130	0.882	20
Hexachlorobenzene	0.052	0.052	0.050	105	103	50-150	1.46	20
Hexachlorocyclopentadiene	0.045	0.047	0.050	91	94	50-150	3.72	20
Methoxychlor	0.062	0.061	0.050	124	121	70-130	2.39	20
Surrogate Recovery								
Decachlorobiphenyl	0.051	0.048	0.050	102	96	70-130	6.05	20



Quality Control Report

Client: Geosolve, Inc.

Date Prepared: 10/11/18

Date Analyzed: 10/11/18

Instrument: ICP-MS3

Matrix: Soil

Project: 2018-31; Catalina II

WorkOrder: 1810591

BatchID: 166432

Extraction Method: SW3050B

Analytical Method: SW6020

Unit: mg/Kg

Sample ID: MB/LCS/LCSD-166432

QC Summary Report for Metals

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Antimony	ND	0.50	-	-	-
Arsenic	ND	0.50	-	-	-
Barium	ND	5.0	-	-	-
Beryllium	ND	0.50	-	-	-
Cadmium	ND	0.25	-	-	-
Chromium	ND	0.50	-	-	-
Cobalt	ND	0.50	-	-	-
Copper	ND	0.50	-	-	-
Lead	ND	0.50	-	-	-
Mercury	ND	0.050	-	-	-
Molybdenum	ND	0.50	-	-	-
Nickel	ND	0.50	-	-	-
Selenium	ND	0.50	-	-	-
Silver	ND	0.50	-	-	-
Thallium	ND	0.50	-	-	-
Vanadium	ND	0.50	-	-	-
Zinc	ND	5.0	-	-	-
Surrogate Recovery					
Terbium	440		500	88	70-130

(Cont.)

CA ELAP 1644 • NELAP 4033ORELAP



Quality Control Report

Client: Geosolve, Inc.

Date Prepared: 10/11/18

Date Analyzed: 10/11/18

Instrument: ICP-MS3

Matrix: Soil

Project: 2018-31; Catalina II

WorkOrder: 1810591

BatchID: 166432

Extraction Method: SW3050B

Analytical Method: SW6020

Unit: mg/Kg

Sample ID: MB/LCS/LCSD-166432

QC Summary Report for Metals

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Antimony	49	49	50	98	99	75-125	0.284	20
Arsenic	47	47	50	94	95	75-125	1.11	20
Barium	490	490	500	98	98	75-125	0	20
Beryllium	49	49	50	98	98	75-125	0	20
Cadmium	49	49	50	98	98	75-125	0	20
Chromium	49	50	50	99	99	75-125	0	20
Cobalt	48	48	50	96	96	75-125	0	20
Copper	49	49	50	97	98	75-125	0.960	20
Lead	48	47	50	95	94	75-125	0.612	20
Mercury	1.2	1.2	1.25	93	93	75-125	0	20
Molybdenum	46	47	50	93	94	75-125	0.966	20
Nickel	49	49	50	98	99	75-125	0.223	20
Selenium	47	48	50	95	96	75-125	1.47	20
Silver	45	46	50	90	92	75-125	1.80	20
Thallium	46	45	50	92	91	75-125	0.745	20
Vanadium	49	49	50	98	98	75-125	0	20
Zinc	480	480	500	96	97	75-125	1.48	20
Surrogate Recovery								
Terbium	500	500	500	99	100	70-130	1.02	20

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1810591 ClientCode: GSP

☐ WaterTrax ☐ WriteOn ☐ EDF

☐ Excel ☐ EQulS ☒ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

☐ Detection Summary ☐ Dry-Weight

Report to: Bill to:

Rob Campbell
Geosolve, Inc.
1807 Santa Rita Road, Suite D-165
Pleasanton, CA 94566
(925) 963-1198 FAX:

Email: rcampbell@geosolve-inc.com
cc/3rd Party:
PO: 2018-31
Project: 2018-31; Catalina II

Lisa Campbell
Geosolve, Inc.
1807 Santa Rita Road, Suite D-165
Pleasanton, CA 94566
lcampbell@geosolve-inc.com

Date Received: 10/11/2018
Date Logged: 10/11/2018

Requested TAT: 1 day;

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1810591-001	SS-7	Soil	10/11/2018 00:00	☐	A	A										

Test Legend:

1

8081_S

5

9

2

CAM17MS_TTLC_S

6

10

3

4

7

8

11

12

Prepared by: Agustina Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.



WORK ORDER SUMMARY

Client Name: GEOSOLVE, INC.
Client Contact: Rob Campbell
Contact's Email: rcampbell@geosolve-inc.com

Project: 2018-31; Catalina II

Work Order: 1810591
QC Level: LEVEL 2
Date Logged: 10/11/2018

Comments:

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☒ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1810591-001A	SS-7	Soil	SW6020 (CAM 17) SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	10/11/2018	1 day		☐	
						☐		1 day		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).
- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

[illegible]

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
Preservative Code: 1=4°C 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=ZnOAc/NaOH 7=None



Sample Receipt Checklist

Client Name: **Geosolve, Inc.**
Project: **2018-31; Catalina II**

Date and Time Received **10/11/2018 17:00**

Date Logged: **10/11/2018**

Received by: **Agustina Venegas**

Logged by: **Agustina Venegas**

WorkOrder No: **1810591** Matrix: Soil

Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Sample IDs noted by Client on COC?	Yes ☒	No ☐	
Date and Time of collection noted by Client on COC?	Yes ☒	No ☐	
Sampler's name noted on COC?	Yes ☒	No ☐	
COC agrees with Quote?	Yes ☐	No ☐	NA ☒

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☒
Shipping container/cooler in good condition?	Yes ☒	No ☐	
Samples in proper containers/bottles?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☒	No ☐	NA ☐
Samples Received on Ice?	Yes ☒	No ☐	

(Ice Type: WET ICE)

Sample/Temp Blank temperature	Temp: 4.6°C	NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☐ No ☐	NA ☒
Sample labels checked for correct preservation?	Yes ☒ No ☐	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes ☐ No ☐	NA ☒

UCMR Samples:

pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes ☐ No ☐	NA ☒
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Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes ☐ No ☐	NA ☒
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Comments: