

**DRAFT**  
**PRELIMINARY ENDANGERMENT ASSESSMENT**  
**Hamilton Union High School Expansion**  
February 7, 2020

Prepared For:

**HAMILTON UNIFIED SCHOOL DISTRICT**

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February 7, 2020  
Project No. 70779.01

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**Reference: Draft Preliminary Endangerment Assessment**  
Hamilton Union High School Expansion  
Glenn County Assessor Parcel Number: 032-230-015  
Hamilton City, Glenn County, California

Dear Mr. Powell:

NV5 prepared this draft Preliminary Endangerment Assessment (PEA) for the referenced site in Hamilton City, Glenn County, California. NV5 understands Hamilton Unified School District (HUSD) plans to develop an expansion of Hamilton Union High School on the subject property.

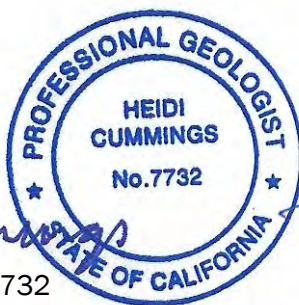
This report documents the results of site characterization including soil sampling, laboratory analysis and screening-level human health risk assessment. The assessment findings indicate that the site is a candidate for a no further action determination regarding the characterization of potential constituents of concern at the site.

NV5 appreciates the opportunity to provide environmental engineering services for the Hamilton Unified School District on this important project. If you have questions, comments, or require additional information, please contact the undersigned.

Sincerely,  
NV5

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cc: Ms. Elizabeth Tisdale, DTSC, 1 copy, 1 electronic copy to elizabeth.tisdale@dtsc.ca.gov

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## ABBREVIATIONS AND ACRONYMS

APN	Assessor Parcel Number
bgs	below ground surface
BTV	background threshold value
CCV	continuing calibration verification
CDHS	California Department of Health Services
CL	co-located
cm <sup>2</sup>	square centimeters
COC	constituent of concern
CSD	Community Services District
CV	coefficient of variation
DDE	p,p'-dichloro-diphenyl-dichloro-ethylene
DRO	diesel range organics
DTSC	Department of Toxic Substances Control
EOA	Environmental Oversight Agreement
EPC	exposure point concentrations
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
FR	field replicate
GRO	gasoline range organics
HAZWOPER	Hazardous Waste Operations and Emergency Response
HERO	Human and Ecological Risk Office
HHRA	human health risk assessment
HHS	Hamilton High School
HI	hazard index
HUHS	Hamilton Union High School
HUSD	Hamilton Unified School District
kg	kilogram
LCS	laboratory control samples
LCSD	LCS duplicates
m <sup>3</sup> /day	cubic meters per day
m <sup>3</sup> /kg	cubic meters per kilogram
MDL	method detection limit
mg/cm <sup>2</sup>	milligrams per square centimeter
mg/day	milligrams per day
mg/kg	milligram per kilogram
MS/MSD	matrix spike and matrix spike duplicates
MORO	motor oil range organics
NOA	naturally occurring asbestos
OCP	organochlorine pesticide
OEHHA	Office of Environmental Health Hazard Assessment
OSHA	Occupational Safety and Health Administration
OSWER	Office of Solid Waste and Emergency Response
PCB	polychlorinated biphenyls
pCi/L	picoCuries per liter
PEA	Preliminary Endangerment Assessment
PEF	particulate emission factor

## ABBREVIATIONS AND ACRONYMS (Concluded)

PQL	practical quantitation limit
QA/QC	quality assurance/quality control
REC	recognized environmental condition
RL	reporting limit
RSL	regional screening level
RWQCB	Regional Water Quality Control Board
SCM	site conceptual model
SL	screening level
SR	State Route
Sunstar	SunStar Laboratories
TPH	total petroleum hydrocarbons
µg/kg	microgram per kilogram
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UTL	upper tolerance level

## EXECUTIVE SUMMARY

The purpose of this Preliminary Endangerment Assessment (PEA) is to investigate environmental conditions identified on a 45-acre property located adjacent and north of the existing Hamilton Union High School (HUHS) and east of California State Route (SR) 45/Canal Street in Hamilton City, Glenn County, California. The property is identified as Glenn County Assessor Parcel Number (APN) 032-230-015.

The property is to be developed by the Hamilton Unified School District (HUSD) as an extension of the current high school campus. The number of classrooms, administrative buildings and student capacity are not yet determined by the HUSD. The school will be served by municipal water supply.

Environmental conditions were identified at the property in a Phase I Environmental Site Assessment (ESA; September 13, 2018) prepared by NV5. The recognized environmental conditions (RECs) are summarized below:

- The possible presence of arsenic and organochlorine pesticides (OCPs) in soil from historical agricultural use of the property;
- The possible presence of arsenic and OCPs in groundwater from historical agricultural use of the property; and
- The possible presence of polychlorinated biphenyls (PCBs) in soil beneath electrical transformers on the property.

During the review process for the PEA Work Plan, the California Department of Toxic Substances Control (DTSC) identified the following elements to be addressed:

- The possible presence of contaminants in the drainage ditch on the southern edge of the property,
- The possible presence of lead in soil from historical agricultural use of the property, and
- Background metals concentrations on the property.

This PEA report was prepared in accordance with the PEA Work Plan (NV5, October 29, 2019). The PEA Work Plan was approved by the DTSC in a letter dated November 5, 2019. The PEA is intended to assess potential health risks associated with the RECs, address the additional elements identified by DTSC above, and to evaluate informational needs of the community related to the PEA site characterization. The PEA field investigation was conducted in November 2019 and included:

- Collection of soil samples from 56 locations within the boundary of former agricultural use on the property to investigate the presence of arsenic, lead and OCPs.
- Collection of soil samples from one location adjacent to the pole-mounted transformer on the property to assess the presence of PCBs.
- Collection of eight soil samples from the current HUHS campus to assess background concentrations of arsenic and lead.

- Collection of seven soil samples from the drainage ditch on the southern boundary of the property to evaluate total petroleum hydrocarbons (TPH), Title 22 Metals and OCPs.
- Collection of one groundwater sample from the onsite agricultural well to assess the presence of OCPs.

Arsenic was detected in 19 discrete samples (including field replicate and co-located samples) obtained from the upper 6 inches of soil at the site at concentrations ranging from 4.1 to 6.4 milligrams per kilogram (mg/kg). Arsenic was detected in 10 background soil samples (including field replicate and co-located samples) obtained from 18 to 24 inches below ground surface (bgs) on the current HUHS campus, at concentrations ranging from 3.6 to 5.7 mg/kg.

Lead was detected in 19 discrete samples (including field replicate and co-located samples) obtained from the upper 6 inches of soil at the site at concentrations ranging from 4.28 to 5.90 mg/kg. Lead was detected within 10 background soil samples (including field replicate and co-located samples) obtained from 18 to 24 inches bgs on the current HUHS campus, at concentrations ranging from 3.72 to 4.35 mg/kg.

Diesel range organics (DRO), motor oil range organics (MORO), arsenic, barium, chromium, cobalt, copper, lead, mercury, nickel, vanadium and zinc were detected in soil samples collected in the drainage ditch on the southern boundary of the site.

One OCP compound (p,p'-dichloro-diphenyl-dichloro-ethylene [4,4-DDE]) was detected in fifteen 4-point composite samples (including field replicate and co-located samples) on the agricultural property, and in eight discrete samples (including field replicate and co-located samples) in the drainage ditch on the southern boundary of the site. OCPs were not detected in samples from the onsite agricultural groundwater well.

PCBs were not detected in soil samples collected beneath the onsite pole-mounted transformer.

A screening-level human health risk assessment (HHRA) was performed pursuant to DTSC guidance to assess potential risks from routine, long-term exposure to the chemicals detected in soil. Pursuant to DTSC guidelines, human health hazard and cancer risk are calculated on a site-wide basis, considering the hazard and risk associated with exposure to all detected chemicals including those that are determined to be consistent with background or ambient concentrations. This information is intended to be useful for risk management decisions and to foster public transparency. The hazard index (hazard or HI;  $1.7E+01$ ) and excess lifetime cancer risk (risk;  $6.2E-05$ ) are driven by arsenic concentrations in soil. Excluding arsenic, which was detected at concentrations that are similar to accepted background values, the hazard is  $6.6E-01$  and the risk is  $3.8E-08$ .

Based on the findings of site characterization, it is NV5's opinion that the site is a candidate for a no further action determination regarding the characterization of arsenic, lead, OCPs, PCBs, TPH and Title 22 metals. The findings and conclusions presented herein are subject to review and approval by the DTSC.

The PEA report is submitted in draft format to DTSC for review and is revised pursuant to DTSC comments. After revision, the PEA report is resubmitted in "draft final" format for DTSC review and approval. Pursuant to the California Education Code, the HUSD is required to notify the public



concurrently with the submission of the PEA report to DTSC. The school district must publish a notice in a local newspaper of general circulation and post the notice in a prominent manner at the school site. The notice shall state the school district's determination to make the PEA available for public review and comment.

The HUSD must offer to receive written comments for a period of at least 30 calendar days after the assessment is submitted to the DTSC and must hold a public hearing to receive further comments. The following documents must be available for public review:

- The PEA Report;
- The changes requested by the DTSC for the PEA; and
- Any correspondence between the school district and the DTSC relating to the PEA.

If the PEA Report is revised or altered following the public hearing, then the HUSD must make those revisions or alterations available to the public. The DTSC will complete its review of the PEA Report and public comments received thereon and will either approve or disapprove the assessment within 30 calendar days of the close of the public review period.

## 1.0 INTRODUCTION

This Preliminary Endangerment Assessment (PEA) report presents the results of site characterization for the property located adjacent and north of the existing Hamilton Union High School (HUHS) and east of California State Route (SR) 45/Canal Street in Hamilton City, Glenn County, California. The site is referenced as Glenn County Assessor Parcel Number (APN) 032-230-015. This PEA report was prepared in accordance with the *Preliminary Endangerment Assessment Work Plan* (Work Plan; NV5, October 29, 2019). A copy of the PEA Work Plan approval letter from the California Department of Toxic Substances Control (DTSC) dated November 5, 2019 is provided in Appendix A.

The DTSC is the lead agency for oversight of site characterization, as set forth in an Environmental Oversight Agreement (EOA; Docket No. HSA-FY18/19-162; August 16, 2019) between DTSC and the Hamilton Unified School District (HUSD).

The PEA was performed pursuant to Section 17213.1 of the California Education Code, which authorizes DTSC to oversee preparation of an environmental assessment report by HUSD.

### 1.1 PURPOSE

The purpose of the PEA is to assess the presence of organochlorine pesticides (OCPs), arsenic and lead in soil from historical agricultural use, polychlorinated biphenyls (PCBs) in soil from historical transformers on the site, OCPs in groundwater and petroleum hydrocarbons and metals in soil at areas of surface water runoff from adjacent properties. Findings of the PEA investigation are used to assess risk and evaluate informational needs of the community related to site characterization.

### 1.2 SITE DESCRIPTION

The approximately 45-acre subject property is adjacent and north of the current HUHS and east of SR 45/Canal Street in Hamilton City, Glenn County, California. The property is accessed from the south via SR 32/Sixth Street or from the west via SR 45. A site location map is presented as Figure 1. The property is referenced as the southwest portion of Glenn County APN 032-230-015. A site plan is presented as Figure 2.

Referencing the *Hamilton City Quadrangle 7.5 Minute Series (Topographic)* map (United States Geological Survey [USGS], 1969), the subject property is in Township 22 North and Range 1 West, based on the Mount Diablo geodetic datum. The site is centered at about latitude 39.7493 degrees north and longitude 122.0186 degrees west. The property elevation is approximately 153 feet above mean sea level with flat lying surface topography.

#### 1.2.1 Site Identification

Site Identification Information	
Site Name	Hamilton Union High School Expansion
Contact Person	Mr. Jeremy Powell, Hamilton Unified School District
Site Address	North of 620 Canal St. and East of SR45, Hamilton City, California

Site Identification Information	
Mailing Address of Contact Person	P.O. Box 488, Hamilton City, California 95951
Phone Number of Contact Person	(530) 826-3261, ext. 6011
Other Site Names	none
USEPA Identification Number	none
CalSites Identification Number	none
Assessor Parcel Number	032-230-015
Township	22 North
Range	1 West
Land Use	Agricultural
Zoning	AP-80 - Intensive Agriculture
<u>Notes:</u> USEPA = United States Environmental Protection Agency	

### 1.2.2 Adjacent Properties

The subject property is bounded by agricultural property to the north and east, the existing Hamilton Union High School and commercial/industrial properties to the south and State Route 45/Canal Street and the Glenn-Colusa Canal to the west.

### 1.2.3 Intended Use of the Property

The property is to be developed as an expansion of the HUHS campus. The number of classrooms and student capacity have not been programmed by the HUSD. The site will be served by the Hamilton City Community Services District (CSD) that includes water provided by California Water Service – Chico District, storm drain connections provided by Glenn County Planning and Public Works Agency, and sewer provided by the CSD.

The proposed expansion project will include phased construction of new playing fields, a gymnasium and parking lot on the expanded site and future new school buildings and parking areas.

## 2.0 PRIOR ENVIRONMENTAL STUDIES

NV5 prepared a Phase I ESA dated September 13, 2018 (NV5, 2018). No other hazardous substances assessment associated with the site beyond the Phase I ESA is known. Findings of the Phase I ESA are summarized below:

- The subject site consists of approximately 45 acres of the southwest portion of Glenn County APN 032-230-015, located north of State Route 32 and east of State Route 45 in Hamilton City, Glenn County, California.
- The subject property was used for agricultural purposes (hay type crop) from as early as 1937, then as orchards beginning as early as 1983 through 2016. The property representative indicated that the orchard was removed in 2017 and hay type crops are the current crop in cultivation.
- One pole-mounted transformer was observed at the location of the water supply well. The pole-mounted transformer was likely installed with the water well, circa 1978.
- One 2.5-gallon container of herbicide and one 2.5-gallon unlabeled container were stored on the concrete pad adjacent to the water supply well, suggesting that mixing of agricultural chemicals may take place at this location.
- The subject property receives stormwater runoff from the adjacent commercial property to the south.
- To NV5's knowledge, the subject property is not currently regulated by any federal, state or local agencies, except for the Air Pollution Control District for agricultural chemicals. No violations are noted.
- Review of federal, state and local records identified no upgradient sites within a ½-mile of the subject property that have recognized environmental conditions (RECs).
- Naturally occurring hazardous materials (i.e. naturally occurring asbestos [NOA] and radon) are not likely to be present at the subject site.

NV5's professional opinions based on the findings of the Phase I ESA are summarized below.

1. The pole-mounted electrical transformer is considered a REC because there is concern that leakage from transformers could contaminate soil with PCBs.
2. The agricultural land use identified by review of aerial photos, site reconnaissance and landowner representative interview is considered a REC because there is concern for the soil to be contaminated with residual agricultural chemicals (i.e. pesticides).
3. Groundwater from the subject property water supply well has the potential to contain agricultural chemicals based on the past agricultural land use.
4. Fill material that is sourced from the alluvial deposits of Stony Creek to the south could potentially contain NOA and should be avoided or evaluated for NOA prior to import.

The Phase I ESA identified PCBs and agricultural chemicals as potential sources of contamination at the site. NV5 recommended that soil sampling for PCBs be conducted beneath the existing transformers and that soil sampling for agricultural chemicals be conducted site-wide pursuant to guidelines set forth by DTSC (2006 and 2008).

## 3.0 ENVIRONMENTAL SETTING

The property is intended to be developed as a new school campus. Details associated with the number of classrooms, administrative buildings, and student capacity have not yet been determined by HUSD.

### 3.1 PHYSICAL SETTING

#### 3.1.1 Regional Physiographic Conditions

The subject property is situated in the Sacramento Valley within the Great Valley geomorphic province, west of the boundary with the Cascade geomorphic province and east of the boundary of the Coast Range geomorphic province. The Great Valley geomorphic province is characterized as an asymmetrical synclinal trough composed of up to 80,000 feet of Jurassic and Eocene age sequenced marine sedimentary units deposited during periods of inundation, and Pliocene to recent Holocene age terrestrial sediments originating from the Sierra Nevada, Cascade, and Coast Mountain Ranges during sea recession and mountain uplift.

#### 3.1.2 Geologic Conditions

The *Geologic Map of California, Ukiah Sheet* (Jennings and Strand, 1960) depicts the geology of the subject property location as Holocene aged stream channel deposits, the Holocene occurring from 11,000 years before present to the present.

#### 3.1.3 Naturally Occurring Asbestos

NV5 reviewed geologic literature regarding the distribution and occurrence of NOA in California. The site is not in an area mapped as likely to contain NOA, and NV5's field geologist did not observe the presence of ultramafic rock outcrops (typically associated with the occurrence of NOA) at the site.

According to *A General Location Guide for Ultramafic Rocks in California - Areas Likely to Contain Naturally Occurring Asbestos* (California Department of Conservation, Division of Mines and Geology; August 2000) ultramafic rock is mapped approximately 21 miles west of the site.

The Jennings and Strand 1960 geologic map shows a Mesozoic aged ultramafic rock unit mapped approximately 21 miles west of the site and within the Upper Stony Creek Watershed. Surface water draining from the Upper Stony Creek Watershed flows into Black Butte Lake where the sediment load is likely deposited, then flows southwest across the valley and ultimately to the Sacramento River approximately 5.5 miles south of the subject property. The site is not within the Upper Stony Creek Watershed and is protected from inundation and deposition of NOA by the Glenn-Colusa Canal levee. Therefore, naturally occurring asbestos is not a REC for the subject property.

#### 3.1.4 Radon

Radon gas concentrations are often compared to a regulatory screening level of 4 picoCuries per liter [pCi/L]. Based on review of the California Department of Health Services (CDHS) report *Geologic Controls on the Distribution of Radon in California* (Ronald Churchill, Associate Geochemist,

California Geological Survey, dated January 25, 1991), Glenn County is not underlain by geologic deposits that increase the chance of elevated radon gas. Glenn County is in Radon Zone 3 as defined by the United States Environmental Protection Agency *Map of Radon Zones for California* (viewed August 21, 2018 at: <http://www.city-data.com/radon-zones/California/California.html>). This zone consists of counties with a predicted average indoor radon screening level less than 2 pCi/L. Furthermore, the *California Indoor Radon Test Results* (Department of Health Services, last updated February 2016) database summary indicates that, in the 95951 zip code for Glenn County, radon concentrations were less than the California Department of Health Services recommended action level of 4 pCi/L in four of four indoor air tests. Therefore, based on the published literature reviewed radon is not expected to be present at levels exceeding the screening levels. Sampling and analysis of indoor air would be required to determine actual radon levels at the site.

### 3.1.5 Soil Conditions

According to the United States Department of Agriculture Soil Conservation Service, National Cooperative Soil Survey, as summarized in the Phase I ESA, soil at the site is mapped as Wyo silt loam and Wyo loam. According to the Soil Conservation Service, these soils are comprised of alluvium derived from metavolcanics; are well drained; exhibit moderate infiltration rates; and have a high corrosion potential for uncoated steel.

No surface evidence of fill material was observed during NV5's Phase I ESA site reconnaissance and during the sampling effort for the PEA.

### 3.1.6 Groundwater

NV5 did not perform a groundwater investigation at the subject site. Based on our experience in the site vicinity, it is anticipated that the depth to groundwater fluctuates seasonally and may be encountered at a depth of approximately 10 to 15 feet below ground surface (bgs) with flow directions toward the east to southeast toward the Sacramento River.

NV5 acquired the well completion report for the onsite agricultural well, which is presented in Appendix B. The well completion report shows a total drilled depth of 223 feet bgs, with alternating layers of clay, gravel and clayey gravel of varying thickness. The well construction details indicate 16-inch blank steel casing was installed from 0 to 120 feet bgs and from 125 to 197 feet bgs, and the perforated section was installed from 84 to 104 feet and 125 to 197 feet bgs. The lower section of the well is reported as solid steel and perforated. Based on communication with the property owner representative, the perforated section of the well is expected to be both 84 to 104 and 125 to 197 feet bgs. At the time the well was installed (July 15, 1978), the depth to water in the well was reported to be approximately 28 feet bgs. At the time of sampling of the agricultural well, the well casing was not accessible to measure the water level in the well.

### 3.1.7 Nearest Surface Water

Nearest surface water is the Sacramento River, which is located approximately one-half mile northwest of the subject property. The Glenn-Colusa Canal is also within 150 feet toward the southwest.

## 4.0 IMPLEMENTATION OF PEA WORK PLAN

Field work for this project was conducted on November 11, 12, 13 and 19, 2019. Soil samples were collected from the following locations on the property, which are depicted on Figure 3.

- 56 locations within the boundary of former agricultural use on the property to investigate the presence of arsenic, lead and OCPs. 14 composite samples were prepared using the 56 discrete samples on a 4:1 ratio and analyzed for OCPs. 14 discrete samples from across the site were analyzed for arsenic and lead.
- Eight discrete samples from the current HUHS campus for background concentrations of arsenic and lead.
- Seven discrete samples from the drainage ditch on the southern boundary of the property to be analyzed for total petroleum hydrocarbons (TPH), Title 22 Metals, and OCPs.
- One location adjacent to the pole-mounted transformer on the property to assess the presence of polychlorinated biphenyls.

In addition to the soil samples listed above, one groundwater sample was collected from the onsite agricultural and was analyzed for OCPs.

### 4.1 PRE-FIELD ACTIVITIES

Approximately seven days prior to beginning field work, the HUSD issued a DTSC-approved Field Work Notice to neighboring residents within line of sight of the school property. The approved Field Work Notice can be found in the Work Plan (NV5, October 2019).

### 4.2 SOIL SAMPLING AND ANALYSIS

On November 11, 12 and 13, 2019, NV5 implemented the soil sampling and analysis plan presented in the DTSC-approved PEA Work Plan. Tables 1 through 4 present a summary of laboratory results, and sample locations are depicted on Figure 3.

#### 4.2.1 Agricultural Area

The number of soil samples collected and analyzed for arsenic and OCPs was determined using the *Interim Guidance for Sampling Agricultural Fields for School Sites, Third Revision* (DTSC, 2008). The site is approximately 45 acres, for which DTSC requires 55 sampling locations. Because of the irregular shape of the site, however, the site was divided into 56 sampling areas, and 56 sampling locations were determined in the field within a grid superimposed on the site. The sampling grid is identified on Figure 3. Sample locations were determined in the field using a handheld GPS device. The sample locations should be considered approximate and were not determined to survey-grade accuracy. Soil samples were collected from a depth interval of 0 to 6 inches below ground surface, collecting equal amounts from the entire depth interval.

For OCP analysis, 19 composite samples (including 14 composite samples and five co-located and replicate composite samples) were prepared by the analytical laboratory using the 56 discrete

samples with a 4:1 ratio (i.e. 4 discrete samples for every 1 composite sample) on a unit weight basis and were subsequently homogenized by the laboratory prior to analysis for OCPs.

For arsenic and lead, 19 discrete samples were analyzed, including fourteen discrete site samples (grid locations A1, A7, B3, C1, C5, C8, D3, D7, E2, E5, F3, F7, H6, and H8) and five co-located and replicate samples. The 14 site samples were a subset of the 56 discrete samples collected for OCP analysis.

#### 4.2.2 Drainage Course

Nine discrete soil samples (referenced as “DD” samples) and two co-located and replicate samples were obtained from a drainage course for analysis of Title 22 metals, OCPs and TPH.

#### 4.2.3 Background Soil

Ten discrete soil samples (including eight discrete field samples and two co-located and replicate samples) were collected from a depth of 2 feet bgs at the current HUHS site for assessing the arsenic and lead concentrations in native, undisturbed soil.

#### 4.2.4 Transformer Location

The sampling methodology for PCBs was determined using the *Interim Guidance, Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers, Revised 06/09/06* (DTSC, 2006). Two discrete soil samples were collected beneath the existing electrical transformer. One surface soil sample (0 to 6 inches bgs) and one subsurface soil sample (2 to 2.5 feet bgs) were collected.

#### 4.2.5 Collection and Handling of Soil Samples

Soil samples were collected using individually wrapped, single-use, disposable plastic scoops. At the time of sampling, the field had been cultivated to a depth of greater than six inches, so an auger was not necessary for sampling. A hand auger was used to advance the remaining soil borings. Sample locations are depicted on Figure 3.

Soil samples were obtained from the borings and placed in 8-ounce glass jars fitted with Teflon™ lined lids. Sixty-four discrete-depth soil samples were collected from 0 to 6 inches bgs (total arsenic and lead, TPH, OCP, and PCB analysis at the site and in the drainage ditch), one from 2 to 2.5 feet bgs (PCB analysis near the onsite transformer), and eight from 1.5 to 2 feet bgs (total arsenic and lead analysis on the HUHS campus). The samples were labeled with a unique sample identification number and were placed on ice in a thermally insulated container.

Samples collected within the grid were assigned a unique identification (e.g. A4D-0) that represents the grid row letter (A), grid column number (4), sample type (composite = C; discrete = D) and depth (0 = 0 to 6 inches bgs and 2 = 1.5 to 2 feet bgs). For quality assurance/quality control (QA/QC) samples, the sample type (co-located = CL; field replicate = FR) was appended to the sample identification using a hyphen. Sample identifications for those samples collected beneath the pole-



mounted transformer and from the drainage ditch were assigned a prefix (PMT- and DD-, respectively).

## 4.2.6 Decontamination

Personnel involved in sample processing and decontamination wore disposable, non-powdered gloves, and new gloves were donned at each new sampling location. Disposable equipment and supplies were placed in a plastic bag and disposed appropriately at an off-site location.

Decontamination of reusable field sampling equipment including augers, sampling trowels, and other hand tools was conducted prior to and following use that may have encountered potentially contaminated soil. Field sampling equipment was cleaned with a soft-bristled brush to remove soil, washed with clean tap water and detergent in a bucket, double-rinsed with clean tap water in two additional buckets, rinsed with deionized water and allowed to air dry. The final rinse from each decontamination was captured in a glass container for equipment blank analysis. One equipment blank sample was analyzed for each day of sampling, and the results of analysis of equipment blanks EB-1, EB-2 and EB-3 are presented in Appendix B.

## 4.2.7 Laboratory Analysis

Samples were shipped under chain-of-custody documentation to SunStar Laboratories (Sunstar) of Lake Forest, CA (ELAP Certification No. 2250). Laboratory analysis is summarized below.

- Fourteen 4-point composite samples, three co-located composite samples, and two field replicate composite samples obtained from 0 to 6 inches bgs within the former agricultural field were analyzed for OCPs by United States Environmental Protection Agency (USEPA) Method 8081A.
- Fourteen discrete samples, three field replicate samples, and two co-located samples obtained from 0 to 6 inches bgs within the former agricultural area were analyzed for arsenic by USEPA Method 6020 and lead by USEPA Method 6010B.
- Eight discrete samples, one co-located sample, and one field replicate sample obtained from 1.5 to 2 feet bgs on the HUHS campus were analyzed for arsenic by USEPA Method 6020 and lead by USEPA Method 6010B.
- Seven discrete samples, one co-located sample, and one field replicate sample obtained from 0 to 6 inches bgs within the drainage ditch were analyzed for OCPs by USEPA Method 8081A, for TPH by USEPA Method 8015B and for Title 22 Metals by USEPA Methods 6020, 6010B and 7470/7471.
- One discrete sample and one co-located sample obtained from 0 to 6 inches bgs and one discrete sample obtained from 2 to 2.5 feet bgs adjacent to the pole mounted transformer were analyzed for PCBs by USEPA Method 8082.
- Three equipment blank samples (EB-1, EB-2 and EB-3) were analyzed for Title 22 Metals by USEPA Methods 6010B and 7470/7471 and for OCPs by USEPA Method 8081A. Equipment blank sample (EB-1) was additionally analyzed for TPH by USEPA Method 8015B.

Results for arsenic, lead, OCPs, TPH and Title 22 Metals are tabulated in Tables 1 through 4. PCBs were not detected in soil at concentrations greater than the method detection limit (MDL). Therefore, PCB results were not tabulated. Additionally, no analytes were detected in the equipment blank samples.

### 4.3 GROUNDWATER SAMPLING AND ANALYSIS

One groundwater sample (AW-1) was collected from the onsite agricultural well as specified in the PEA Work Plan. Approximately three casing volumes of groundwater were purged from the well prior to sampling. The groundwater sample was collected from piping attached to the well head. The sample was shipped under chain-of-custody documentation to SunStar. The groundwater sample was analyzed for OCPs by USEPA Method 8081A. No OCPs were detected in sample AW-1 at concentrations exceeding their respective MDLs. Laboratory analytical results are presented in Appendix B.

### 4.4 DISCUSSION OF RESULTS FOR SOIL SAMPLES

Laboratory results are discussed in this section, and the analytical results for arsenic, lead, OCPs, TPH and Title 22 Metals are tabulated in Tables 1 through 4. Copies of the laboratory reports and chain-of-custody are provided in Appendix B.

#### 4.4.1 Screening Levels

Screening levels are used to provide a general overview of site conditions. The screening levels are not intended to take the place of the human health risk assessment presented in Section 5 of this report.

Pursuant to DTSC (2019b) guidelines, screening levels related to protection of human health in the case of routine, long term exposure by direct pathways (i.e. ingestion, inhalation and dermal contact) commonly include USEPA Regional Screening Levels (RSLs) and DTSC-Screening Levels (SLs). For inorganics, background concentrations are also used as a basis for comparison.

RSLs and DTSC-SLs include inorganic constituent concentrations that are based on the protection of public health. In California, DTSC-SLs are commonly used in lieu of RSLs when DTSC uses toxicity criteria that are different than the toxicity criteria used by USEPA.

The screening levels are generally considered conservative. Under most circumstances, the presence of a chemical in media at concentrations less than the corresponding RSL or DTSC-SL can be assumed not to pose a significant, long-term (chronic) threat to human health. The presence of a chemical or inorganic constituent at a concentration in excess of a screening level does not necessarily indicate that adverse impacts to human health are occurring or will occur; however, further evaluation of potential human health concerns are generally appropriate if screening values are exceeded.

#### 4.4.2 Background Soil Arsenic Concentrations

For the purposes of risk assessment, it is useful to distinguish between background metals concentrations occurring naturally in soil and elevated concentrations resulting from past waste

disposal or releases of hazardous substances to the environment. According to the *Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note No. 3, DTSC-modified Screening Levels (DTSC-SLs)* (DTSC, 2019b), “HERO strongly recommends consideration of site-specific background concentrations of inorganic constituents.”

DTSC (1997) provides a framework in which risk assessors may identify background metals concentrations. Pursuant to DTSC (2019) risk assessment guidance “risk assessments should eliminate from consideration those whose range of concentrations falls within the range of local ambient conditions.” To do this, the local ambient data set may be defined by pooling all site data and determining ambient conditions in the presence of possible contamination.

ProUCL Version 5.1 (USEPA, 2016) was used to evaluate potentially outlying data and to prepare a box plot and normality plot (Q-Q plot) for the arsenic data set. No outliers were identified based on visual interpretation of the plots, and Rosner’s outlier test identified no outlying data at 5% and 1% significance levels. Soil arsenic data, including the site data and the subsurface samples obtained from the adjacent high school property, appear to be representative of a single population. The data set, plots and test results are presented in Appendix D.

ProUCL was used to perform background threshold value (BTV) statistics using the entire arsenic data set. ProUCL output is presented in Appendix D. Based on the small population of soil arsenic data (n = 29) the 95% upper tolerance level (UTL; 6.4 mg/kg) could be used to represent the upper range of background soil arsenic concentrations. The detected concentrations range from 3.6 to 6.4 mg/kg, the mean value is 5.2 mg/kg, and the coefficient of variation (CV) is 0.11.

### 4.4.3 Arsenic Analytical Methods

Total arsenic in soil was originally analyzed using EPA Method 6010B with a practical quantitation limit (PQL; also referred to as reporting limit, or RL) of 5 mg/kg. The PQL did not meet the project data quality objectives, and therefore the EPA 6010B data were rejected, and the analysis was repeated using EPA Method 6020 with a PQL of 0.25 mg/kg. Analytical reports for both analyses are presented in Appendix B.

### 4.4.4 Total Metals in Soil Samples

Total metals concentrations detected in soil samples do not exceed the corresponding screening levels for residential (unrestricted) land use listed in Table 4, except for arsenic. The DTSC-SL for arsenic in residential soil is 0.11 mg/kg.

Arsenic was detected in 19 discrete samples (including field replicate and co-located samples) obtained from the upper 6 inches of soil at the site at concentrations ranging from 4.1 to 6.4 mg/kg. These site samples were obtained on November 12 and 13, 2019, and are referenced by the grid location from which they were obtained (A1 through H8). Results are presented in Table 1.

Arsenic was detected in 10 background soil samples (including field replicate and co-located samples) obtained from 18-24 inches below ground surface on the adjacent current HUHS campus at concentrations ranging from 3.6 to 5.7 mg/kg. These background samples were obtained on November 11, 2019 and are referenced as “HHS” (Hamilton High School) samples. Results are presented in Table 1.

Arsenic was detected in nine samples (including field replicate and co-located samples) obtained from 0-6 inches below ground surface in the site drainage ditch at concentrations ranging from 4.3 to 6.7 mg/kg. These drainage ditch samples were obtained on November 11, 2019 and are referenced as “DD” samples. Results are presented in Table 4.

As described above in Section 4.4.2, the arsenic data were evaluated pursuant to DTSC guidance and are representative of background conditions.

#### 4.4.5 Organochlorine Pesticides in Soil Samples

One OCP compound, 4,4-DDE, was detected in twelve 4-point composite samples, one field replicate 4-point composite, and three co-located 4-point composite samples from the onsite sample grid. 4,4-DDE also was detected in nine discrete samples (including a co-located sample and field replicate) obtained from the drainage ditch on the southern property boundary. The detected OCP concentrations were less than the USEPA RSL for residential and industrial soils.

#### 4.4.6 Polychlorinated Biphenyls in Soil Samples

PCBs were not detected at concentrations greater than the MDL of 3.7 micrograms per kilogram (ug/kg).

#### 4.4.7 Total Petroleum Hydrocarbons in Soil Samples

Motor oil range organics (MORO) were detected in each of the nine samples (including a co-located sample and field replicate) obtained from the drainage ditch on the southern property boundary at concentrations ranging from 16 to 48 mg/kg. Diesel range organics (DRO) were detected in two of the nine samples at concentrations of 10 and 11 mg/kg, and trace concentrations (less than the RL of 10 mg/kg) were detected in six of the samples. Gasoline range organics (GRO) were not detected. Concentrations of DRO and MORO were less than their respective Environmental Screening Levels (ESLs) as set by the San Francisco Regional Water Quality Control Board (RWQCB), which are listed in Table 3.

### 4.5 DATA QUALITY SUMMARY

#### 4.5.1 Field Sampling Evaluation and Field Variance

NV5 performed the soil sampling in general accordance with the DTSC approved Work Plan (NV5, 2019). NV5 did not encounter significant variances from the PEA Work Plan except that the initial laboratory analysis of arsenic was performed with unacceptably high MDL and PQL. As described above in Section 4.4.3, total arsenic in soil was originally analyzed using EPA Method 6010B with a PQL of 5 mg/kg. The PQL did not meet the project data quality objectives, and therefore the EPA 6010B data were rejected, and the analysis was repeated using EPA Method 6020 with a PQL of 0.25 mg/kg. Analytical reports for both analyses are presented in Appendix B.

#### 4.5.2 Chain of Custody Evaluation

The chain-of-custody documentation associated with the sample shipment was reviewed for completeness. Samples were received in good condition and were cold. Samples and requested analyses matched the sampling and analysis matrix.

#### 4.5.3 Data Validation

Project data associated with the PEA were reviewed to assess the accuracy of data recording, processing and transmittal. Based on the validation, data generated are of acceptable quality for use in the PEA screening evaluation. None of the data were unusable based on the data evaluation, except for the original laboratory analysis of total arsenic in soil by EPA Method 6010B, as discussed in Section 4.4.3. The data evaluation is provided in Appendix C.

#### 4.5.4 Health and Safety Procedures

Personnel conducting the site investigation were certified under Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard (29 Code of Federal Regulations 1910). Prior to beginning field work, NV5 conducted a job safety analysis to identify site hazards and control measures to be implemented, reviewed potential constituents of concern (COC) and exposure routes, required the use of personal protective equipment, implemented decontamination procedures, and reviewed emergency response and hazard communications.

## 5.0 HUMAN HEALTH RISK ASSESSMENT

A screening-level human health risk assessment was performed in general accordance with the DTSC (2019) guidance. HHRA methodology and results are summarized below. Laboratory data for samples collected in November 2019 were used in the HHRA, as presented in Tables 1 through 4. Data evaluation worksheets and summary statistics are presented in Appendix D, and HHRA worksheets are presented in Appendix E.

### 5.1 SITE CONCEPTUAL MODEL

A site conceptual model (SCM) diagram is presented as Figure 4. The diagram depicts:

- Source media, release mechanisms and transport mechanisms;
- Potential points of exposure (exposure media) and exposure routes; and
- Potential receptors.

The model components are described below.

- The primary source media are inorganic and organic pesticides that were historically applied to the agricultural area. PCBs were not detected in soil and therefore are not considered constituents of concern. Bulk petroleum hydrocarbons were detected at di minimis concentrations below screening levels and are not quantitatively evaluated in the risk assessment.
- The primary release mechanism is the past application of pesticides during orchard cultivation and the aerial deposition of pesticides on surface soil. The site investigation did not identify anomalously high pesticide concentrations in soil that would indicate a spill; based on the low spatial variability of the laboratory test results it is assumed that the pesticide application resulted in a relatively uniform distribution within the cultivated area.
- The secondary source medium is shallow soil containing residual pesticide compounds.
- Potential transport mechanisms include mechanical soil disturbance, soil erosion by water and sediment transport, and soil erosion by wind and dust transport. The physical site characteristics and the results of soil sampling and analysis in a drainage ditch indicate that surface water erosion is not a significant transport mechanism. Leaching, volatilization and/or biological uptake in plant tissue are not considered significant transport mechanisms based on the relatively immobile and non-volatile nature of the constituents of concern and the physical site characteristics.
- Exposure media are soil and suspended particulates (dust). Exposure routes are incidental ingestion and dermal contact with contaminated soil, and inhalation of particulates originating from the contaminated soil. Groundwater and surface water routes are not considered complete. The contaminated soil is subject to seasonal precipitation and runoff; however, the constituents are relatively immobile, and soluble contaminants are expected only at low concentrations. Volatilization to indoor or outdoor air is not considered a complete exposure route because the COCs are not volatile.
- The site is evaluated from an unrestricted land use exposure scenario, and the potential receptors are comprised of offsite residents, construction workers, students, school staff and parents.

## 5.2 EXPOSURE POINT CONCENTRATIONS AND CHEMICAL GROUPS

COCs include inorganic (metals) and organic (OCP) constituents associated with historical pesticide application.

Arsenic concentrations detected in site soil range from 4.1 to 6.4 mg/kg and exceeds the DTSC-SL for residential soil (0.11 mg/kg). The detected concentrations are similar to the background values detected in subsurface soil samples obtained from the adjacent HUHS school campus and are considered to be representative of background values. Other metals were below the referenced screening levels.

One OCP compound (4,4-DDE) was detected in discrete and composite samples of site soil at concentrations ranging from 5.3 to 43 mg/kg. The detected concentrations were less than the RSL for 4,4-DDE in residential soil.

Laboratory data are presented in Tables 1 through 4. Exposure point concentrations (EPCs) are summarized below. Based on the small sample population, the maximum detected concentration is used as the EPC.

Pursuant to guidelines set forth in HERO *Human Health Risk Assessment Note No. 4* (DTSC, 2019c), risk and hazard are calculated on a site-wide basis, considering the risk and hazard associated with exposure to all detected chemicals (including those inorganic constituents that are determined to be consistent with background or ambient concentrations). Metals that were not detected (antimony, beryllium, molybdenum, selenium, silver and thallium) are not quantitatively evaluated.

## 5.3 EXPOSURE PARAMETERS

Exposure parameters for residential (unrestricted) land use are adopted from the HERO *Human Health Risk Assessment Note No. 1* (DTSC, 2019a), pursuant to guidance presented in *Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (RAGS Part E, Supplemental Guidance for Dermal Risk Assessment), Final* (USEPA, Office of Solid Waste and Emergency Response [OSWER] 9285.7-02EP, 2004) and *Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites* (USEPA, OSWER 9355.4-24, 2002).

- Exposure frequency is 350 days per year.
- Body weight is 15 kilograms (kg) for child and 80 kg for adult.
- The incidental soil ingestion rate is 200 milligrams per day (mg/day) for child and 100 mg/day for adult. Pica (intentional ingestion of soil and related particles) is not considered.
- The inhalation rate is 10 cubic meters per day (m<sup>3</sup>/day) for child and 20 m<sup>3</sup>/day for adult.
- Averaging time is 70 years for carcinogenic effects.
- Exposure duration for adults is 20 years. Averaging time for non-carcinogenic effects is equal to the exposure duration.
- Exposed skin surface area is 2,900 square centimeters (cm<sup>2</sup>) for children and 6,032 cm<sup>2</sup> for adults.
- Dermal adherence factor is 0.2 milligrams per square centimeter (mg/cm<sup>2</sup>) for children and 0.07 mg/cm<sup>2</sup> for adults.
- Particulate emission factor (PEF) is 1.36E+09 cubic meters per kilogram (m<sup>3</sup>/kg).

## 5.4 TOXICITY VALUES

Toxicity values and sources are presented in Appendix E, Table E1. Toxicity value selection was performed pursuant to HERO HHRA Note No. 3 (DTSC, 2019b).

## 5.5 RISK CHARACTERIZATION

Risk and hazard calculations are performed using the following equations for non-volatile constituents. For residential land use, hazard is evaluated for child exposure. Calculations are summarized in Appendix E, Table E2.

$$\text{Risk}_{\text{soil}} = \text{SF}_o \times \text{C}_s \times [((\text{IR}_{\text{s,child}} \times \text{EF} \times \text{ED}_{\text{child}} \times 10^{-6} \text{ kg/mg}) / (\text{BW}_{\text{child}} \times \text{AT} \times 365 \text{ days/yr})) + ((\text{SA}_{\text{child}} \times \text{AF} \times \text{ABS} \times \text{EF}_{\text{child}} \times \text{ED}_{\text{child}} \times 10^{-6} \text{ kg/mg}) / (\text{BW}_{\text{child}} \times \text{AT} \times 365 \text{ days/yr})) + ((\text{IR}_{\text{s,adult}} \times \text{EF} \times \text{ED}_{\text{adult}} \times 10^{-6} \text{ kg/mg}) / (\text{BW}_{\text{adult}} \times \text{AT} \times 365 \text{ days/yr})) + ((\text{SA}_{\text{adult}} \times \text{AF} \times \text{ABS} \times \text{EF}_{\text{adult}} \times \text{ED}_{\text{adult}} \times 10^{-6} \text{ kg/mg}) / (\text{BW}_{\text{adult}} \times \text{AT} \times 365 \text{ days/yr}))]$$

$$\text{Hazard}_{\text{soil}} = (\text{C}_s / \text{RfD}_o) \times [((\text{IR}_s \times \text{EF} \times \text{ED} \times 10^{-6} \text{ kg/mg}) / (\text{BW} \times \text{AT} \times 356 \text{ days/yr})) + ((\text{SA} \times \text{AF} \times \text{ABS} \times \text{EF} \times \text{ED} \times 10^{-6} \text{ kg/mg}) / (\text{BW} \times \text{AT} \times 365 \text{ days/yr}))]$$

$$\text{Risk}_{\text{air}} = \text{SF}_i \times \text{C}_a \times [((\text{IR}_{\text{child}} \times \text{EF} \times \text{ED}_{\text{child}}) / (\text{BW}_{\text{child}} \times \text{AT} \times 365 \text{ days/yr})) + ((\text{IR}_{\text{adult}} \times \text{EF} \times \text{ED}_{\text{adult}}) / (\text{BW}_{\text{adult}} \times \text{AT} \times 365 \text{ days/yr}))]$$

$$\text{Hazard}_{\text{air}} = (\text{C}_a / \text{RfD}_i) \times (\text{IR} \times \text{EF} \times \text{ED}) / (\text{BW} \times \text{AT} \times 365 \text{ days/yr})$$

Where:

ABS = absorption fraction of chemical from soil

AT = averaging time, years

AF = soil to skin adherence factor, mg/cm<sup>2</sup>

BW = body weight, kg

C<sub>a</sub> = concentration in air, mg/m<sup>3</sup> (C<sub>a</sub> = C<sub>s</sub> / PEF)

C<sub>s</sub> = concentration in soil, mg/kg

ED = exposure duration, years

EF = exposure frequency

PEF = particulate emission factor, m<sup>3</sup>/kg

Hazard<sub>air</sub> = non-cancer chronic health hazard for air pathways

Hazard<sub>soil</sub> = non-cancer chronic health hazard for soil pathways

IR<sub>a</sub> = inhalation rate, m<sup>3</sup>/day

IR<sub>s</sub> = incidental soil ingestion rate, mg/day

SA = exposed skin surface area, cm<sup>2</sup>

SF<sub>i</sub> = inhalation cancer slope factor, (mg/kg-day)<sup>-1</sup>

SF<sub>o</sub> = oral cancer slope factor, (mg/kg-day)<sup>-1</sup>

RfD<sub>i</sub> = inhalation reference dose, mg/kg-day

RfD<sub>o</sub> = oral reference dose, mg/kg-day

Risk<sub>air</sub> = lifetime excess cancer risk for air pathways

Risk<sub>soil</sub> = lifetime excess cancer risk for soil pathways



## 5.6 UNCERTAINTY ANALYSIS

According to the California Office of Environmental Health Hazard Assessment (OEHHA, 2004), “systematic, logical and informed approaches to decision making about carcinogens in the environment call for quantitative assessments because the absence of clearly definable thresholds does not permit identification of ‘safe’ levels of exposure. Unfortunately, due to the frequent lack of sufficient data, assumptions have to be made in order to complete quantitative assessments of cancer risk.”

There are uncertainties associated with contaminant concentrations in soil; the amount of exposure to soil; the biological uptake of contaminants from soil; and the toxicological effects of biologically available contaminants. Such uncertainty must be discussed so that the assessment does not result in a “higher degree of implied certainty in the overall assessment than is warranted” (OEHHA, 2004).

Laboratory reporting and detection limits are generally less than the corresponding screening levels and/or background levels; therefore, these laboratory analytical limitations are not expected to be a significant source of uncertainty.

Confidence in the exposure assessment is considered low to moderate. Confidence in toxicity values ranges from low to high based on the data available for specific constituents of concern. The risk assessment considers routine, long-term exposure to soil, including dermal contact, ingestion and inhalation of soil dust.

Sampling uncertainty related to contaminant concentrations in soil, as well as sampling uncertainty related to the literature-derived exposure and toxicity parameters, contribute to the overall uncertainty of the assessment. The use of maximum detected concentrations tends to overestimate risk. Confidence in sampling is considered moderate based on the relatively consistent laboratory results and the findings of field and laboratory data validation.

The literature-derived exposure factors and toxicity factors used in the assessment were obtained with the goal of reducing uncertainty; however, limitations of existing data pertaining to activity patterns for future site occupants, as well as health effects from exposure, result in model uncertainty.

## 5.7 SUMMARY OF EVALUATION

Pursuant to guidelines set forth in HERO HHRA Note No. 4 (DTSC, 2019c) hazard and risk are calculated on a site-wide basis, considering the hazard and risk associated with exposure to all detected chemicals including those that are determined to be consistent with background or ambient concentrations. This information is intended to be useful for risk management decisions and to foster public transparency. The hazard index (hazard or HI;  $1.7E+01$ ) and excess lifetime cancer risk (risk;  $6.2E-05$ ) are driven by ambient arsenic concentrations in soil. Excluding arsenic, which was detected at concentrations similar to accepted background values, the hazard is  $6.6E-01$  and the risk is  $3.8E-08$ .

## 6.0 PUBLIC PARTICIPATION

The PEA report is submitted in draft format to DTSC for review and is revised pursuant to DTSC comments. After revision, the PEA report is resubmitted in “draft final” format for DTSC review and approval. Pursuant to the California Education Code Section 17213.1 (a) (6), the school district is required to notify the public concurrently with the submission of the draft PEA report to DTSC. The school district must publish a notice in a local newspaper of general circulation and post the notice in a prominent manner at the school site. The notice shall state the school district's determination to make the PEA available for public review and comment.

The code specifies two alternative methods of notification, and the school district intends to use option “A” as set forth in California Education Code Section 17213.1 (a) (6). Option “A” is outlined below, borrowing from the referenced code.

The school district shall offer to receive written comments for a period of at least 30 calendar days after the assessment is submitted to the DTSC, commencing on the date the notice is originally published, and shall hold a public hearing to receive further comments. The school district shall make all the following documents available to the public upon request through the time of the public hearing:

- (i) The PEA Report,
- (ii) The changes requested by the DTSC for the PEA, and
- (iii) Any correspondence between the school district and the DTSC relating to the PEA.

The notice of the public hearing shall include the date and location of the public hearing, and the location where the public may review the documents described in items (i), (ii) and (iii) above. All public comments pertaining to the preliminary endangerment assessment shall be forwarded to the DTSC immediately.

If the PEA is revised or altered following the public hearing, the school district shall make those revisions or alterations available to the public. The school district shall transmit a copy of all public comments received by the school district on the PEA to the DTSC.

The DTSC shall complete its review of the PEA and public comments received thereon and shall either approve or disapprove the assessment within 30 calendar days of the close of the public review period. If the DTSC determines that it is likely to disapprove the assessment prior to its receipt of the public comments, it shall inform the school district of that determination and of any action that the school district is required to take for the DTSC to approve the assessment.

## 7.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions are based on the findings of site characterization and risk assessment.

Arsenic concentrations detected in surface soil range from 4.1 to 6.7 mg/kg and have an average value of 5.3 mg/kg. These concentrations exceed the DTSC-SL for residential soil (unrestricted land use). However, the concentrations are similar to accepted background values and are considered to be representative of background conditions.

OCPs were not detected in soil within the former agricultural area in exceedance of DTSC-SLs and were not detected in groundwater sampled from the onsite agricultural well. PCBs were not detected in soil adjacent to the onsite pole mounted transformer. Except for arsenic (discussed above), Title 22 metals were not detected in soil within the former agricultural area or drainage ditch in exceedance of DTSC-SLs. Total petroleum hydrocarbons were not detected in soil in the drainage ditch in exceedance of RWQCB ESLs.

Based on the findings of site characterization presented herein, it is NV5's opinion that the site is a candidate for a no further action determination regarding the characterization of Title 22 metals (including arsenic), OCPs, TPH and PCBs. The findings and conclusions presented herein are subject to review and approval by DTSC.

## 8.0 LIMITATIONS

The following limitations apply to the findings, conclusions and recommendations presented in this report:

- NV5's professional services were performed consistent with the generally accepted engineering principles and practices employed in northern California. No warranty is expressed or implied.
- These services were performed per NV5's agreement with NV5's client. NV5 is not responsible for the impacts of any changes in environmental standards, practices or regulations subsequent to performance of environmental and engineering services. NV5 does not warrant the accuracy of information supplied by others, or the use of segregated portions of this report. This report is solely for the use of the client unless noted otherwise. Any reliance on this report by a third party is at the party's sole risk.
- If changes are made to the nature or design of the project as described in this report, then the conclusions and recommendations presented in this report should be considered invalid by all parties. Only NV5 can determine the validity of the conclusions and recommendations presented in this report. Therefore, NV5 should be retained to review all project changes and prepare written responses with regards to their impacts on NV5's conclusions and recommendations; however, NV5 may require additional field work and laboratory testing to develop any modifications to the report. Costs to review project changes and perform additional fieldwork and laboratory testing necessary to modify NV5's recommendations are beyond the scope of services presented in this report. Additional work will require an approved scope of services, budget and authorization to proceed.
- NV5 is not responsible for the health and safety of non-NV5 personnel, on or off the project site.
- The analyses, conclusions and recommendations presented in this report are based on site conditions as they existed at the time NV5's investigation was performed. Changes in the conditions of the property can occur with the passage of time. The changes may be due to natural processes or to the works of man, on the project site or adjacent properties. In addition, changes in applicable or appropriate standards can occur, whether they result from legislation or the broadening of knowledge, therefore, the recommendations presented in this plan may need to be revised based on site conditions or regulatory requirements.

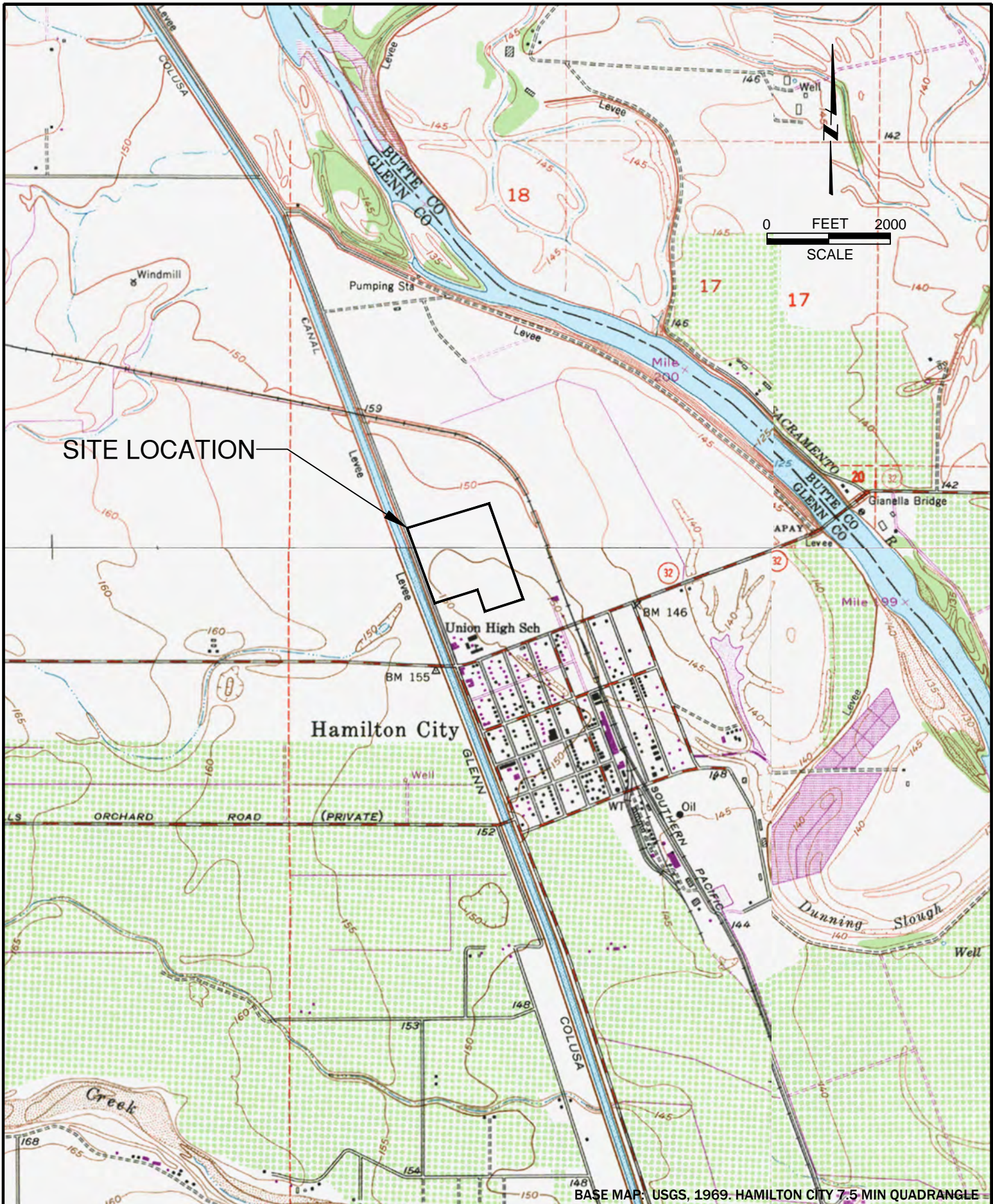
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- USEPA. *Map of Radon Zones for California*. Viewed on August 21, 2018. URL: <http://www.city-data.com/radon-zones/California/California.html>.

## FIGURES

- 1 Location Map
- 2 Site Plan
- 3 Soil and Groundwater Sample Locations
- 4 Site Conceptual Model Diagram



BASE MAP: USGS, 1969. HAMILTON CITY 7.5 MIN QUADRANGLE

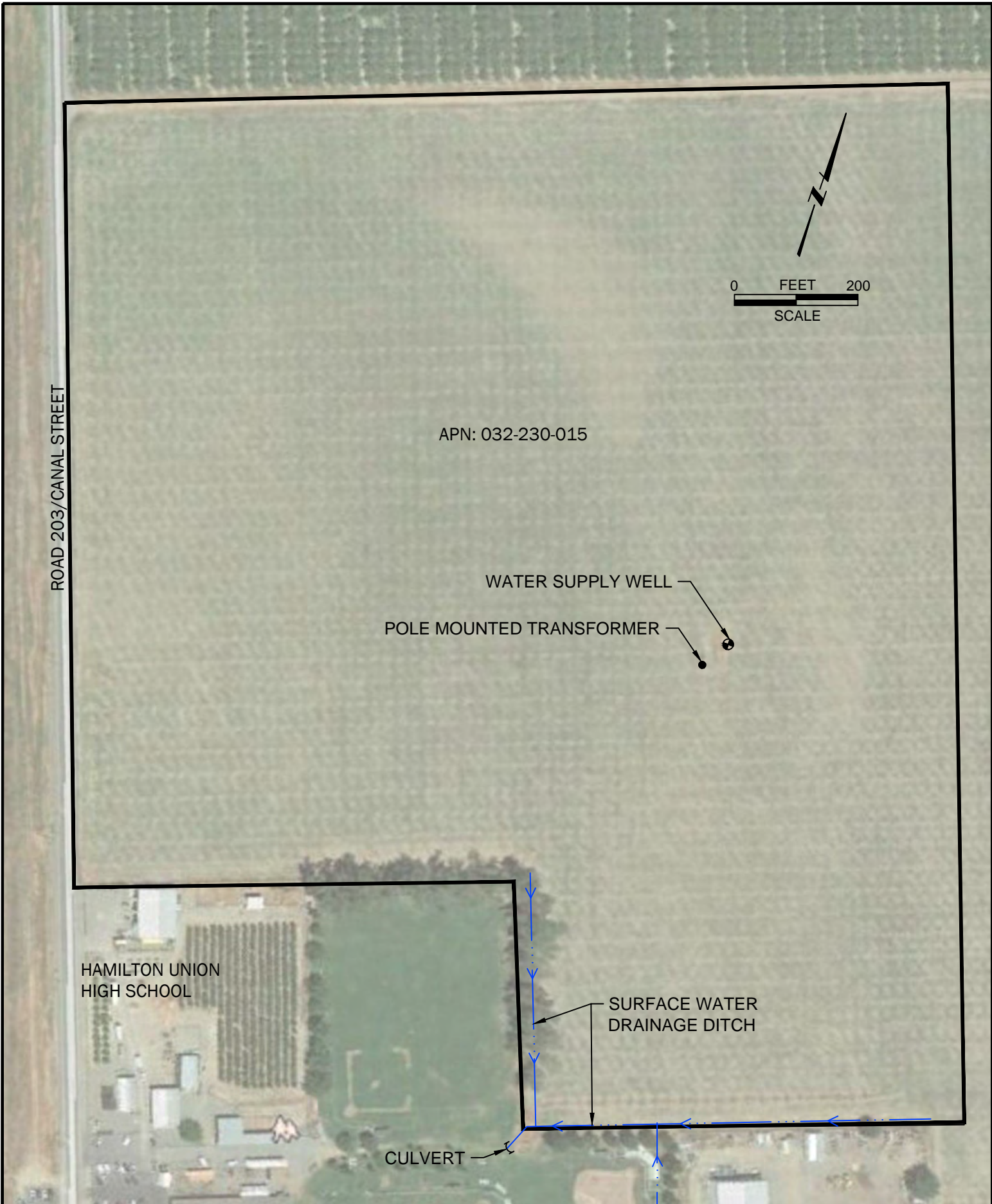


LOCATION MAP  
**HAMILTON UNION HIGH SCHOOL EXPANSION**  
 HAMILTON CITY, CALIFORNIA

DRAWN BY:	HJC
CHECKED BY:	HJC
PROJECT NO:	70779.01
DATE:	JANUARY 2020

FIGURE  
**1**

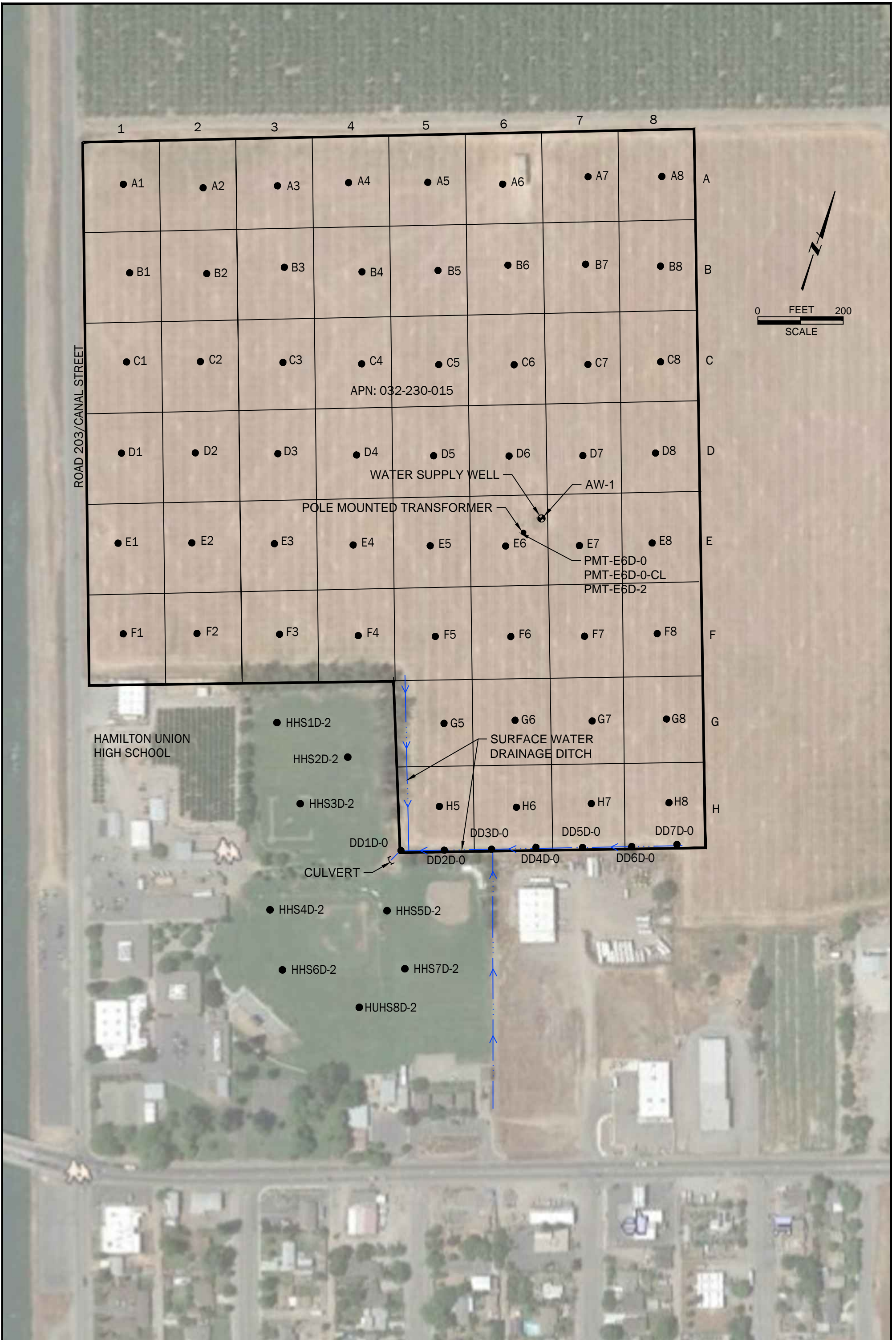




SITE PLAN  
**HAMILTON UNION HIGH SCHOOL EXPANSION**  
 HAMILTON CITY, CALIFORNIA

DRAWN BY:	CWB
CHECKED BY:	HJC
PROJECT NO:	70779.01
DATE:	JANUARY 2020

FIGURE  
**2**



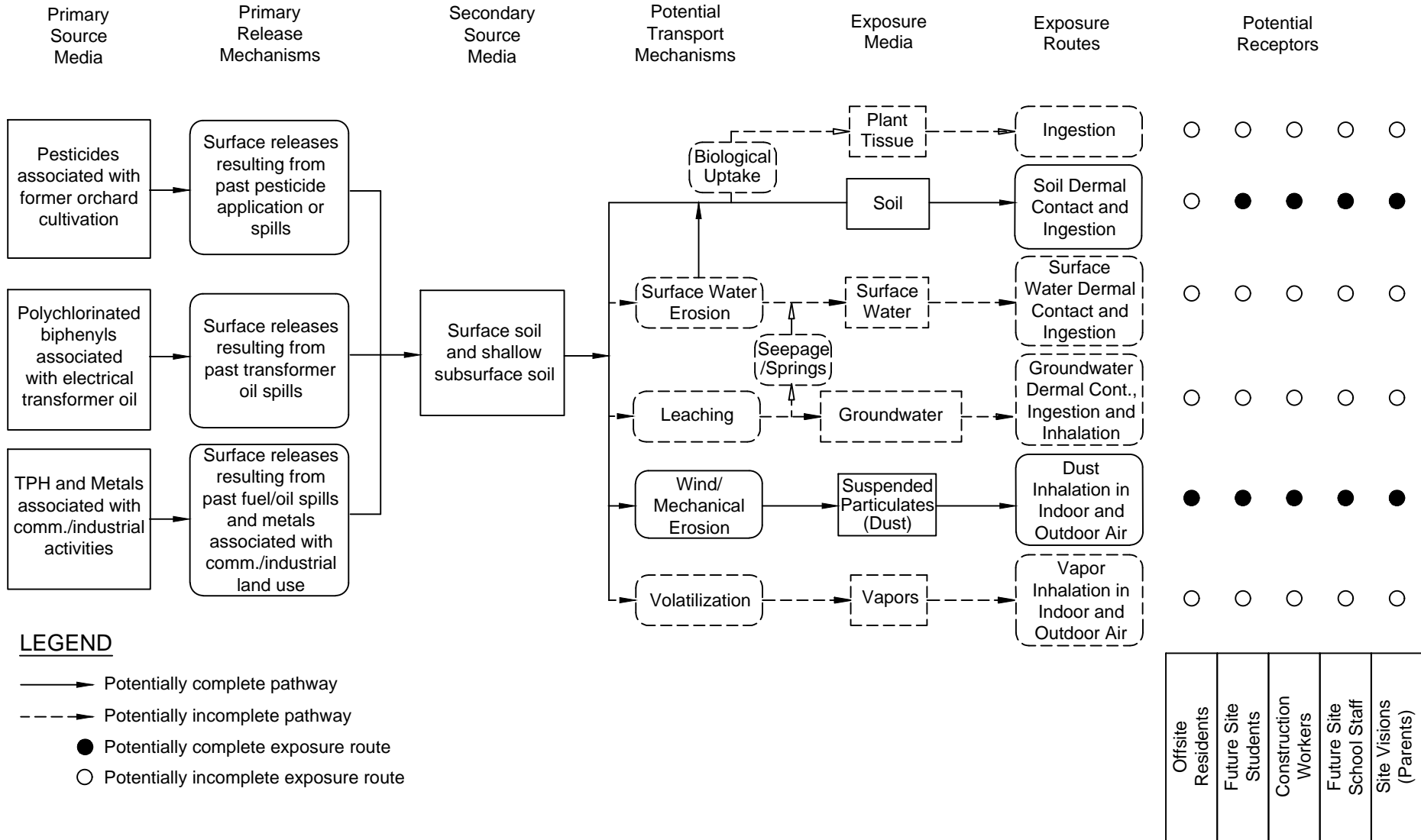
SOIL AND GROUNDWATER SAMPLE LOCATIONS

HAMILTON UNION HIGH SCHOOL EXPANSION  
HAMILTON CITY, CALIFORNIA

DRAWN BY: CWB  
CHECKED BY: HJC  
PROJECT: 70779.01  
DATE: JANUARY 2020

FIGURE  
3

# TRANSPORT MECHANISMS AND EXPOSURE MEDIA FOR HUMAN RECEPTORS



**SITE CONCEPTUAL MODEL DIAGRAM**  
 HAMILTON UNION HIGH SCHOOL EXPANSION  
 HAMILTON CITY, CALIFORNIA

DRAWN BY:	CWB
CHECKED BY:	HJC
PROJECT:	70779.01
DATE:	JANUARY 2020

FIGURE  
**4**

## TABLES

- 1 Arsenic and Lead in Soil
- 2 Organochlorine Pesticides in Soil
- 3 Total Petroleum Hydrocarbons in Soil
- 4 Title 22 Metals in Soil

**Table 1. Total Arsenic and Lead in Soil**

Hamilton Union High School Expansion

Hamilton City, Glenn County, California

Sample ID	Sample Date	Depth (inches bgs)	Arsenic	Lead
<i>USEPA Method</i>			6020	6010B
<i>CAS No.</i>			7440-38-2	7439-92-1
<i>MDL</i>			0.0025	0.01
<i>RL</i>			0.25	3
<i>Unit</i>			mg/kg	mg/kg
<i>Screening Levels<sup>(a)</sup></i>	<i>DTSC-SL (Residential)</i>		0.11	80
	<i>DTSC-SL (Industrial)</i>		0.36	320
A1D-0	11/12/19	0-6	5.4	4.5
A7D-0	11/12/19	0-6	5.9	5.4
A7D-0-CL	11/12/19	0-6	5.7	5.4
B3D-0	11/12/19	0-6	5.3	4.7
B3D-0-FR	11/12/19	0-6	5.0	4.3
C1D-0	11/12/19	0-6	4.7	4.3
C1D-0-CL	11/12/19	0-6	4.8	4.7
C5D-0	11/12/19	0-6	4.1	5.1
C8D-0	11/12/19	0-6	5.5	5.0
D3D-0	11/12/19	0-6	4.7	4.5
D7D-0	11/12/19	0-6	6.4	5.8
D7D-0-FR	11/12/19	0-6	5.2	5.6
E2D-0	11/13/19	0-6	4.9	4.9
E5D-0	11/13/19	0-6	6.0	5.7
F3D-0	11/13/19	0-6	5.5	5.5
F3D-0-FR	11/13/19	0-6	5.4	5.4
F7D-0	11/13/19	0-6	4.7	5.2
H6D-0	11/13/19	0-6	5.6	5.9
H8D-0	11/13/19	0-6	5.8	5.8
HHS1D-2	11/11/19	18-24	5.0	4.3
HHS2D-2	11/11/19	18-24	5.4	4.4
HHS3D-2	11/11/19	18-24	4.7	4.1
HHS3D-2-FR	11/11/19	18-24	5.2	3.7
HHS4D-2	11/11/19	18-24	3.6	4.0
HHS5D-2	11/11/19	18-24	4.7	3.7
HHS5D-2-CL	11/11/19	18-24	4.6	4.1
HHS6D-2	11/11/19	18-24	5.1	4.1
HHS7D-2	11/11/19	18-24	4.9	3.8
HHS8D-2	11/11/19	18-24	5.7	4.2

**Notes:**

bgs = below ground surface

CAS = Chemical Abstracts Service registry number

DTSC = Department of Toxic Substances Control

MDL = method detection limit

mg/kg = milligrams per kilogram

ND = not detected greater than listed MDL

RL = reporting limit

SL = screening level

USEPA = United States Environmental Protection Agency

**Table 2. Organochlorine Pesticides in Soil**

Hamilton Union High School Expansion

Hamilton City, Glenn County, California

Sample ID	Sample Date	Depth (inches bgs)	4,4'-DDE
<i>USEPA Method</i>			8081A
<i>CAS No.</i>			72-55-9
<i>MDL</i>			1.5
<i>RL</i>			5.0
<i>Unit</i>			ug/kg
<i>Screening Levels<sup>(a)</sup></i>	<i>USEPA RSL (Residential)</i>		2000 (500 for 1:4 composite)
	<i>USEPA RSL (Industrial)</i>		9300 (2325 for 1:4 composite)
ABCD1C-0	11/12/19	0-6	12
ABCD2C-0	11/12/19	0-6	11
ABCD2C-0-FR	11/12/19	0-6	8.7
ABCD3C-0	11/12/19	0-6	9.8
ABCD4C-0	11/12/19	0-6	7.6
ABCD5C-0	11/12/19	0-6	6.6
ABCD5C-0-CL	11/12/19	0-6	7.0
ABCD6C-0	11/12/19	0-6	<5.0
ABCD7C-0	11/12/19	0-6	<5.0
ABCD7C-0-FR	11/12/19	0-6	<5.0
ABCD8C-0	11/12/19	0-6	<5.0
EF1EF2C-0	11/13/19	0-6	9.0
EF3EF4C-0	11/13/19	0-6	8.2
EF3EF4C-0-CL	11/13/19	0-6	11
EFGH5C-0	11/13/19	0-6	7.7
EFGH6C-0	11/13/19	0-6	8.5
EFGH7C-0	11/13/19	0-6	8.3
EFGH8C-0	11/13/19	0-6	6.6
EFGH8C-0-CL	11/13/19	0-6	5.3
DD1D-0	11/11/19	0-6	9.3
DD2D-0	11/11/19	0-6	11
DD2D-0-CL	11/11/19	0-6	12
DD3D-0	11/11/19	0-6	21
DD4D-0	11/11/19	0-6	40
DD4D-0-FR	11/11/19	0-6	36
DD5D-0	11/11/19	0-6	<5.0
DD6D-0	11/11/19	0-6	14
DD7D-0	11/11/19	0-6	43

**Notes:**

bgs = below ground surface

CAS = Chemical Abstracts Service registry number

MDL = method detection limit

ND = not detected above listed MDL

RL = reporting limit

RSL = Regional Screening Level

USEPA = United States Environmental Protection Agency

ug/kg = micrograms per kilogram

<sup>(a)</sup> RSLs as set forth by USEPA Region 9 (USEPA, November 2019). Screening levels shown in parentheses were divided by 4 to account for potential dilution associated with the 4:1 composite sample.

**Table 3. Total Petroleum Hydrocarbons in Soil**

Hamilton Union High School Expansion

Hamilton City, Glenn County, California

Sample ID	Sample Date	GRO (C6-C12)	DRO (C13-C28)	MORO (C29-C40)
<i>USEPA Method</i>		<i>8015B</i>	<i>8015B</i>	<i>8015B</i>
<i>MDL</i>		<i>2.2</i>	<i>1.6</i>	<i>4.2</i>
<i>RL</i>		<i>10</i>	<i>10</i>	<i>10</i>
<i>Unit</i>		<i>mg/kg</i>	<i>mg/kg</i>	<i>mg/kg</i>
<i>Screening Levels<sup>(a)</sup></i>	<i>ESL</i>	<i>100</i>	<i>260</i>	<i>1600</i>
DD1D-0	11/11/19	ND	ND	17
DD2D-0	11/11/19	ND	2.9J	17
DD2D-0-CL	11/11/19	ND	5.4J	25
DD3D-0	11/11/19	ND	3.0J	16
DD4D-0	11/11/19	ND	5.6J	30
DD4D-0-FR	11/11/19	ND	5.2J	33
DD5D-0	11/11/19	ND	8.0J	26
DD6D-0	11/11/19	ND	11	48
DD7D-0	11/11/19	ND	10	35

**Notes:**

CAS = Chemical Abstracts Service

DRO = diesel range organics

ESL = Environmental Screening Level

GRO = gasoline range organics

J = estimated value; between method detection limit and reporting limit

MDL = method detection limit

mg/kg = milligrams per kilogram

MORO = motor oil range organics

ND = not detected

RL = reporting limit

RWQCB = Regional Water Quality Control Board

USEPA = United State Environmental Protection Agency

<sup>(a)</sup> RWQCB, San Francisco Bay Region, 2019. Environmental Screening Levels (ESLs).

**Table 4. Title 22 Metals in Soil**  
Hamilton Union High School Expansion  
Hamilton City, Glenn County, California

Sample ID	Sample Date	Depth (inches bgs)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
<i>USEPA Method</i>			6010B	6020	6010B	6010B	6010B	6010B	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	6020	6010B	6010B	
<i>CAS No.</i>			7440-36-0	7440-38-2	7440-39-3	7440-41-7	7440-43-9	7440-47-3	7440-48-4	7440-50-8	7439-92-1	7439-97-6	7439-98-7	7440-02-0	7782-49-2	7440-22-4	7440-28-0	7440-62-2	7440-66-6	
<i>MDL</i>			1.4	0.0025	0.3	0.2	0.1	0.1	0.2	0.2	1.0	0.027	0.2	0.3	2.2	0.5	0.10	0.3	0.1	
<i>RL</i>			3.0	0.25	1.0	1.0	2.0	2.0	2.0	1.0	3.0	0.10	5.0	2.0	5.0	2.0	0.25	5.0	1.0	
<i>Unit</i>			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
<i>Screening Levels</i> <sup>(a, b)</sup>	<i>DTSC-SL (Residential)</i>		NL	0.11	NL	16	71	NL	NL	NL	80	1.0	NL	820	NL	NL	NL	NL	NL	
	<i>DTSC-SL (Industrial)</i>		NL	0.36	NL	230	780	NL	NL	NL	320	4.4	NL	11,000	NL	NL	NL	NL	NL	
	<i>RSL (Residential)</i>		31	0.68	15,000	160	71	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000	
DD1D-0	11/11/19	0-6	ND	4.4	70	ND	0.53J	40	9.7	23	4.5	0.035J	ND	59	ND	ND	ND	28	52	
DD2D-0	11/11/19	0-6	ND	5.3	65	ND	0.51J	40	9.2	22	4.7	ND	ND	56	ND	ND	ND	27	52	
DD2D-0-CL	11/11/19	0-6	ND	4.8	65	ND	0.48J	37	8.7	21	4.5	ND	ND	54	ND	ND	ND	26	52	
DD3D-0	11/11/19	0-6	ND	4.3	62	ND	0.49J	35	8.4	20	4.8	ND	ND	50	ND	ND	ND	25	51	
DD4D-0	11/11/19	0-6	ND	5.8	65	ND	0.50J	35	9.1	21	5.2	ND	ND	52	ND	ND	ND	26	51	
DD4D-0-FR	11/11/19	0-6	ND	5.5	64	ND	0.48J	35	8.8	21	5.5	ND	ND	51	ND	ND	ND	25	56	
DD5D-0	11/11/19	0-6	ND	6.7	190	ND	0.57J	41	9.8	26	6.4	0.036J	ND	59	ND	ND	ND	30	77	
DD6D-0	11/11/19	0-6	ND	5.7	200	ND	0.56J	40	9.6	25	6.5	0.029J	ND	57	ND	ND	ND	29	81	
DD7D-0	11/11/19	0-6	ND	5.7	190	ND	0.53J	38	9.4	22	4.9	0.028J	ND	57	ND	ND	ND	28	58	

**Notes:**

- bgs = below ground surface
- CAS = Chemical Abstracts Service registry number
- DTSC-SL = California Department of Toxic Substances Control Screening Level, as set forth in Human Health Risk Assessment (HHRA) Note 3 (DTSC; April 2019)
- J = estimated value; between method detection limit and reporting limit
- MDL = method detection limit
- mg/kg = milligrams per kilogram
- ND = not detected greater than listed MDL
- RL = reporting limit
- RSL = Regional Screening Level
- USEPA = United States Environmental Protection Agency
- NL = not listed

<sup>(a)</sup> DTSC-SL as set forth in Human Health Risk Assessment (HHRA) Note 3 (DTSC; April 2019)

<sup>(b)</sup> RSLs as set forth by USEPA Region 9 (USEPA, November 2019)



## APPENDIX A

### Regulatory Correspondence



**Jared Blumenfeld**  
Secretary for  
Environmental Protection



## Department of Toxic Substances Control

Meredith Williams, Ph.D.  
Acting Director  
8800 Cal Center Drive  
Sacramento, California 95826-3200



**Gavin Newsom**  
Governor

November 5, 2019

Mr. Jeremy Powell, EdD  
Superintendent  
Hamilton Unified School District  
P.O. Box 488  
Hamilton City, California 95951

PRELIMINARY ENDANGERMENT ASSESSMENT WORKPLAN – APPROVAL,  
HAMILTON UNIFIED SCHOOL DISTRICT, HAMILTON UNION HIGH SCHOOL  
EXPANSION, NORTH OF 620 CANAL STREET AND EAST OF SR 45/CANAL  
STREET, HAMILTON CITY, GLENN COUNTY (PROJECT CODE 104806)

Dear Dr. Powell:

The Department of Toxic Substances Control (DTSC) reviewed the revised *Preliminary Endangerment Assessment Work Plan* (PEA Workplan – NV5, October 29, 2019) received electronically on November 1, 2019. The PEA Workplan was revised in response to DTSC comments on the draft version forwarded in a letter dated October 7, 2019. The PEA Workplan includes project background information as well as proposed environmental investigation activities.

According to the PEA Workplan, the Hamilton Unified School District (District) is proposing to expand the existing Hamilton Union High School. The proposed expansion will include phased construction of a gymnasium, a parking lot, new play fields, and modernization of utilities and infrastructure. The Site will be served by the Hamilton City Community Services District (CSD) which includes water provided by California Water Service – Chico District, storm drain connections provided by Glenn County Planning and Public Works Agency and sewer provided by the CSD.

The Site is identified as an approximately 45-acre portion of the parcel identified by the Glenn County Assessor's Parcel Number 032-230-015 (125 acres). The Site is bordered to the north by agricultural land; to the east by railroad tracks followed by agricultural land and the Sacramento River; to the south by Hamilton Union High School, then 6<sup>th</sup> Street, followed by mixed commercial businesses and residences; and, to the west by Canal Road, then the Glenn-Colusa Canal followed by agricultural land.

According to the PEA Workplan, the Site has been used for agricultural purposes since at least 1937. A hay type crop was planted at the Site from at least 1937 through approximately 1983. The Site was used as an orchard from approximately 1983 through 2017. The Site has been planted with a hay type crop since 2017. One pole-mounted transformer and water supply well are present at the Site. Both were likely installed around 1978.

The PEA Workplan includes activities to investigate the Site for potential impacts from the following environmental conditions that may pose a threat to human health or the environment:

- Organochlorine pesticides (OCPs), arsenic, and lead in soils from historic agricultural use;
- Arsenic, lead, and OCPs in soil and groundwater associated with the supply well as a potential mixing area;
- Polychlorinated biphenyls in soils associated with the pole-mounted transformer; and,
- Total petroleum hydrocarbons, metals, and OCPs in soils associated with a drainage ditch that runs east to west along the southern edge of the Site.

DTSC's comments have been adequately addressed, and the revised PEA Workplan is hereby approved. If Site conditions differ from those presented in the approved PEA Workplan, additional work may be necessary. In accordance with Education Code section 17210.1(b), the District shall provide written notice to businesses and residents in the immediate area, approved in form by DTSC, at least five days in advance of field investigation activities. The intent of this requirement is to provide advance notice of fieldwork such as drilling, sampling, and other environmental data collection activities to anyone who lives or works in the line of sight of the Site. Please notify DTSC a minimum of 48 hours in advance of fieldwork or schedule changes.

The PEA Workplan states that the District intends to make the Draft PEA Report available for public review in compliance with Option A of the Education Code section 17213.1(a)(6)(A). Pursuant to Education Code section 17213.1, subdivision (a)(6), at the same time the Draft PEA Report is submitted to DTSC for review, the District shall publish a DTSC approved notice in a local newspaper of general circulation and post the notice in a prominent manner at the Site. The notice should state the District's intent of making the Draft PEA Report available for public review pursuant Option A. A copy of the notice shall be submitted to DTSC with the Draft PEA Report.

Mr. Jeremy Powell, EdD  
November 5, 2019  
Page 3

If you have any questions regarding the project, please contact me at (916) 255-6666 or via email at [Elizabeth.Tisdale@dtsc.ca.gov](mailto:Elizabeth.Tisdale@dtsc.ca.gov).

Sincerely,



Elizabeth Tisdale  
Project Manager  
Northern California Schools Unit  
Site Mitigation and Restoration Program

cc: (via e-mail)

Ms. Kristen Hamman  
Chief Business Official  
Hamilton Unified School District  
[khamman@hudschools.org](mailto:khamman@hudschools.org)

Mr. Michael Cannon  
Principal  
EFPM, LLC  
[mscannon\\_efpm@msn.com](mailto:mscannon_efpm@msn.com)

Ms. Heidi Cummings, PG  
Senior Geologist  
NV5  
[Heidi.Cummings@nv5.com](mailto:Heidi.Cummings@nv5.com)

Mr. José Salcedo, PE  
Chief, Northern California Schools Unit  
DTSC – Sacramento Office  
[Jose.Salcedo@dtsc.ca.gov](mailto:Jose.Salcedo@dtsc.ca.gov)

Mr. Craig W. Bourne, PG  
Project Geologist  
NV5  
[Craig.Bourne@nv5.com](mailto:Craig.Bourne@nv5.com)

Ms. Valerie Hanley, PhD  
Staff Toxicologist  
DTSC – Human and Ecological Risk Office  
[Valerie.Hanley@dtsc.ca.gov](mailto:Valerie.Hanley@dtsc.ca.gov)

## **APPENDIX B**

### **Laboratory Reports and Chain-of-Custody Documentation**



25712 Commercentre Drive  
Lake Forest, California 92630  
949.297.5020 Phone  
949.297.5027 Fax

11 December 2019

Heidi Cummings

NV5

48 Bellarmine Ct, Suite 40

Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/13/19 08:27. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee

Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A1D-0	T193941-01	Soil	11/12/19 08:30	11/13/19 08:27
C1D-0	T193941-03	Soil	11/12/19 08:50	11/13/19 08:27
C1D-0-CL	T193941-04	Soil	11/12/19 09:00	11/13/19 08:27
ABCD1C-0	T193941-06	Soil	11/12/19 00:00	11/13/19 08:27
ABCD2C-0	T193941-15	Soil	11/12/19 00:00	11/13/19 08:27
ABCD2C-0-FR	T193941-16	Soil	11/12/19 00:00	11/13/19 08:27
B3D-0	T193941-18	Soil	11/12/19 10:25	11/13/19 08:27
B3D-0-FR	T193941-19	Soil	11/12/19 10:26	11/13/19 08:27
D3D-0	T193941-21	Soil	11/12/19 11:00	11/13/19 08:27
ABCD3C-0	T193941-22	Soil	11/12/19 00:00	11/13/19 08:27
ABCD4C-0	T193941-27	Soil	11/12/19 00:00	11/13/19 08:27
HHS1D-2	T193941-28	Soil	11/11/19 08:30	11/13/19 08:27
HHS2D-2	T193941-29	Soil	11/11/19 09:15	11/13/19 08:27
HHS3D-2	T193941-30	Soil	11/11/19 10:15	11/13/19 08:27
HHS3D-2-FR	T193941-31	Soil	11/11/19 10:18	11/13/19 08:27
HHS4D-2	T193941-32	Soil	11/11/19 10:30	11/13/19 08:27
HHS5D-2	T193941-33	Soil	11/11/19 10:45	11/13/19 08:27
HHS5D-2-CL	T193941-34	Soil	11/11/19 10:55	11/13/19 08:27
HHS6D-2	T193941-35	Soil	11/11/19 11:30	11/13/19 08:27
HHS7D-2	T193941-36	Soil	11/11/19 12:25	11/13/19 08:27
HHS8D-2	T193941-37	Soil	11/11/19 13:30	11/13/19 08:27
PMT-E6D-0	T193941-38	Soil	11/11/19 15:05	11/13/19 08:27
PMT-E6D-0-CL	T193941-39	Soil	11/11/19 15:15	11/13/19 08:27
PMT-E6D-2	T193941-40	Soil	11/11/19 15:30	11/13/19 08:27
EB-1	T193941-41	Water	11/11/19 15:00	11/13/19 08:27
DD1D-0	T193941-42	Soil	11/11/19 13:40	11/13/19 08:27
DD2D-0	T193941-43	Soil	11/11/19 13:45	11/13/19 08:27
DD2D-0-CL	T193941-44	Soil	11/11/19 13:50	11/13/19 08:27
DD3D-0	T193941-45	Soil	11/11/19 14:05	11/13/19 08:27

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DD4D-0	T193941-46	Soil	11/11/19 14:10	11/13/19 08:27
DD4D-0-FR	T193941-47	Soil	11/11/19 14:15	11/13/19 08:27
DD5D-0	T193941-48	Soil	11/11/19 14:25	11/13/19 08:27
DD6D-0	T193941-49	Soil	11/11/19 14:35	11/13/19 08:27
DD7D-0	T193941-50	Soil	11/11/19 15:00	11/13/19 08:27

This report has been revised to report Arsenic and Thallium under EPA 6020 instead of EPA 6010. JL 12/11/19







NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**Sample ID:** ABCD2C-0-FR **Laboratory ID:** T193941-16

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	8.7	5.0	ug/kg	EPA 8081A	

**Sample ID:** B3D-0 **Laboratory ID:** T193941-18

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	4.67	3.00	mg/kg	EPA 6010b	
Arsenic	5.3	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** B3D-0-FR **Laboratory ID:** T193941-19

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	4.28	3.00	mg/kg	EPA 6010b	
Arsenic	5.0	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** D3D-0 **Laboratory ID:** T193941-21

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	4.54	3.00	mg/kg	EPA 6010b	
Arsenic	4.7	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** ABCD3C-0 **Laboratory ID:** T193941-22

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	9.8	5.0	ug/kg	EPA 8081A	

**Sample ID:** ABCD4C-0 **Laboratory ID:** T193941-27

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	7.6	5.0	ug/kg	EPA 8081A	



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**Reported:**  
12/11/19 09:12

**Sample ID:** HHS1D-2      **Laboratory ID:** T193941-28

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	4.32	3.00	mg/kg	EPA 6010b	
Arsenic	5.0	0.23	mg/kg	6020 ICP-MS	

**Sample ID:** HHS2D-2      **Laboratory ID:** T193941-29

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	4.35	3.00	mg/kg	EPA 6010b	
Arsenic	5.4	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** HHS3D-2      **Laboratory ID:** T193941-30

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	4.07	3.00	mg/kg	EPA 6010b	
Arsenic	4.7	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** HHS3D-2-FR      **Laboratory ID:** T193941-31

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	3.74	3.00	mg/kg	EPA 6010b	
Arsenic	5.2	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** HHS4D-2      **Laboratory ID:** T193941-32

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	3.97	3.00	mg/kg	EPA 6010b	
Arsenic	3.6	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** HHS5D-2      **Laboratory ID:** T193941-33

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	3.72	3.00	mg/kg	EPA 6010b	
Arsenic	4.7	0.25	mg/kg	6020 ICP-MS	



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**Reported:**  
12/11/19 09:12

**Sample ID:** HHS5D-2-CL **Laboratory ID:** T193941-34

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	4.07	3.00	mg/kg	EPA 6010b	
Arsenic	4.6	0.23	mg/kg	6020 ICP-MS	

**Sample ID:** HHS6D-2 **Laboratory ID:** T193941-35

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	4.08	3.00	mg/kg	EPA 6010b	
Arsenic	5.1	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** HHS7D-2 **Laboratory ID:** T193941-36

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	3.80	3.00	mg/kg	EPA 6010b	
Arsenic	4.9	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** HHS8D-2 **Laboratory ID:** T193941-37

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	4.22	3.00	mg/kg	EPA 6010b	
Arsenic	5.7	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** PMT-E6D-0 **Laboratory ID:** T193941-38

No Results Detected

**Sample ID:** PMT-E6D-0-CL **Laboratory ID:** T193941-39

No Results Detected



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**Sample ID:** PMT-E6D-2

**Laboratory ID:** T193941-40

No Results Detected

**Sample ID:** EB-1

**Laboratory ID:** T193941-41

No Results Detected

**Sample ID:** DD1D-0

**Laboratory ID:** T193941-42

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
C29-C40 (MORO)	17	10	mg/kg	EPA 8015B	
Barium	70	1.0	mg/kg	EPA 6010b	
Cadmium	0.53	2.0	mg/kg	EPA 6010b	J
Chromium	40	2.0	mg/kg	EPA 6010b	
Cobalt	9.7	2.0	mg/kg	EPA 6010b	
Copper	23	1.0	mg/kg	EPA 6010b	
Lead	4.5	3.0	mg/kg	EPA 6010b	
Nickel	59	2.0	mg/kg	EPA 6010b	
Vanadium	28	5.0	mg/kg	EPA 6010b	
Zinc	52	1.0	mg/kg	EPA 6010b	
Arsenic	4.4	0.25	mg/kg	6020 ICP-MS	
Mercury	0.035	0.10	mg/kg	EPA 7471A Soil	J
4,4'-DDE	9.3	5.0	ug/kg	EPA 8081A	

**Sample ID:** DD2D-0

**Laboratory ID:** T193941-43

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
C13-C28 (DRO)	2.9	10	mg/kg	EPA 8015B	J
C29-C40 (MORO)	17	10	mg/kg	EPA 8015B	
Barium	65	1.0	mg/kg	EPA 6010b	
Cadmium	0.51	2.0	mg/kg	EPA 6010b	J
Chromium	40	2.0	mg/kg	EPA 6010b	
Cobalt	9.2	2.0	mg/kg	EPA 6010b	
Copper	22	1.0	mg/kg	EPA 6010b	



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12/11/19 09:12

**Sample ID:** DD2D-0      **Laboratory ID:** T193941-43

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	4.7	3.0	mg/kg	EPA 6010b	
Nickel	56	2.0	mg/kg	EPA 6010b	
Vanadium	27	5.0	mg/kg	EPA 6010b	
Zinc	52	1.0	mg/kg	EPA 6010b	
Arsenic	5.3	0.25	mg/kg	6020 ICP-MS	
4,4'-DDE	11	5.0	ug/kg	EPA 8081A	

**Sample ID:** DD2D-0-CL      **Laboratory ID:** T193941-44

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
C13-C28 (DRO)	5.4	10	mg/kg	EPA 8015B	J
C29-C40 (MORO)	25	10	mg/kg	EPA 8015B	
Barium	65	0.91	mg/kg	EPA 6010b	
Cadmium	0.48	1.8	mg/kg	EPA 6010b	J
Chromium	37	1.8	mg/kg	EPA 6010b	
Cobalt	8.7	1.8	mg/kg	EPA 6010b	
Copper	21	0.91	mg/kg	EPA 6010b	
Lead	4.5	2.7	mg/kg	EPA 6010b	
Nickel	54	1.8	mg/kg	EPA 6010b	
Vanadium	26	4.5	mg/kg	EPA 6010b	
Zinc	52	0.91	mg/kg	EPA 6010b	
Arsenic	4.8	0.25	mg/kg	6020 ICP-MS	
4,4'-DDE	12	5.0	ug/kg	EPA 8081A	

**Sample ID:** DD3D-0      **Laboratory ID:** T193941-45

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
C13-C28 (DRO)	3.0	10	mg/kg	EPA 8015B	J
C29-C40 (MORO)	16	10	mg/kg	EPA 8015B	
Barium	62	1.0	mg/kg	EPA 6010b	
Cadmium	0.49	2.0	mg/kg	EPA 6010b	J
Chromium	35	2.0	mg/kg	EPA 6010b	
Cobalt	8.4	2.0	mg/kg	EPA 6010b	
Copper	20	1.0	mg/kg	EPA 6010b	
Lead	4.8	3.0	mg/kg	EPA 6010b	



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Sample ID: DD3D-0

Laboratory ID: T193941-45

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Nickel	50	2.0	mg/kg	EPA 6010b	
Vanadium	25	5.0	mg/kg	EPA 6010b	
Zinc	51	1.0	mg/kg	EPA 6010b	
Arsenic	4.3	0.25	mg/kg	6020 ICP-MS	
4,4'-DDE	21	5.0	ug/kg	EPA 8081A	

Sample ID: DD4D-0

Laboratory ID: T193941-46

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
C13-C28 (DRO)	5.6	10	mg/kg	EPA 8015B	J
C29-C40 (MORO)	30	10	mg/kg	EPA 8015B	
Barium	65	1.0	mg/kg	EPA 6010b	
Cadmium	0.50	2.0	mg/kg	EPA 6010b	J
Chromium	35	2.0	mg/kg	EPA 6010b	
Cobalt	9.1	2.0	mg/kg	EPA 6010b	
Copper	21	1.0	mg/kg	EPA 6010b	
Lead	5.2	3.0	mg/kg	EPA 6010b	
Nickel	52	2.0	mg/kg	EPA 6010b	
Vanadium	26	5.0	mg/kg	EPA 6010b	
Zinc	51	1.0	mg/kg	EPA 6010b	
Arsenic	5.8	0.25	mg/kg	6020 ICP-MS	
4,4'-DDE	40	5.0	ug/kg	EPA 8081A	

Sample ID: DD4D-0-FR

Laboratory ID: T193941-47

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
C13-C28 (DRO)	5.2	10	mg/kg	EPA 8015B	J
C29-C40 (MORO)	33	10	mg/kg	EPA 8015B	
Barium	64	1.0	mg/kg	EPA 6010b	
Cadmium	0.48	2.0	mg/kg	EPA 6010b	J
Chromium	35	2.0	mg/kg	EPA 6010b	
Cobalt	8.8	2.0	mg/kg	EPA 6010b	
Copper	21	1.0	mg/kg	EPA 6010b	
Lead	5.5	3.0	mg/kg	EPA 6010b	
Nickel	51	2.0	mg/kg	EPA 6010b	



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**Sample ID:** DD4D-0-FR **Laboratory ID:** T193941-47

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Vanadium	25	5.0	mg/kg	EPA 6010b	
Zinc	56	1.0	mg/kg	EPA 6010b	
Arsenic	5.5	0.25	mg/kg	6020 ICP-MS	
4,4'-DDE	36	5.0	ug/kg	EPA 8081A	

**Sample ID:** DD5D-0 **Laboratory ID:** T193941-48

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
C13-C28 (DRO)	8.0	10	mg/kg	EPA 8015B	J
C29-C40 (MORO)	26	10	mg/kg	EPA 8015B	
Barium	190	4.0	mg/kg	EPA 6010b	RE-01
Cadmium	0.57	2.0	mg/kg	EPA 6010b	J
Chromium	41	2.0	mg/kg	EPA 6010b	
Cobalt	9.8	2.0	mg/kg	EPA 6010b	
Copper	26	1.0	mg/kg	EPA 6010b	
Lead	6.4	3.0	mg/kg	EPA 6010b	
Nickel	59	2.0	mg/kg	EPA 6010b	
Vanadium	30	5.0	mg/kg	EPA 6010b	
Zinc	77	1.0	mg/kg	EPA 6010b	
Arsenic	6.7	0.25	mg/kg	6020 ICP-MS	
Mercury	0.036	0.10	mg/kg	EPA 7471A Soil	J

**Sample ID:** DD5D-0 **Laboratory ID:** T193941-48RE1

No Results Detected

**Sample ID:** DD6D-0 **Laboratory ID:** T193941-49

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
C13-C28 (DRO)	11	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	48	10	mg/kg	EPA 8015B	
Barium	200	4.0	mg/kg	EPA 6010b	RE-01
Cadmium	0.56	2.0	mg/kg	EPA 6010b	J





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Sample ID: DD6D-0

Laboratory ID: T193941-49

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Chromium	40	2.0	mg/kg	EPA 6010b	
Cobalt	9.6	2.0	mg/kg	EPA 6010b	
Copper	25	1.0	mg/kg	EPA 6010b	
Lead	6.5	3.0	mg/kg	EPA 6010b	
Nickel	57	2.0	mg/kg	EPA 6010b	
Vanadium	29	5.0	mg/kg	EPA 6010b	
Zinc	81	1.0	mg/kg	EPA 6010b	
Arsenic	5.7	0.23	mg/kg	6020 ICP-MS	
Mercury	0.029	0.10	mg/kg	EPA 7471A Soil	J
4,4'-DDE	14	5.0	ug/kg	EPA 8081A	

Sample ID: DD7D-0

Laboratory ID: T193941-50

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
C13-C28 (DRO)	10	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	35	10	mg/kg	EPA 8015B	
Barium	190	4.0	mg/kg	EPA 6010b	RE-01
Cadmium	0.53	2.0	mg/kg	EPA 6010b	J
Chromium	38	2.0	mg/kg	EPA 6010b	
Cobalt	9.4	2.0	mg/kg	EPA 6010b	
Copper	22	1.0	mg/kg	EPA 6010b	
Lead	4.9	3.0	mg/kg	EPA 6010b	
Nickel	57	2.0	mg/kg	EPA 6010b	
Vanadium	28	5.0	mg/kg	EPA 6010b	
Zinc	58	1.0	mg/kg	EPA 6010b	
Arsenic	5.7	0.25	mg/kg	6020 ICP-MS	
Mercury	0.028	0.10	mg/kg	EPA 7471A Soil	J
4,4'-DDE	43	5.0	ug/kg	EPA 8081A	
4,4'-DDT	2.0	5.0	ug/kg	EPA 8081A	J



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Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**A1D-0**

**T193941-01(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>4.47</b>	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.4</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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NV5  
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Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**C1D-0**

**T193941-03(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	4.33	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	4.7	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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**Reported:**  
12/11/19 09:12

**C1D-0-CL**  
**T193941-04(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>4.72</b>	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>4.8</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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Reported:  
12/11/19 09:12

**ABCD1C-0**  
**T193941-06(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>12</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			126 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl			107 %		35-140	"	"	"	"	



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Project: Hamilton Union High School  
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Reported:  
12/11/19 09:12

**ABCD2C-0**  
**T193941-15(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>11</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			118 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl			128 %		35-140	"	"	"	"	





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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:12

**ABCD2C-0-FR**  
**T193941-16(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>8.7</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			119 %	35-140		"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			77.6 %	35-140		"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**B3D-0**  
**T193941-18(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>4.67</b>	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.3</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**B3D-0-FR**  
**T193941-19(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>4.28</b>	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.0</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**D3D-0**

**T193941-21(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>4.54</b>	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>4.7</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**ABCD3C-0**  
**T193941-22(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>9.8</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			120 %		35-140	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			67.0 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**ABCD4C-0**  
**T193941-27(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>7.6</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			116 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl			74.3 %		35-140	"	"	"	"	



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**HHS1D-2**  
**T193941-28(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>4.32</b>	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.0</b>	0.0023	0.23	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**HHS2D-2**  
**T193941-29(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>4.35</b>	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.4</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**HHS3D-2**  
**T193941-30(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>4.07</b>	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>4.7</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**HHS3D-2-FR**  
**T193941-31(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	3.74	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	5.2	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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NV5  
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Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**HHS4D-2**  
**T193941-32(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>3.97</b>	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>3.6</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**HHS5D-2**  
**T193941-33(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	3.72	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	4.7	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 12/11/19 09:12
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**HHS5D-2-CL**  
**T193941-34(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>4.07</b>	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>4.6</b>	0.0023	0.23	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**HHS6D-2**  
**T193941-35(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>4.08</b>	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.1</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**HHS7D-2**  
**T193941-36(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>3.80</b>	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>4.9</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**HHS8D-2**  
**T193941-37(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>4.22</b>	0.967	3.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.7</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**PMT-E6D-0**  
**T193941-38(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Polychlorinated Biphenyls by EPA Method 8082**

PCB-1016	ND	2.1	10	ug/kg	1	9111415	11/14/19	11/14/19	EPA 8082	
PCB-1221	ND	2.1	10	"	"	"	"	"	"	
PCB-1232	ND	2.1	10	"	"	"	"	"	"	
PCB-1242	ND	2.1	10	"	"	"	"	"	"	
PCB-1248	ND	2.1	10	"	"	"	"	"	"	
PCB-1254	ND	2.1	10	"	"	"	"	"	"	
PCB-1260	ND	2.1	10	"	"	"	"	"	"	

Surrogate: Tetrachloro-meta-xylene

76.8 % 35-140

"

"

"

"

Surrogate: Decachlorobiphenyl

75.2 % 35-140

"

"

"

"

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**PMT-E6D-0-CL**  
**T193941-39(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Polychlorinated Biphenyls by EPA Method 8082**

PCB-1016	ND	2.1	10	ug/kg	1	9111415	11/14/19	11/14/19	EPA 8082	
PCB-1221	ND	2.1	10	"	"	"	"	"	"	
PCB-1232	ND	2.1	10	"	"	"	"	"	"	
PCB-1242	ND	2.1	10	"	"	"	"	"	"	
PCB-1248	ND	2.1	10	"	"	"	"	"	"	
PCB-1254	ND	2.1	10	"	"	"	"	"	"	
PCB-1260	ND	2.1	10	"	"	"	"	"	"	

Surrogate: Tetrachloro-meta-xylene

88.1 % 35-140

"

"

"

"

Surrogate: Decachlorobiphenyl

102 % 35-140

"

"

"

"

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**PMT-E6D-2**  
**T193941-40(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Polychlorinated Biphenyls by EPA Method 8082**

PCB-1016	ND	2.1	10	ug/kg	1	9111415	11/14/19	11/14/19	EPA 8082	
PCB-1221	ND	2.1	10	"	"	"	"	"	"	
PCB-1232	ND	2.1	10	"	"	"	"	"	"	
PCB-1242	ND	2.1	10	"	"	"	"	"	"	
PCB-1248	ND	2.1	10	"	"	"	"	"	"	
PCB-1254	ND	2.1	10	"	"	"	"	"	"	
PCB-1260	ND	2.1	10	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			87.3 %	35-140		"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			119 %	35-140		"	"	"	"	

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**EB-1**  
**T193941-41(Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	0.013	0.050	mg/l	1	9111347	11/13/19	11/14/19	EPA 8015B	
C13-C28 (DRO)	ND	0.013	0.050	"	"	"	"	"	"	
C29-C40 (MORO)	ND	0.013	0.10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>			<i>115 %</i>	<i>65-135</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

**Metals by EPA 6010B**

Antimony	ND	17	50	ug/l	1	9111354	11/13/19	11/15/19	EPA 6010b	
Silver	ND	24	50	"	"	"	"	"	"	
Arsenic	ND	17	50	"	"	"	"	"	"	
Barium	ND	13	50	"	"	"	"	"	"	
Beryllium	ND	18	50	"	"	"	"	11/15/19	"	
Cadmium	ND	21	50	"	"	"	"	11/15/19	"	
Chromium	ND	21	50	"	"	"	"	"	"	
Cobalt	ND	14	50	"	"	"	"	"	"	
Copper	ND	20	50	"	"	"	"	"	"	
Lead	ND	17	50	"	"	"	"	"	"	
Molybdenum	ND	14	50	"	"	"	"	"	"	
Nickel	ND	14	50	"	"	"	"	"	"	
Selenium	ND	19	50	"	"	"	"	"	"	
Thallium	ND	16	50	"	"	"	"	"	"	
Vanadium	ND	20	50	"	"	"	"	"	"	
Zinc	ND	17	50	"	"	"	"	"	"	

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.022	0.50	ug/l	1	9111355	11/13/19	11/15/19	EPA 7470A Water	
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SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**EB-1**

**T193941-41(Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.04	1.00	ug/l	1	9111344	11/13/19	11/13/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.03	1.00	"	"	"	"	"	"	
beta-BHC	ND	0.05	1.00	"	"	"	"	"	"	
delta-BHC	ND	0.02	1.00	"	"	"	"	"	"	
Heptachlor	ND	0.04	1.00	"	"	"	"	"	"	
Aldrin	ND	0.02	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.04	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	0.05	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	0.03	1.00	"	"	"	"	"	"	
Endosulfan I	ND	0.02	1.00	"	"	"	"	"	"	
4,4'-DDE	ND	0.04	1.00	"	"	"	"	"	"	
Dieldrin	ND	0.03	1.00	"	"	"	"	"	"	
Endrin	ND	0.04	1.00	"	"	"	"	"	"	
4,4'-DDD	ND	0.03	1.00	"	"	"	"	"	"	
Endosulfan II	ND	0.04	1.00	"	"	"	"	"	"	
4,4'-DDT	ND	0.06	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	0.02	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.05	1.00	"	"	"	"	"	"	
Methoxychlor	ND	0.03	1.00	"	"	"	"	"	"	
Endrin ketone	ND	0.05	1.00	"	"	"	"	"	"	
Chlordane (tech)	ND	1.00	10.0	"	"	"	"	"	"	
Toxaphene	ND	5.79	20.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			61.2 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl			77.7 %		35-140	"	"	"	"	



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**DD1D-0**  
**T193941-42(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	1.6	10	"	"	"	"	"	"	
<b>C29-C40 (MORO)</b>	<b>17</b>	4.2	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>			<i>106 %</i>	<i>65-135</i>		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
<b>Barium</b>	<b>70</b>	0.30	1.0	"	"	"	"	"	"	
Beryllium	ND	0.20	1.0	"	"	"	"	11/15/19	"	
<b>Cadmium</b>	<b>0.53</b>	0.10	2.0	"	"	"	"	11/15/19	"	J
<b>Chromium</b>	<b>40</b>	0.10	2.0	"	"	"	"	"	"	
<b>Cobalt</b>	<b>9.7</b>	0.20	2.0	"	"	"	"	"	"	
<b>Copper</b>	<b>23</b>	0.20	1.0	"	"	"	"	"	"	
<b>Lead</b>	<b>4.5</b>	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>59</b>	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>28</b>	0.30	5.0	"	"	"	"	"	"	
<b>Zinc</b>	<b>52</b>	0.10	1.0	"	"	"	"	"	"	

**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>4.4</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**DD1D-0**  
**T193941-42(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Cold Vapor Extraction EPA 7470/7471**

Mercury	0.035	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	J
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**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>9.3</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	

Surrogate: Tetrachloro-meta-xylene

120 % 35-140

" " " "

Surrogate: Decachlorobiphenyl

96.6 % 35-140

" " " "

SunStar Laboratories, Inc.

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25712 Commercentre Drive  
 Lake Forest, California 92630  
 949.297.5020 Phone  
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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 12/11/19 09:12
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**DD2D-0**  
**T193941-43(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
<b>C13-C28 (DRO)</b>	<b>2.9</b>	1.6	10	"	"	"	"	"	"	J
<b>C29-C40 (MORO)</b>	<b>17</b>	4.2	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>			<i>111 %</i>	<i>65-135</i>		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
<b>Barium</b>	<b>65</b>	0.30	1.0	"	"	"	"	"	"	J
Beryllium	ND	0.20	1.0	"	"	"	"	"	"	
<b>Cadmium</b>	<b>0.51</b>	0.10	2.0	"	"	"	"	"	"	J
<b>Chromium</b>	<b>40</b>	0.10	2.0	"	"	"	"	"	"	
<b>Cobalt</b>	<b>9.2</b>	0.20	2.0	"	"	"	"	"	"	
<b>Copper</b>	<b>22</b>	0.20	1.0	"	"	"	"	"	"	
<b>Lead</b>	<b>4.7</b>	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>56</b>	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>27</b>	0.30	5.0	"	"	"	"	"	"	
<b>Zinc</b>	<b>52</b>	0.10	1.0	"	"	"	"	"	"	

**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.3</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**DD2D-0**  
**T193941-43(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	"
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	"
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	"
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	"
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	"
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	"
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	"
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	"
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	"
<b>4,4'-DDE</b>	<b>11</b>	0.78	5.0	"	"	"	"	"	"	"
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	"
Endrin	ND	1.1	5.0	"	"	"	"	"	"	"
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	"
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	"
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	"
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	"
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	"
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	"
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	"
Toxaphene	ND	5.8	20	"	"	"	"	"	"	"
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	"
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	"

Surrogate: Tetrachloro-meta-xylene

112 % 35-140

" " " "

Surrogate: Decachlorobiphenyl

69.0 % 35-140

" " " "

SunStar Laboratories, Inc.

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 949.297.5020 Phone  
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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 12/11/19 09:12
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**DD2D-0-CL**  
**T193941-44(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
<b>C13-C28 (DRO)</b>	<b>5.4</b>	1.6	10	"	"	"	"	"	"	J
<b>C29-C40 (MORO)</b>	<b>25</b>	4.2	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>			<i>111 %</i>	<i>65-135</i>		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	1.3	2.7	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.45	1.8	"	"	"	"	"	"	
<b>Barium</b>	<b>65</b>	0.27	0.91	"	"	"	"	"	"	
Beryllium	ND	0.18	0.91	"	"	"	"	11/15/19	"	
<b>Cadmium</b>	<b>0.48</b>	0.091	1.8	"	"	"	"	11/15/19	"	J
<b>Chromium</b>	<b>37</b>	0.091	1.8	"	"	"	"	"	"	
<b>Cobalt</b>	<b>8.7</b>	0.18	1.8	"	"	"	"	"	"	
<b>Copper</b>	<b>21</b>	0.18	0.91	"	"	"	"	"	"	
<b>Lead</b>	<b>4.5</b>	0.91	2.7	"	"	"	"	"	"	
Molybdenum	ND	0.18	4.5	"	"	"	"	"	"	
<b>Nickel</b>	<b>54</b>	0.27	1.8	"	"	"	"	"	"	
Selenium	ND	2.0	4.5	"	"	"	"	"	"	
<b>Vanadium</b>	<b>26</b>	0.27	4.5	"	"	"	"	"	"	
<b>Zinc</b>	<b>52</b>	0.091	0.91	"	"	"	"	"	"	

**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>4.8</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**DD2D-0-CL**  
**T193941-44(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	"
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	"
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	"
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	"
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	"
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	"
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	"
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	"
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	"
<b>4,4'-DDE</b>	<b>12</b>	0.78	5.0	"	"	"	"	"	"	"
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	"
Endrin	ND	1.1	5.0	"	"	"	"	"	"	"
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	"
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	"
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	"
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	"
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	"
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	"
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	"
Toxaphene	ND	5.8	20	"	"	"	"	"	"	"
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	"
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	"

Surrogate: Tetrachloro-meta-xylene

106 % 35-140

" " " "

Surrogate: Decachlorobiphenyl

57.7 % 35-140

" " " "

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**DD3D-0**  
**T193941-45(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
<b>C13-C28 (DRO)</b>	<b>3.0</b>	1.6	10	"	"	"	"	"	"	J
<b>C29-C40 (MORO)</b>	<b>16</b>	4.2	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>			96.0 %	65-135		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
<b>Barium</b>	<b>62</b>	0.30	1.0	"	"	"	"	"	"	
Beryllium	ND	0.20	1.0	"	"	"	"	"	"	
<b>Cadmium</b>	<b>0.49</b>	0.10	2.0	"	"	"	"	"	"	J
<b>Chromium</b>	<b>35</b>	0.10	2.0	"	"	"	"	"	"	
<b>Cobalt</b>	<b>8.4</b>	0.20	2.0	"	"	"	"	"	"	
<b>Copper</b>	<b>20</b>	0.20	1.0	"	"	"	"	"	"	
<b>Lead</b>	<b>4.8</b>	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>50</b>	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>25</b>	0.30	5.0	"	"	"	"	"	"	
<b>Zinc</b>	<b>51</b>	0.10	1.0	"	"	"	"	"	"	

**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>4.3</b>	0.0025	0.25	mg/kg	1	9121017	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**DD3D-0**  
**T193941-45(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	"
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	"
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	"
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	"
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	"
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	"
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	"
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	"
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	"
<b>4,4'-DDE</b>	<b>21</b>	0.78	5.0	"	"	"	"	"	"	"
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	"
Endrin	ND	1.1	5.0	"	"	"	"	"	"	"
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	"
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	"
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	"
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	"
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	"
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	"
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	"
Toxaphene	ND	5.8	20	"	"	"	"	"	"	"
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	"
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	"

Surrogate: Tetrachloro-meta-xylene

117 % 35-140

" " " "

Surrogate: Decachlorobiphenyl

112 % 35-140

" " " "

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**DD4D-0**  
**T193941-46(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
<b>C13-C28 (DRO)</b>	<b>5.6</b>	1.6	10	"	"	"	"	"	"	J
<b>C29-C40 (MORO)</b>	<b>30</b>	4.2	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>			<i>114 %</i>	<i>65-135</i>		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
<b>Barium</b>	<b>65</b>	0.30	1.0	"	"	"	"	"	"	
Beryllium	ND	0.20	1.0	"	"	"	"	"	"	
<b>Cadmium</b>	<b>0.50</b>	0.10	2.0	"	"	"	"	"	"	J
<b>Chromium</b>	<b>35</b>	0.10	2.0	"	"	"	"	"	"	
<b>Cobalt</b>	<b>9.1</b>	0.20	2.0	"	"	"	"	"	"	
<b>Copper</b>	<b>21</b>	0.20	1.0	"	"	"	"	"	"	
<b>Lead</b>	<b>5.2</b>	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>52</b>	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>26</b>	0.30	5.0	"	"	"	"	"	"	
<b>Zinc</b>	<b>51</b>	0.10	1.0	"	"	"	"	"	"	

**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.8</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**DD4D-0**

**T193941-46(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>40</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	

Surrogate: Tetrachloro-meta-xylene

116 % 35-140

" " " "

Surrogate: Decachlorobiphenyl

89.6 % 35-140

" " " "

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**DD4D-0-FR**  
**T193941-47(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
<b>C13-C28 (DRO)</b>	<b>5.2</b>	1.6	10	"	"	"	"	"	"	J
<b>C29-C40 (MORO)</b>	<b>33</b>	4.2	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>			<i>112 %</i>	<i>65-135</i>		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
<b>Barium</b>	<b>64</b>	0.30	1.0	"	"	"	"	"	"	
Beryllium	ND	0.20	1.0	"	"	"	"	11/15/19	"	
<b>Cadmium</b>	<b>0.48</b>	0.10	2.0	"	"	"	"	11/15/19	"	J
<b>Chromium</b>	<b>35</b>	0.10	2.0	"	"	"	"	"	"	
<b>Cobalt</b>	<b>8.8</b>	0.20	2.0	"	"	"	"	"	"	
<b>Copper</b>	<b>21</b>	0.20	1.0	"	"	"	"	"	"	
<b>Lead</b>	<b>5.5</b>	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>51</b>	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>25</b>	0.30	5.0	"	"	"	"	"	"	
<b>Zinc</b>	<b>56</b>	0.10	1.0	"	"	"	"	"	"	

**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.5</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**DD4D-0-FR**  
**T193941-47(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>36</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	

Surrogate: Tetrachloro-meta-xylene

114 % 35-140

" " " "

Surrogate: Decachlorobiphenyl

81.8 % 35-140

" " " "

SunStar Laboratories, Inc.

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.



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**DD5D-0**  
**T193941-48(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
<b>C13-C28 (DRO)</b>	<b>8.0</b>	1.6	10	"	"	"	"	"	"	J
<b>C29-C40 (MORO)</b>	<b>26</b>	4.2	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>			<i>111 %</i>	<i>65-135</i>		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
<b>Barium</b>	<b>190</b>	1.2	4.0	"	4	"	"	11/15/19	"	RE-01
Beryllium	ND	0.20	1.0	"	1	"	"	11/15/19	"	
<b>Cadmium</b>	<b>0.57</b>	0.10	2.0	"	"	"	"	"	"	J
<b>Chromium</b>	<b>41</b>	0.10	2.0	"	"	"	"	"	"	
<b>Cobalt</b>	<b>9.8</b>	0.20	2.0	"	"	"	"	"	"	
<b>Copper</b>	<b>26</b>	0.20	1.0	"	"	"	"	"	"	
<b>Lead</b>	<b>6.4</b>	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>59</b>	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>30</b>	0.30	5.0	"	"	"	"	"	"	
<b>Zinc</b>	<b>77</b>	0.10	1.0	"	"	"	"	"	"	

**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>6.7</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.

*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.*





NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**DD5D-0**  
**T193941-48(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Cold Vapor Extraction EPA 7470/7471**

Mercury	0.036	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	J
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**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.6	50	ug/kg	10	9111350	11/13/19	11/14/19	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	9.6	50	"	"	"	"	"	"	R-07
beta-BHC	ND	14	50	"	"	"	"	"	"	R-07
delta-BHC	ND	6.4	50	"	"	"	"	"	"	R-07
Heptachlor	ND	5.9	50	"	"	"	"	"	"	R-07
Aldrin	ND	6.6	50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	9.8	50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	9.3	50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	8.3	50	"	"	"	"	"	"	R-07
Endosulfan I	ND	8.1	50	"	"	"	"	"	"	R-07
4,4'-DDE	ND	7.8	50	"	"	"	"	"	"	R-07
Dieldrin	ND	11	50	"	"	"	"	"	"	R-07
Endrin	ND	11	50	"	"	"	"	"	"	R-07
4,4'-DDD	ND	12	50	"	"	"	"	"	"	R-07
Endosulfan II	ND	11	50	"	"	"	"	"	"	R-07
4,4'-DDT	ND	8.0	50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	17	50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	6.1	50	"	"	"	"	"	"	R-07
Methoxychlor	ND	4.0	50	"	"	"	"	"	"	R-07
Endrin ketone	ND	13	50	"	"	"	"	"	"	R-07
Toxaphene	ND	58	200	"	"	"	"	"	"	R-07
Chlordane (tech)	ND	5.0	50	"	1	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	

Surrogate: Tetrachloro-meta-xylene

114 % 35-140

Surrogate: Decachlorobiphenyl

100 % 35-140

SunStar Laboratories, Inc.

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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:12

**DD5D-0**

**T193941-48RE1(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9112036	11/20/19	11/26/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			109 %	35-140		"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			104 %	35-140		"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**DD6D-0**  
**T193941-49(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	11	1.6	10	"	"	"	"	"	"	
C29-C40 (MORO)	48	4.2	10	"	"	"	"	"	"	
Surrogate: <i>p</i> -Terphenyl			117 %	65-135		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	11/15/19	"	
Barium	200	1.2	4.0	"	4	"	"	11/15/19	"	RE-01
Beryllium	ND	0.20	1.0	"	1	"	"	11/15/19	"	
Cadmium	0.56	0.10	2.0	"	"	"	"	11/15/19	"	J
Chromium	40	0.10	2.0	"	"	"	"	11/15/19	"	
Cobalt	9.6	0.20	2.0	"	"	"	"	11/15/19	"	
Copper	25	0.20	1.0	"	"	"	"	11/15/19	"	
Lead	6.5	1.0	3.0	"	"	"	"	11/15/19	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
Nickel	57	0.30	2.0	"	"	"	"	11/15/19	"	
Selenium	ND	2.2	5.0	"	"	"	"	11/15/19	"	
Vanadium	29	0.30	5.0	"	"	"	"	11/15/19	"	
Zinc	81	0.10	1.0	"	"	"	"	"	"	

**Metals by EPA 6020 Method**

Arsenic	5.7	0.0023	0.23	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.090	0.23	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**DD6D-0**  
**T193941-49(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Cold Vapor Extraction EPA 7470/7471**

Mercury	0.029	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	J
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**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>14</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	

Surrogate: Tetrachloro-meta-xylene

116 % 35-140

"

"

"

"

Surrogate: Decachlorobiphenyl

106 % 35-140

"

"

"

"

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**DD7D-0**  
**T193941-50(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	2.2	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
<b>C13-C28 (DRO)</b>	<b>10</b>	1.6	10	"	"	"	"	"	"	
<b>C29-C40 (MORO)</b>	<b>35</b>	4.2	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>			<i>119 %</i>	<i>65-135</i>		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	1.4	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	0.50	2.0	"	"	"	"	"	"	
<b>Barium</b>	<b>190</b>	1.2	4.0	"	4	"	"	11/15/19	"	RE-01
Beryllium	ND	0.20	1.0	"	1	"	"	11/15/19	"	
<b>Cadmium</b>	<b>0.53</b>	0.10	2.0	"	"	"	"	11/15/19	"	J
<b>Chromium</b>	<b>38</b>	0.10	2.0	"	"	"	"	"	"	
<b>Cobalt</b>	<b>9.4</b>	0.20	2.0	"	"	"	"	"	"	
<b>Copper</b>	<b>22</b>	0.20	1.0	"	"	"	"	"	"	
<b>Lead</b>	<b>4.9</b>	1.0	3.0	"	"	"	"	"	"	
Molybdenum	ND	0.20	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>57</b>	0.30	2.0	"	"	"	"	"	"	
Selenium	ND	2.2	5.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>28</b>	0.30	5.0	"	"	"	"	"	"	
<b>Zinc</b>	<b>58</b>	0.10	1.0	"	"	"	"	"	"	

**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.7</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
Thallium	ND	0.099	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 12/11/19 09:12
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**DD7D-0**  
**T193941-50(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Cold Vapor Extraction EPA 7470/7471**

Mercury	0.028	0.027	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	J
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**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>43</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
<b>4,4'-DDT</b>	<b>2.0</b>	0.80	5.0	"	"	"	"	"	"	J
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	

Surrogate: Tetrachloro-meta-xylene

126 % 35-140

" " " "

Surrogate: Decachlorobiphenyl

96.3 % 35-140

" " " "





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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:12

**Extractable Petroleum Hydrocarbons by 8015B - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111347 - EPA 3510C GC**

**Blank (9111347-BLK1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Surrogate: <i>p</i> -Terphenyl	5.90			mg/l	4.00		147	65-135			S-13
C6-C12 (GRO)	ND	0.013	0.050	"							
C13-C28 (DRO)	ND	0.013	0.050	"							
C29-C40 (MORO)	ND	0.013	0.10	"							

**LCS (9111347-BS1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Surrogate: <i>p</i> -Terphenyl	4.67			mg/l	4.00		117	65-135			
C13-C28 (DRO)	19.4	0.013	0.050	"	20.0		97.0	75-125			

**LCS Dup (9111347-BSD1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Surrogate: <i>p</i> -Terphenyl	4.82			mg/l	4.00		121	65-135			
C13-C28 (DRO)	19.1	0.013	0.050	"	20.0		95.3	75-125	1.76	20	

**Batch 9111411 - EPA 3550B GC**

**Blank (9111411-BLK1)**

Prepared: 11/14/19 Analyzed: 11/15/19

Surrogate: <i>p</i> -Terphenyl	112			mg/kg	101		111	65-135			
C6-C12 (GRO)	ND	2.2	10	"							
C13-C28 (DRO)	ND	1.6	10	"							
C29-C40 (MORO)	ND	4.2	10	"							

**LCS (9111411-BS1)**

Prepared: 11/14/19 Analyzed: 11/15/19

Surrogate: <i>p</i> -Terphenyl	114			mg/kg	101		113	65-135			
C13-C28 (DRO)	510	1.6	10	"	505		102	75-125			

**LCS Dup (9111411-BSD1)**

Prepared: 11/14/19 Analyzed: 11/15/19

Surrogate: <i>p</i> -Terphenyl	110			mg/kg	101		109	65-135			
C13-C28 (DRO)	500	1.6	10	"	505		99.7	75-125	1.88	20	

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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:12

**Metals by EPA 6010B - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111354 - EPA 3010A**

**Blank (9111354-BLK1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Antimony	ND	17	50	ug/l							
Silver	ND	24	50	"							
Arsenic	ND	17	50	"							
Barium	ND	13	50	"							
Beryllium	ND	18	50	"							
Cadmium	ND	21	50	"							
Chromium	ND	21	50	"							
Cobalt	ND	14	50	"							
Copper	ND	20	50	"							
Lead	ND	17	50	"							
Molybdenum	ND	14	50	"							
Nickel	ND	14	50	"							
Selenium	ND	19	50	"							
Thallium	ND	16	50	"							
Vanadium	ND	20	50	"							
Zinc	ND	17	50	"							

**LCS (9111354-BS1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Arsenic	503	17	50	ug/l	500		101	75-125			
Barium	511	13	50	"	500		102	75-125			
Cadmium	512	21	50	"	500		102	75-125			
Chromium	513	21	50	"	500		103	75-125			
Lead	509	17	50	"	500		102	75-125			

**Matrix Spike (9111354-MS1)**

Source: T193930-01

Prepared: 11/13/19 Analyzed: 11/14/19

Arsenic	528	17	50	ug/l	500	ND	106	75-125			
Barium	662	13	50	"	500	170	98.4	75-125			QM-05
Cadmium	505	21	50	"	500	ND	101	75-125			
Chromium	507	21	50	"	500	ND	101	75-125			

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Project Manager: Heidi Cummings

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**Metals by EPA 6010B - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111354 - EPA 3010A**

**Matrix Spike (9111354-MS1)**

Source: T193930-01

Prepared: 11/13/19 Analyzed: 11/14/19

Lead	494	17	50	ug/l	500	ND	98.8	75-125			
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**Matrix Spike Dup (9111354-MSD1)**

Source: T193930-01

Prepared: 11/13/19 Analyzed: 11/14/19

Arsenic	529	17	50	ug/l	500	ND	106	75-125	0.209	20	
Barium	656	13	50	"	500	170	97.3	75-125	0.860	20	QM-05
Cadmium	498	21	50	"	500	ND	99.7	75-125	1.23	20	
Chromium	501	21	50	"	500	ND	100	75-125	1.28	20	
Lead	496	17	50	"	500	ND	99.1	75-125	0.352	20	

**Batch 9111360 - EPA 3050B**

**Blank (9111360-BLK1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Antimony	ND	0.0141	3.00	mg/kg							
Arsenic	ND	0.800	5.00	"							
Barium	ND	0.338	1.00	"							
Beryllium	ND	0.157	1.00	"							
Cadmium	ND	0.114	2.00	"							
Chromium	ND	0.121	2.00	"							
Cobalt	ND	0.239	2.00	"							
Copper	ND	0.152	1.00	"							
Lead	ND	0.967	3.00	"							
Molybdenum	ND	0.243	5.00	"							
Nickel	ND	0.263	2.00	"							
Selenium	ND	2.25	5.00	"							
Silver	ND	0.522	2.00	"							
Thallium	ND	1.74	2.00	"							
Vanadium	ND	0.306	5.00	"							
Zinc	ND	0.131	1.00	"							

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Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**Metals by EPA 6010B - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111360 - EPA 3050B**

**LCS (9111360-BS1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Arsenic	101	0.800	5.00	mg/kg	100		101	75-125			
Barium	102	0.338	1.00	"	100		102	75-125			
Cadmium	101	0.114	2.00	"	100		101	75-125			
Chromium	102	0.121	2.00	"	100		102	75-125			
Lead	101	0.967	3.00	"	100		101	75-125			

**Matrix Spike (9111360-MS1)**

Source: T193921-01

Prepared: 11/13/19 Analyzed: 11/14/19

Arsenic	57.2	0.800	5.00	mg/kg	97.1	ND	58.9	75-125			QM-05
Barium	125	0.338	1.00	"	97.1	41.9	85.8	75-125			QM-05
Cadmium	56.6	0.114	2.00	"	97.1	0.155	58.1	75-125			QM-05
Chromium	62.6	0.121	2.00	"	97.1	3.62	60.8	75-125			QM-05
Lead	55.7	0.967	3.00	"	97.1	1.02	56.3	75-125			QM-05

**Matrix Spike Dup (9111360-MSD1)**

Source: T193921-01

Prepared: 11/13/19 Analyzed: 11/14/19

Arsenic	62.0	0.800	5.00	mg/kg	97.1	ND	63.9	75-125	8.08	20	QM-05
Barium	133	0.338	1.00	"	97.1	41.9	93.4	75-125	5.71	20	QM-05
Cadmium	58.5	0.114	2.00	"	97.1	0.155	60.1	75-125	3.36	20	QM-05
Chromium	65.0	0.121	2.00	"	97.1	3.62	63.3	75-125	3.82	20	QM-05
Lead	59.5	0.967	3.00	"	97.1	1.02	60.3	75-125	6.65	20	QM-05

**Batch 9111418 - EPA 3050B**

**Blank (9111418-BLK1)**

Prepared: 11/14/19 Analyzed: 11/15/19

Antimony	ND	1.4	3.0	mg/kg							
Silver	ND	0.50	2.0	"							
Arsenic	ND	0.80	5.0	"							
Barium	ND	0.30	1.0	"							
Beryllium	ND	0.20	1.0	"							
Cadmium	ND	0.10	2.0	"							
Chromium	ND	0.10	2.0	"							

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**Metals by EPA 6010B - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111418 - EPA 3050B**

**Blank (9111418-BLK1)** Prepared: 11/14/19 Analyzed: 11/15/19

Cobalt	ND	0.20	2.0	mg/kg							
Copper	ND	0.20	1.0	"							
Lead	ND	1.0	3.0	"							
Molybdenum	ND	0.20	5.0	"							
Nickel	ND	0.30	2.0	"							
Selenium	ND	2.2	5.0	"							
Thallium	ND	1.7	2.0	"							
Vanadium	ND	0.30	5.0	"							
Zinc	ND	0.10	1.0	"							

**LCS (9111418-BS1)** Prepared: 11/14/19 Analyzed: 11/15/19

Arsenic	94.2	0.80	5.0	mg/kg	100		94.2	75-125			
Barium	94.4	0.30	1.0	"	100		94.4	75-125			
Cadmium	94.0	0.10	2.0	"	100		94.0	75-125			
Chromium	94.1	0.10	2.0	"	100		94.1	75-125			
Lead	94.8	1.0	3.0	"	100		94.8	75-125			

**Matrix Spike (9111418-MS1)** Source: T193941-42 Prepared: 11/14/19 Analyzed: 11/15/19

Arsenic	51.2	0.80	5.0	mg/kg	96.2	ND	53.2	75-125			QM-05
Barium	119	0.30	1.0	"	96.2	69.9	50.8	75-125			QM-05
Cadmium	49.8	0.10	2.0	"	96.2	0.532	51.2	75-125			QM-05
Chromium	92.4	0.10	2.0	"	96.2	40.3	54.2	75-125			QM-05
Lead	52.2	1.0	3.0	"	96.2	4.54	49.6	75-125			QM-05

**Matrix Spike Dup (9111418-MSD1)** Source: T193941-42 Prepared: 11/14/19 Analyzed: 11/15/19

Arsenic	55.3	0.80	5.0	mg/kg	98.0	ND	56.4	75-125	7.78	20	QM-05
Barium	121	0.30	1.0	"	98.0	69.9	52.3	75-125	2.05	20	QM-05
Cadmium	52.5	0.10	2.0	"	98.0	0.532	53.0	75-125	5.28	20	QM-05
Chromium	94.5	0.10	2.0	"	98.0	40.3	55.2	75-125	2.21	20	QM-05

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**Metals by EPA 6010B - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111418 - EPA 3050B**

<b>Matrix Spike Dup (9111418-MSD1)</b>		<b>Source: T193941-42</b>			<b>Prepared: 11/14/19 Analyzed: 11/15/19</b>						
Lead	55.7	1.0	3.0	mg/kg	98.0	4.54	52.1	75-125	6.34	20	QM-05

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**Metals by EPA 6020 Method - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9121017 - EPA 3050B**

**Blank (9121017-BLK1)** Prepared & Analyzed: 12/10/19

Arsenic	ND	0.0025	0.25	mg/kg							
Thallium	ND	0.099	0.25	"							

**LCS (9121017-BS1)** Prepared & Analyzed: 12/10/19

Arsenic	24.4	0.0025	0.25	mg/kg	25.0		97.7	80-120			
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**Matrix Spike (9121017-MS1)** Source: T193941-01 Prepared & Analyzed: 12/10/19

Arsenic	27.2	0.0025	0.25	mg/kg	23.1	5.42	93.9	75-125			
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**Matrix Spike Dup (9121017-MSD1)** Source: T193941-01 Prepared & Analyzed: 12/10/19

Arsenic	31.9	0.0025	0.25	mg/kg	24.5	5.42	108	75-125	15.9	20	
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**Post Spike (9121017-PS1)** Source: T193941-01 Prepared & Analyzed: 12/10/19

Arsenic	34.4			mg/kg	25.0	5.42	116	80-120			
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**Batch 9121019 - EPA 3050B**

**Blank (9121019-BLK1)** Prepared & Analyzed: 12/10/19

Arsenic	ND	0.0025	0.25	mg/kg							
Thallium	ND	0.099	0.25	"							

**LCS (9121019-BS1)** Prepared & Analyzed: 12/10/19

Arsenic	25.9	0.0025	0.25	mg/kg	25.0		104	80-120			
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**Matrix Spike (9121019-MS1)** Source: T193941-46 Prepared & Analyzed: 12/10/19

Arsenic	30.7	0.0025	0.25	mg/kg	24.8	5.81	101	75-125			
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**Metals by EPA 6020 Method - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9121019 - EPA 3050B**

**Matrix Spike Dup (9121019-MSD1)**

**Source: T193941-46**

**Prepared & Analyzed: 12/10/19**

Arsenic	29.1	0.0025	0.25	mg/kg	24.8	5.81	94.1	75-125	5.46	20	
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Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

**Cold Vapor Extraction EPA 7470/7471 - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111355 - EPA 7470A Water**

**Blank (9111355-BLK1)**

Prepared: 11/13/19 Analyzed: 11/15/19

Mercury ND 0.022 0.50 ug/l

**LCS (9111355-BS1)**

Prepared: 11/13/19 Analyzed: 11/15/19

Mercury 4.71 0.022 0.50 ug/l 5.00 94.2 80-120

**Matrix Spike (9111355-MS1)**

**Source: T193930-01**

Prepared: 11/13/19 Analyzed: 11/15/19

Mercury 4.60 0.022 0.50 ug/l 5.00 ND 92.0 75-125

**Matrix Spike Dup (9111355-MSD1)**

**Source: T193930-01**

Prepared: 11/13/19 Analyzed: 11/15/19

Mercury 4.56 0.022 0.50 ug/l 5.00 ND 91.1 75-125 0.939 20

**Batch 9111422 - EPA 7471A Soil**

**Blank (9111422-BLK1)**

Prepared: 11/14/19 Analyzed: 11/15/19

Mercury ND 0.027 0.10 mg/kg

**LCS (9111422-BS1)**

Prepared: 11/14/19 Analyzed: 11/15/19

Mercury 0.418 0.027 0.10 mg/kg 0.410 102 80-120

**Matrix Spike (9111422-MS1)**

**Source: T193921-01**

Prepared: 11/14/19 Analyzed: 11/15/19

Mercury 0.434 0.027 0.10 mg/kg 0.410 ND 106 75-125

**Matrix Spike Dup (9111422-MSD1)**

**Source: T193921-01**

Prepared: 11/14/19 Analyzed: 11/15/19

Mercury 0.415 0.027 0.10 mg/kg 0.397 ND 105 75-125 4.42 20





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Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:12

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111344 - EPA 3510C GCMS/ECD**

**Blank (9111344-BLK1)**

Prepared & Analyzed: 11/13/19

Surrogate: Tetrachloro-meta-xylene	0.690			ug/l	1.00		69.0	35-140			
Surrogate: Decachlorobiphenyl	0.836			"	1.00		83.6	35-140			
alpha-BHC	ND	0.04	1.00	"							
gamma-BHC (Lindane)	ND	0.03	1.00	"							
beta-BHC	ND	0.05	1.00	"							
delta-BHC	ND	0.02	1.00	"							
Heptachlor	ND	0.04	1.00	"							
Aldrin	ND	0.02	1.00	"							
Heptachlor epoxide	ND	0.04	1.00	"							
gamma-Chlordane	ND	0.05	1.00	"							
alpha-Chlordane	ND	0.03	1.00	"							
Endosulfan I	ND	0.02	1.00	"							
4,4'-DDE	ND	0.04	1.00	"							
Dieldrin	ND	0.03	1.00	"							
Endrin	ND	0.04	1.00	"							
4,4'-DDD	ND	0.03	1.00	"							
Endosulfan II	ND	0.04	1.00	"							
4,4'-DDT	ND	0.06	1.00	"							
Endrin aldehyde	ND	0.02	1.00	"							
Endosulfan sulfate	ND	0.05	1.00	"							
Methoxychlor	ND	0.03	1.00	"							
Endrin ketone	ND	0.05	1.00	"							
Chlordane (tech)	ND	1.00	10.0	"							
Toxaphene	ND	5.79	20.0	"							

**LCS (9111344-BS1)**

Prepared & Analyzed: 11/13/19

Surrogate: Tetrachloro-meta-xylene	0.805			ug/l	1.00		80.5	35-140			
Surrogate: Decachlorobiphenyl	0.876			"	1.00		87.6	35-140			

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Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:12

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111344 - EPA 3510C GCMS/ECD**

**LCS (9111344-BS1)**

Prepared & Analyzed: 11/13/19

gamma-BHC (Lindane)	4.01	0.03	1.00	ug/l	4.00		100	40-120			
Heptachlor	4.14	0.04	1.00	"	4.00		103	40-120			
Aldrin	3.66	0.02	1.00	"	4.00		91.4	40-120			
Dieldrin	4.03	0.03	1.00	"	4.00		101	40-120			
Endrin	4.21	0.04	1.00	"	4.00		105	40-120			
4,4'-DDT	4.15	0.06	1.00	"	4.00		104	40-120			

**LCS Dup (9111344-BS1)**

Prepared & Analyzed: 11/13/19

Surrogate: Tetrachloro-meta-xylene	0.892			ug/l	1.00		89.2	35-140			
Surrogate: Decachlorobiphenyl	0.793			"	1.00		79.3	35-140			
gamma-BHC (Lindane)	4.49	0.03	1.00	"	4.00		112	40-120	11.3	20	
Heptachlor	4.56	0.04	1.00	"	4.00		114	40-120	9.72	20	
Aldrin	3.79	0.02	1.00	"	4.00		94.7	40-120	3.55	20	
Dieldrin	4.26	0.03	1.00	"	4.00		106	40-120	5.36	20	
Endrin	4.36	0.04	1.00	"	4.00		109	40-120	3.45	20	
4,4'-DDT	4.29	0.06	1.00	"	4.00		107	40-120	3.25	20	

**Batch 9111350 - EPA 3550 ECD/GCMS**

**Blank (9111350-BLK1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Surrogate: Tetrachloro-meta-xylene	12.5			ug/kg	10.1		124	35-140			
Surrogate: Decachlorobiphenyl	13.2			"	10.1		131	35-140			
alpha-BHC	ND	0.56	5.0	"							
gamma-BHC (Lindane)	ND	0.96	5.0	"							
beta-BHC	ND	1.4	5.0	"							
delta-BHC	ND	0.64	5.0	"							
Heptachlor	ND	0.59	5.0	"							
Aldrin	ND	0.66	5.0	"							
Heptachlor epoxide	ND	0.98	5.0	"							

SunStar Laboratories, Inc.

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25712 Commercentre Drive  
 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:12

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111350 - EPA 3550 ECD/GCMS**

**Blank (9111350-BLK1)**

Prepared: 11/13/19 Analyzed: 11/14/19

gamma-Chlordane	ND	0.93	5.0	ug/kg							
alpha-Chlordane	ND	0.83	5.0	"							
Endosulfan I	ND	0.81	5.0	"							
4,4'-DDE	ND	0.78	5.0	"							
Dieldrin	ND	1.1	5.0	"							
Endrin	ND	1.1	5.0	"							
4,4'-DDD	ND	1.2	5.0	"							
Endosulfan II	ND	1.1	5.0	"							
4,4'-DDT	ND	0.80	5.0	"							
Endrin aldehyde	ND	1.7	5.0	"							
Endosulfan sulfate	ND	0.61	5.0	"							
Methoxychlor	ND	0.40	5.0	"							
Endrin ketone	ND	1.3	5.0	"							
Toxaphene	ND	5.8	20	"							
Chlordane (tech)	ND	5.0	50	"							
Chlordane (Total)	ND		5.0	"							

**LCS (9111350-BS1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Surrogate: Tetrachloro-meta-xylene	13.0			ug/kg	10.1		128	35-140			
Surrogate: Decachlorobiphenyl	10.6			"	10.1		105	35-140			
gamma-BHC (Lindane)	59.1	0.96	5.0	"	40.4		146	40-120			QM-12
Heptachlor	61.0	0.59	5.0	"	40.4		151	40-120			QM-12
Aldrin	54.1	0.66	5.0	"	40.4		134	40-120			QM-12
Dieldrin	58.9	1.1	5.0	"	40.4		146	40-120			QM-12
Endrin	60.4	1.1	5.0	"	40.4		149	40-120			QM-12
4,4'-DDT	53.5	0.80	5.0	"	40.4		132	33-147			

**LCS Dup (9111350-BSD1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Surrogate: Tetrachloro-meta-xylene	11.6			ug/kg	10.1		115	35-140			
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SunStar Laboratories, Inc.

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25712 Commercentre Drive  
 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:12

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111350 - EPA 3550 ECD/GCMS**

**LCS Dup (9111350-BSD1)**

Prepared: 11/13/19 Analyzed: 11/14/19

<i>Surrogate: Decachlorobiphenyl</i>	10.5			ug/kg	10.1		104	35-140			
gamma-BHC (Lindane)	51.6	0.96	5.0	"	40.4		128	40-120	13.6	30	QM-12
Heptachlor	53.6	0.59	5.0	"	40.4		133	40-120	12.9	30	QM-12
Aldrin	47.1	0.66	5.0	"	40.4		117	40-120	13.8	30	QM-12
Dieldrin	52.2	1.1	5.0	"	40.4		129	40-120	12.0	30	QM-12
Endrin	53.1	1.1	5.0	"	40.4		132	40-120	12.8	30	QM-12
4,4'-DDT	48.4	0.80	5.0	"	40.4		120	33-147	9.93	30	

**Batch 9112036 - EPA 3550 ECD/GCMS**

**Blank (9112036-BLK1)**

Prepared: 11/20/19 Analyzed: 11/26/19

<i>Surrogate: Tetrachloro-meta-xylene</i>	11.5			ug/kg	10.0		115	35-140			
<i>Surrogate: Decachlorobiphenyl</i>	11.6			"	10.0		116	35-140			QM-14
alpha-BHC	ND	0.56	5.0	"							
gamma-BHC (Lindane)	ND	0.96	5.0	"							
beta-BHC	ND	1.4	5.0	"							
delta-BHC	ND	0.64	5.0	"							
Heptachlor	ND	0.59	5.0	"							
Aldrin	ND	0.66	5.0	"							
Heptachlor epoxide	ND	0.98	5.0	"							
gamma-Chlordane	ND	0.93	5.0	"							
alpha-Chlordane	ND	0.83	5.0	"							
Endosulfan I	ND	0.81	5.0	"							
4,4'-DDE	ND	0.78	5.0	"							
Dieldrin	ND	1.1	5.0	"							
Endrin	ND	1.1	5.0	"							
4,4'-DDD	ND	1.2	5.0	"							
Endosulfan II	ND	1.1	5.0	"							
4,4'-DDT	ND	0.80	5.0	"							

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:12

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9112036 - EPA 3550 ECD/GCMS**

**Blank (9112036-BLK1)**

Prepared: 11/20/19 Analyzed: 11/26/19

Endrin aldehyde	ND	1.7	5.0	ug/kg							
Endosulfan sulfate	ND	0.61	5.0	"							
Methoxychlor	ND	0.40	5.0	"							
Endrin ketone	ND	1.3	5.0	"							
Toxaphene	ND	5.8	20	"							

**LCS (9112036-BS1)**

Prepared: 11/20/19 Analyzed: 11/26/19

Surrogate: Tetrachloro-meta-xylene	11.5			ug/kg	10.0		115	35-140			
Surrogate: Decachlorobiphenyl	11.2			"	10.0		112	35-140			
gamma-BHC (Lindane)	48.8	0.96	5.0	"	40.0	122	40-120				QM-14
Heptachlor	53.3	0.59	5.0	"	40.0	133	40-120				QM-14
Aldrin	43.0	0.66	5.0	"	40.0	107	40-120				
Dieldrin	47.8	1.1	5.0	"	40.0	119	40-120				
Endrin	53.2	1.1	5.0	"	40.0	133	40-120				QM-14
4,4'-DDT	72.6	0.80	5.0	"	40.0	182	33-147				QM-14

**LCS Dup (9112036-BS1)**

Prepared: 11/20/19 Analyzed: 11/26/19

Surrogate: Tetrachloro-meta-xylene	11.9			ug/kg	10.0		119	35-140			
Surrogate: Decachlorobiphenyl	12.1			"	10.0		121	35-140			
gamma-BHC (Lindane)	51.1	0.96	5.0	"	40.0	128	40-120	4.69	30		QM-14
Heptachlor	54.3	0.59	5.0	"	40.0	136	40-120	1.87	30		QM-14
Aldrin	44.4	0.66	5.0	"	40.0	111	40-120	3.22	30		
Dieldrin	49.5	1.1	5.0	"	40.0	124	40-120	3.55	30		QM-14
Endrin	54.2	1.1	5.0	"	40.0	136	40-120	1.86	30		QM-14
4,4'-DDT	70.1	0.80	5.0	"	40.0	175	33-147	3.53	30		QM-14

SunStar Laboratories, Inc.

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 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:12

**Polychlorinated Biphenyls by EPA Method 8082 - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111415 - EPA 3550 ECD/GCMS**

**Blank (9111415-BLK1)**

Prepared & Analyzed: 11/14/19

Surrogate: Tetrachloro-meta-xylene	9.41			ug/kg	10.0		94.1	35-140			
Surrogate: Decachlorobiphenyl	10.1			"	10.0		101	35-140			
PCB-1016	ND	2.1	10	"							
PCB-1221	ND	2.1	10	"							
PCB-1232	ND	2.1	10	"							
PCB-1242	ND	2.1	10	"							
PCB-1248	ND	2.1	10	"							
PCB-1254	ND	2.1	10	"							
PCB-1260	ND	2.1	10	"							

**LCS (9111415-BS1)**

Prepared & Analyzed: 11/14/19

Surrogate: Tetrachloro-meta-xylene	8.88			ug/kg	10.0		88.8	35-140			
Surrogate: Decachlorobiphenyl	9.93			"	10.0		99.3	35-140			
PCB-1016	97.0	2.1	10	"	100		97.0	40-130			
PCB-1260	98.0	2.1	10	"	100		98.0	40-130			

**LCS Dup (9111415-BSD1)**

Prepared & Analyzed: 11/14/19

Surrogate: Tetrachloro-meta-xylene	8.98			ug/kg	10.0		89.8	35-140			
Surrogate: Decachlorobiphenyl	9.79			"	10.0		97.9	35-140			
PCB-1016	92.6	2.1	10	"	100		92.6	40-130	4.59	30	
PCB-1260	91.2	2.1	10	"	100		91.2	40-130	7.24	30	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:12

### Notes and Definitions

- S-13 Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of surrogates in client samples and remaining QC including CCV.
- RE-01 Sample contained analytes with concentrations above calibration limits and was rerun at a dilution.
- R-07 Reporting limit for this compound(s) has been raised to account for dilution necessary due to high levels of interfering compound(s) and/or matrix affect.
- QM-14 The LCS and LCSD were above acceptance criteria. The method blank and sample were ND for the analyte in question. The CCV was within acceptance criteria. No negative impact on data is expected.
- QM-12 The % recovery for this analyte was above acceptance criteria in the LCS and/or LCSD. The MB and sample(s) were ND for the analyte. The CCV(s) was within acceptance criteria. No negative impact on data is expected.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
- J Detected but below the Standard Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the Method Detection Limit (MDL)
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference



**Chain of Custody Record**

SunStar Laboratories  
 25712 Commercentre Dr  
 Lake Forest, CA 92630  
 949-297-5020

Client: NV5  
 Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928  
 Phone: 530-894-2487 Fax: 530-894-2437  
 Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/12/2019  
 Project Name: Hamilton Union High School  
 Collector: HJCCWB Client Project #: 70779.01.001.003  
 Batch #: 7192941 EDF #: \_\_\_\_\_

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
A1D-0	11/12/2019	0830	SOIL	8 oz jar	X	X		01	ICE Chest 1 of 2	1
B1D-0	11/12/2019	0840	SOIL	8 oz jar				02		1
C1D-0	11/12/2019	0850	SOIL	8 oz jar	X	X		03		1
C1D-0-CL	11/12/2019	0900	SOIL	8 oz jar	X	X		04		1
D1D-0	11/12/2019	0905	SOIL	8 oz jar				05		1
ABCD1C-0	11/12/2019		SOIL	8 oz jar			X	06		1
A2D-0	11/12/2019	0920	SOIL	8 oz jar				07		1
A2D-0-FR	11/12/2019	0921	SOIL	8 oz jar				08		1
B2D-0	11/12/2019	0935	SOIL	8 oz jar				09		1
B-2D-0-FR	11/12/2019	0936	SOIL	8 oz jar				10		1
C2D-0	11/12/2019	0950	SOIL	8 oz jar				11		1
C-2D-0-FR	11/12/2019	0951	SOIL	8 oz jar				12		1
D2D-0	11/12/2019	1005	SOIL	8 oz jar				13		1
D-2D-0-FR	11/12/2019	1006	SOIL	8 oz jar				14		1
ABCD2C-0	11/12/2019						X			
ABCD2C-0-FR	11/12/2019						X			16
Relinquished by: (signature) <u>Heidi Cummings</u>				Date / Time	Received by: (signature) <u>ESD</u>		Date / Time	Total # of containers (S) <u>Y/N/N/A</u>		
Relinquished by: (signature) <u>Heidi Cummings</u>				Date / Time	Received by: (signature) <u>ESD</u>		Date / Time	Chain of Custody seals Intact: <u>Y/N/N/A</u>		
Relinquished by: (signature) <u>ESD</u>				Date / Time	Received by: (signature) <u>ESD</u>		Date / Time	Received good condition/cold		
Relinquished by: (signature)				Date / Time	Received by: (signature)		Date / Time	Turn around time: <u>5 day</u>		

Sample disposal Instructions: Disposal @ \$2.00 each \_\_\_\_\_ Return to client \_\_\_\_\_ Pickup \_\_\_\_\_

Notes  
 Method 8081 report Chloroethane and Technical Chloroethane  
 Please return H&K/NV5 ice chests  
 3:10  
 3:00

Client: NV5  
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928  
Phone: 530-894-2487 Fax: 530-894-2437  
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/12/2019  
Project Name: Hamilton Union High School  
Collector: HJC/CWB Client Project #: 70779.01.001.003  
Batch #: 7193941 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers	
A3D-0	11/12/2019	1015	SOIL	8 oz jar				17	Ice Chest 1 of 2		
B3D-0	11/12/2019	1025	SOIL	8 oz jar	X	X		18			
B3D-0-FR	11/12/2019	1026	SOIL	8 oz jar	X	X		19			
C3D-0	11/12/2019	1040	SOIL	8 oz jar				20			
D3D-0	11/12/2019	1100	SOIL	8 oz jar	X	X		21			
ABCD3C-0	11/12/2019		SOIL				X			Lab to prepare ABCD3C-0 as 4:1 composite of A3D-0, B3D-0, C3D-0 and D3D-0	22
A4D-0	11/12/2019	1110	SOIL	8 oz jar							23
B4D-0	11/12/2019	1120	SOIL	8 oz jar							24
C4D-0	11/12/2019	1130	SOIL	8 oz jar							25
D4D-0	11/12/2019	1140	SOIL	8 oz jar							26
ABCD4C-0	11/12/2019		SOIL				X		Lab to prepare ABCD4C-0 as 4:1 composite of A4D-0, B4D-0, C4D-0 and D4D-0	27	
Relinquished by: (signature) _____ Date / Time _____ Received by: (signature) _____ Date / Time _____											
Relinquished by: (signature) <i>Heidi Cummings</i> Date / Time <i>11/29/1600</i> Received by: (signature) <i>ESD</i> Date / Time <i>11/29/1600</i>											
Relinquished by: (signature) _____ Date / Time _____ Received by: (signature) _____ Date / Time _____											
Relinquished by: (signature) <i>ESD</i> Date / Time <i>11-13-19 8:27</i> Received by: (signature) <i>[Signature]</i> Date / Time <i>11-13-19 8:27</i>											
Sample disposal Instructions: Disposal @ \$2.00 each _____ Return to client _____ Pickup _____											
Turn around time: 5 day											
Total # of containers: _____ Chain of Custody seals: _____ Received good condition/cold: _____											
Notes: Method 8081 report Chlordane and Technical Chlordane Please return H&K/NV5 ice chests											
9.7° 3.0°											



Client: NV5  
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928  
Phone: 530-894-2487 Fax: 530-894-2437  
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/11/2019  
Project Name: Hamilton Union High School  
Collector: HJC/CWB Client Project #: 70779.01.001.003  
Batch #: 7102941 EDF #: \_\_\_\_\_

Sample ID	Date Sampled	Time	Sample Type	Container Type	PCBS EAP 8082	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	TPH CARBON CHAIN EPA 8260/8015	Title 22 Metals EPA	Laboratory ID #	Comments/Preservative	Total # of containers
HHS1D-2	11/11/2019	0830	SOIL	8 oz jar	X	X	X				28	ICE Chest 20g2	1
HHS2D-2	11/11/2019	0915	SOIL	8 oz jar	X	X	X				29		1
HHS3D-2	11/11/2019	1015	SOIL	8 oz jar	X	X	X				30		1
HHS3D-2-FR	11/11/2019	1018	SOIL	8 oz jar	X	X	X				31		1
HHS4D-2	11/11/2019	1030	SOIL	8 oz jar	X	X	X				32		1
HHS5D-2	11/11/2019	1045	SOIL	8 oz jar	X	X	X				33		1
HHS5D-2-CL	11/11/2019	1055	SOIL	8 oz jar	X	X	X				34		1
HHS6D-2	11/11/2019	1130	SOIL	8 oz jar	X	X	X				35		1
HHS7D-2	11/11/2019	1225	SOIL	8 oz jar	X	X	X				36		1
HHS8D-2	11/11/2019	1330	SOIL	8 oz jar	X	X	X				37		1
PMT-E6D-0	11/11/2019	1505	SOIL	8 oz jar	X						38		1
PMT-E6D-0-CL	11/11/2019	1515	SOIL	8 oz jar	X						39		1
PMT-E6D-2	11/11/2019	1530	SOIL	8 oz jar	X						40		1
EB-1	11/11/2019	1500	W	POLYAMBER/NOVA				X	X	X	41		5
Relinquished by: (signature) Heidi Cummings				Date / Time	Received by: (signature) GSO		Date / Time	Total # of containers		Chain of Custody seals Intact Y/N/N/A			Received good condition/cold
Relinquished by: (signature) GSO				11/29/1600	Received by: (signature) GSO		11/29/1600	5		Y		Method 8081 report Chlordane and Technical Chlordane Please return H&K/NV5 ice chests	
Relinquished by: (signature) GSO				11/23/19 8:27	Received by: (signature) GSO		11/23/19 8:27	5 day		Y		3.7c 3.0c	

Sample disposal instructions: Disposal @ \$2.00 each

Return to client \_\_\_\_\_ Pickup \_\_\_\_\_

Turn around time: 5 day

Client: NV5  
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928  
Phone: 530-894-2487 Fax: 530-894-2437  
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/11/2019  
Project Name: Hamilton Union High School  
Collector: HJC/CWB Client Project #: 70779.01.001.003  
Batch #: 7193241 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	PCBS EAP 8082	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	TPH CARBON CHAIN EPA 8260/8015	Title 22 Metals EPA	Laboratory ID #	Comments/Preservative	Total # of containers
DD1D-0	11/11/2019	1340	SOIL	8 oz jar	X	X	X	X	X	X	42	Ice Chest 2 of 2	1
DD2D-0	11/11/2019	1345	SOIL	8 oz jar	X	X	X	X	X	X	43		1
DD2D-0-CL	11/11/2019	1350	SOIL	8 oz jar	X	X	X	X	X	X	44		1
DD3D-0	11/11/2019	1405	SOIL	8 oz jar	X	X	X	X	X	X	45		1
DD4D-0	11/11/2019	1410	SOIL	8 oz jar	X	X	X	X	X	X	46		1
DD4D-0-FR	11/11/2019	1415	SOIL	8 oz jar	X	X	X	X	X	X	47	1	
DD5D-0	11/11/2019	1425	SOIL	8 oz jar	X	X	X	X	X	X	48	1	
DD6D-0	11/11/2019	1435	SOIL	8 oz jar	X	X	X	X	X	X	49	1	
DD7D-0	11/11/2019	1500	SOIL	8 oz jar	X	X	X	X	X	X	50	1	

Relinquished by: (signature), Date / Time  
 Relinquished by: (signature) Heidi Cummings 11/21/19 16:00  
 Relinquished by: (signature) Date / Time  
 Relinquished by: (signature) Date / Time  
 Relinquished by: (signature) Date / Time  
 Relinquished by: (signature) Date / Time

Received by: (signature) Date / Time  
 Received by: (signature) Date / Time  
 Received by: (signature) Date / Time  
 Received by: (signature) Date / Time

Total # of containers: 50  
 Chain of Custody seals: V/N/A  
 Seals intact: V/N/A  
 Received good condition/cold: V/N/A  
 Turn around time: 5 day

Notes:  
 Method 8081 report Chlordane and Technical Chlordane  
 Please return H&K/NV5 ice chests  
 3.7°  
 30°

Sample disposal instructions: Disposal @ \$2.00 each

Return to client Pickup

## SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: 7193941  
 Client Name: HOLDREGE & KULL - CHICO Project: HAMILTON UNION HIGH SCHOOL  
 Delivered by:  Client  SunStar Courier  GSO  FedEx  Other  
 If Courier, Received by: \_\_\_\_\_ Date/Time Courier Received: \_\_\_\_\_  
 Lab Received by: SUNNY Date/Time Lab Received: 11-13-19 / 8:27  
 Total number of coolers received: 2 Thermometer ID: 50-1 Calibration due: 6/27/20

Temperature: Cooler #1	<u>2.5</u>	°C +/- the CF (+ 1.2°C) = <u>3.7</u>	°C corrected temperature
Temperature: Cooler #2	<u>1.8</u>	°C +/- the CF (+ 1.2°C) = <u>3.0</u>	°C corrected temperature
Temperature: Cooler #3		°C +/- the CF (+ 1.2°C) =	°C corrected temperature
<b>Temperature criteria = ≤ 6°C (no frozen containers)</b>		Within criteria?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>If NO:</b>			
Samples received on ice?	<input type="checkbox"/> Yes		<input type="checkbox"/> No → <b>Complete Non-Conformance Sheet</b>
If on ice, samples received same day collected?	<input type="checkbox"/> Yes → Acceptable		<input type="checkbox"/> No → <b>Complete Non-Conformance Sheet</b>

Custody seals intact on cooler/sample  Yes  No\*  N/A  
 Sample containers intact  Yes  No\*  
 Sample labels match Chain of Custody IDs  Yes  No\*  
 Total number of containers received match COC  Yes  No\*  
 Proper containers received for analyses requested on COC  Yes  No\*  
 Proper preservative indicated on COC/containers for analyses requested  Yes  No\*  N/A  
 Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times  Yes  No\*  
 \* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date: SL 11-13-19

**Comments:** \_\_\_\_\_

**WORK ORDER**

**T193941**

**Client: NV5**  
**Project: Hamilton Union High School**

**Project Manager: Jeff Lee**  
**Project Number: 70779.01.001.003**

**Report To:**

NV5  
 Heidi Cummings  
 48 Bellarmine Ct, Suite 40  
 Chico, CA 95928

Date Due: 11/20/19 17:00 (5 day TAT)

Received By: Sunny Lounethone

Date Received: 11/13/19 08:27

Logged In By: Sunny Lounethone

Date Logged In: 11/13/19 09:50

Samples Received at: 3°C  
 Custody Seals Yes Received On Ice Yes  
 Containers Intact Yes  
 COC/Labels Agree Yes  
 Preservation Confir Yes

Analysis	Due	TAT	Expires	Comments
<b>T193941-01 A1D-0 [Soil] Sampled 11/12/19 08:30 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 08:30	As and Pb only
<b>T193941-02 B1D-0 [Soil] Sampled 11/12/19 08:40 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-03 C1D-0 [Soil] Sampled 11/12/19 08:50 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 08:50	As and Pb only
<b>T193941-04 C1D-0-CL [Soil] Sampled 11/12/19 09:00 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 09:00	As and Pb only
<b>T193941-05 D1D-0 [Soil] Sampled 11/12/19 09:05 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-06 ABCD1C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				<b>COMPOSITE 4:1 (A1D-0, B1D-0, C1D-0, D1D-0)</b>
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	
<b>T193941-07 A2D-0 [Soil] Sampled 11/12/19 09:20 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				

**WORK ORDER**

**T193941**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193941-08 A2D-0FR [Soil] Sampled 11/12/19 09:21 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-09 B2D-0 [Soil] Sampled 11/12/19 09:35 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-10 B-2D-0-FR [Soil] Sampled 11/12/19 09:36 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-11 C2D-0 [Soil] Sampled 11/12/19 09:50 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-12 C-2D-0-FR [Soil] Sampled 11/12/19 09:51 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-13 D2D-0 [Soil] Sampled 11/12/19 10:05 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-14 D-2D-0-FR [Soil] Sampled 11/12/19 10:06 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-15 ABCD2C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US & 8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	COMPOSITE 4:1 (A2D-0, B2D-0, C2D-0, D2D-0)
T193941-16 ABCD2C-0-FR [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US & 8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	COMPOSITE 4:1 (A2D-0-FR, B2D-0-FR, C2D-0-FR, D2D-0-FR)
T193941-17 A3D-0 [Soil] Sampled 11/12/19 10:15 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-18 B3D-0 [Soil] Sampled 11/12/19 10:25 (GMT-08:00) Pacific Time (US & 6010 Individual Metals	11/20/19 15:00	5	05/10/20 10:25	As and Pb only

**WORK ORDER**

**T193941**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193941-19 B3D-0-FR [Soil] Sampled 11/12/19 10:26 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 10:26	As and Pb only
<b>T193941-20 C3D-0 [Soil] Sampled 11/12/19 10:40 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-21 D3D-0 [Soil] Sampled 11/12/19 11:00 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 11:00	As and Pb only
<b>T193941-22 ABCD3C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	COMPOSITE 4:1 (A3D-0, B3D-0, C3D-0, D3D-0)
<b>T193941-23 A4D-0 [Soil] Sampled 11/12/19 11:10 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-24 B4D-0 [Soil] Sampled 11/12/19 11:20 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-25 C4D-0 [Soil] Sampled 11/12/19 11:30 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-26 D4D-0 [Soil] Sampled 11/12/19 11:40 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-27 ABCD4C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	COMPOSITE 4:1 (A4D-0, B4D-0, C4D-0, D4D-0)
<b>T193941-28 HHS1D-2 [Soil] Sampled 11/11/19 08:30 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 08:30	As and Pb only
<b>T193941-29 HHS2D-2 [Soil] Sampled 11/11/19 09:15 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 09:15	As and Pb only

**WORK ORDER**

**T193941**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193941-30 HHS3D-2 [Soil] Sampled 11/11/19 10:15 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:15	As and Pb only
<b>T193941-31 HHS3D-2-FR [Soil] Sampled 11/11/19 10:18 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:18	As and Pb only
<b>T193941-32 HHS4D-2 [Soil] Sampled 11/11/19 10:30 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:30	As and Pb only
<b>T193941-33 HHS5D-2 [Soil] Sampled 11/11/19 10:45 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:45	As and Pb only
<b>T193941-34 HHS5D-2-CL [Soil] Sampled 11/11/19 10:55 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:55	As and Pb only
<b>T193941-35 HHS6D-2 [Soil] Sampled 11/11/19 11:30 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 11:30	As and Pb only
<b>T193941-36 HHS7D-2 [Soil] Sampled 11/11/19 12:25 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 12:25	As and Pb only
<b>T193941-37 HHS8D-2 [Soil] Sampled 11/11/19 13:30 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 13:30	As and Pb only
<b>T193941-38 PMT-E6D-0 [Soil] Sampled 11/11/19 15:05 (GMT-08:00) Pacific Time (US &amp;</b>				
8082 PCB	11/20/19 15:00	5	11/25/19 15:05	
<b>T193941-39 PMT-E6D-0-CL [Soil] Sampled 11/11/19 15:15 (GMT-08:00) Pacific Time (US &amp;</b>				
8082 PCB	11/20/19 15:00	5	11/25/19 15:15	
<b>T193941-40 PMT-E6D-2 [Soil] Sampled 11/11/19 15:30 (GMT-08:00) Pacific Time (US &amp;</b>				
8082 PCB	11/20/19 15:00	5	11/25/19 15:30	

**WORK ORDER**

**T193941**

<b>Client: NV5</b>	<b>Project Manager: Jeff Lee</b>
<b>Project: Hamilton Union High School</b>	<b>Project Number: 70779.01.001.003</b>

Analysis	Due	TAT	Expires	Comments
<b>T193941-41 EB-1 [Water] Sampled 11/11/19 15:00 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 15:00	
8015 TPH-CC LLvL	11/20/19 15:00	5	11/25/19 15:00	
8081 Pesticides	11/20/19 15:00	5	11/18/19 15:00	
<b>T193941-42 DD1D-0 [Soil] Sampled 11/11/19 13:40 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 13:40	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 13:40	
8081 Pesticides	11/20/19 15:00	5	11/25/19 13:40	
<b>T193941-43 DD2D-0 [Soil] Sampled 11/11/19 13:45 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 13:45	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 13:45	
8081 Pesticides	11/20/19 15:00	5	11/25/19 13:45	
<b>T193941-44 DD2D-0-CL [Soil] Sampled 11/11/19 13:50 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 13:50	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 13:50	
8081 Pesticides	11/20/19 15:00	5	11/25/19 13:50	
<b>T193941-45 DD3D-0 [Soil] Sampled 11/11/19 14:05 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:05	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:05	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:05	
<b>T193941-46 DD4D-0 [Soil] Sampled 11/11/19 14:10 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:10	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:10	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:10	
<b>T193941-47 DD4D-0-FR [Soil] Sampled 11/11/19 14:15 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:15	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:15	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:15	



**WORK ORDER**

**T193941**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193941-48 DD5D-0 [Soil] Sampled 11/11/19 14:25 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:25	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:25	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:25	
<b>T193941-49 DD6D-0 [Soil] Sampled 11/11/19 14:35 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:35	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:35	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:35	
<b>T193941-50 DD7D-0 [Soil] Sampled 11/11/19 15:00 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 15:00	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 15:00	
8081 Pesticides	11/20/19 15:00	5	11/25/19 15:00	

**Analysis groups included in this work order**

6010 Title 22

subgroup 6010B T22      7470/71 Hg



25712 Commercentre Drive  
Lake Forest, California 92630  
949.297.5020 Phone  
949.297.5027 Fax

11 December 2019

Heidi Cummings

NV5

48 Bellarmine Ct, Suite 40

Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/15/19 08:34. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jeff Lee', is written over a light gray rectangular background.

Jeff Lee

Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:27

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C5D-0	T193979-05	Soil	11/12/19 13:00	11/15/19 08:34
ABCD5C-0	T193979-09	Soil	11/12/19 00:00	11/15/19 08:34
ABCD5C-0-CL	T193979-10	Soil	11/12/19 00:00	11/15/19 08:34
ABCD6C-0	T193979-15	Soil	11/12/19 00:00	11/15/19 08:34
A7D-0	T193979-16	Soil	11/12/19 14:45	11/15/19 08:34
A7D-0-CL	T193979-18	Soil	11/12/19 14:55	11/15/19 08:34
D7D-0	T193979-23	Soil	11/12/19 15:30	11/15/19 08:34
D7D-0-FR	T193979-24	Soil	11/12/19 15:31	11/15/19 08:34
ABCD7C-0	T193979-25	Soil	11/12/19 00:00	11/15/19 08:34
ABCD7C-0-FR	T193979-26	Soil	11/12/19 00:00	11/15/19 08:34
C8D-0	T193979-29	Soil	11/12/19 16:05	11/15/19 08:34
ABCD8C-0	T193979-31	Soil	11/12/19 00:00	11/15/19 08:34

This report has been revised to report Arsenic under EPA 6020 instead of EPA 6010 to provide the lowest MDL value possible.  
JL 12/11/19



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:27

**DETECTIONS SUMMARY**

**Sample ID:** C5D-0 **Laboratory ID:** T193979-05

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	5.10	3.00	mg/kg	EPA 6010b	
Arsenic	4.1	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** ABCD5C-0 **Laboratory ID:** T193979-09

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	6.6	5.0	ug/kg	EPA 8081A	

**Sample ID:** ABCD5C-0-CL **Laboratory ID:** T193979-10

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	7.0	5.0	ug/kg	EPA 8081A	

**Sample ID:** ABCD6C-0 **Laboratory ID:** T193979-15

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	4.1	5.0	ug/kg	EPA 8081A	J

**Sample ID:** A7D-0 **Laboratory ID:** T193979-16

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	5.35	3.00	mg/kg	EPA 6010b	
Arsenic	5.9	0.25	mg/kg	6020 ICP-MS	



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:27

**Sample ID:** A7D-0-CL **Laboratory ID:** T193979-18

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	5.35	3.00	mg/kg	EPA 6010b	
Arsenic	5.7	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** D7D-0 **Laboratory ID:** T193979-23

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	5.75	3.00	mg/kg	EPA 6010b	
Arsenic	6.4	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** D7D-0-FR **Laboratory ID:** T193979-24

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	5.61	3.00	mg/kg	EPA 6010b	
Arsenic	5.2	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** ABCD7C-0 **Laboratory ID:** T193979-25

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	3.6	5.0	ug/kg	EPA 8081A	J

**Sample ID:** ABCD7C-0-FR **Laboratory ID:** T193979-26

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	3.0	5.0	ug/kg	EPA 8081A	J

**Sample ID:** C8D-0 **Laboratory ID:** T193979-29

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	4.95	2.73	mg/kg	EPA 6010b	
Arsenic	5.5	0.25	mg/kg	6020 ICP-MS	



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:27

**Sample ID:** ABCD8C-0

**Laboratory ID:** T193979-31

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
4,4'-DDE	4.8	5.0		ug/kg	EPA 8081A	J



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:27

**C5D-0**  
**T193979-05(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>5.10</b>	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>4.1</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

*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.*



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:27

**ABCD5C-0**  
**T193979-09(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>6.6</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			103 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl			109 %		35-140	"	"	"	"	





NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:27

**ABCD5C-0-CL**  
**T193979-10(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>7.0</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			89.0 %		35-140	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			113 %		35-140	"	"	"	"	



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:27

**ABCD6C-0**  
**T193979-15(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>4.1</b>	0.78	5.0	"	"	"	"	"	"	J
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			85.9 %		35-140	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			93.9 %		35-140	"	"	"	"	



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:27

**A7D-0**

**T193979-16(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>5.35</b>	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.9</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:27

**A7D-0-CL**  
**T193979-18(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	5.35	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	5.7	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:27

**D7D-0**  
**T193979-23(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>5.75</b>	0.967	3.00	mg/kg	1	9112523	11/25/19	11/26/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>6.4</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:27

**D7D-0-FR**  
**T193979-24(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>5.61</b>	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.2</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:27

**ABCD7C-0**  
**T193979-25(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>3.6</b>	0.78	5.0	"	"	"	"	"	"	J
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			56.1 %		35-140	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			95.3 %		35-140	"	"	"	"	





25712 Commercentre Drive  
 Lake Forest, California 92630  
 949.297.5020 Phone  
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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:27

**ABCD7C-0-FR**  
**T193979-26(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>3.0</b>	0.78	5.0	"	"	"	"	"	"	J
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			43.3 %	35-140		"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			83.0 %	35-140		"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:27

**C8D-0**

**T193979-29(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>4.95</b>	0.879	2.73	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.5</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:27

**ABCD8C-0**  
**T193979-31(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>4.8</b>	0.78	5.0	"	"	"	"	"	"	J
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			45.3 %		35-140	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			84.8 %		35-140	"	"	"	"	



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:27

**Metals by EPA 6010B - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111532 - EPA 3050B**

**Blank (9111532-BLK1)**

Prepared: 11/15/19 Analyzed: 11/18/19

Arsenic	ND	0.800	5.00	mg/kg							
Lead	ND	0.967	3.00	"							

**LCS (9111532-BS1)**

Prepared: 11/15/19 Analyzed: 11/18/19

Arsenic	97.4	0.800	5.00	mg/kg	100		97.4	75-125			
Lead	99.5	0.967	3.00	"	100		99.5	75-125			

**Matrix Spike (9111532-MS1)**

Source: T193974-24

Prepared: 11/15/19 Analyzed: 11/18/19

Arsenic	73.0	0.800	5.00	mg/kg	99.0		73.7	75-125			QM-05
Lead	76.9	0.967	3.00	"	99.0		77.7	75-125			QM-05

**Matrix Spike Dup (9111532-MSD1)**

Source: T193974-24

Prepared: 11/15/19 Analyzed: 11/18/19

Arsenic	66.9	0.800	5.00	mg/kg	93.5		71.6	75-125	8.64	20	QM-05
Lead	68.9	0.967	3.00	"	93.5		73.8	75-125	11.0	20	QM-05

**Batch 9112523 - EPA 3050B**

**Blank (9112523-BLK1)**

Prepared: 11/25/19 Analyzed: 11/26/19

Arsenic	2.89	0.800	5.00	mg/kg							J
Lead	ND	0.967	3.00	"							

**LCS (9112523-BS1)**

Prepared: 11/25/19 Analyzed: 11/26/19

Arsenic	95.8	0.800	5.00	mg/kg	100		95.8	75-125			
Lead	95.7	0.967	3.00	"	100		95.7	75-125			

**Matrix Spike (9112523-MS1)**

Source: T193979-23

Prepared: 11/25/19 Analyzed: 11/26/19

Arsenic	61.3	0.800	5.00	mg/kg	93.5	ND	65.6	75-125			QM-05
Lead	59.0	0.967	3.00	"	93.5	5.75	57.0	75-125			QM-05



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:27

**Metals by EPA 6010B - Quality Control**

**SunStar Laboratories, Inc.**

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

**Batch 9112523 - EPA 3050B**

**Matrix Spike Dup (9112523-MSD1)**

**Source: T193979-23**

Prepared: 11/25/19 Analyzed: 11/26/19

Arsenic	70.4	0.800	5.00	mg/kg	100	ND	70.4	75-125	13.7	20	QM-05
Lead	68.6	0.967	3.00	"	100	5.75	62.8	75-125	14.9	20	QM-05

SunStar Laboratories, Inc.

*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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 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:27

**Metals by EPA 6020 Method - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 9121019 - EPA 3050B</b>											
<b>Blank (9121019-BLK1)</b>					Prepared & Analyzed: 12/10/19						
Arsenic	ND	0.0025	0.25	mg/kg							
Thallium	ND	0.099	0.25	"							
<b>LCS (9121019-BS1)</b>					Prepared & Analyzed: 12/10/19						
Arsenic	25.9	0.0025	0.25	mg/kg	25.0		104	80-120			
<b>Matrix Spike (9121019-MS1)</b>					Source: T193941-46 Prepared & Analyzed: 12/10/19						
Arsenic	30.7	0.0025	0.25	mg/kg	24.8	5.81	101	75-125			
<b>Matrix Spike Dup (9121019-MSD1)</b>					Source: T193941-46 Prepared & Analyzed: 12/10/19						
Arsenic	29.1	0.0025	0.25	mg/kg	24.8	5.81	94.1	75-125	5.46	20	

SunStar Laboratories, Inc.

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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:27

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111517 - EPA 3550 ECD/GCMS**

**Blank (9111517-BLK1)**

Prepared: 11/15/19 Analyzed: 11/18/19

Surrogate: Tetrachloro-meta-xylene	9.16			ug/kg	10.1		90.6	35-140			
Surrogate: Decachlorobiphenyl	14.3			"	10.1		141	35-140			S-GC
alpha-BHC	ND	0.56	5.0	"							
gamma-BHC (Lindane)	ND	0.96	5.0	"							
beta-BHC	ND	1.4	5.0	"							
delta-BHC	ND	0.64	5.0	"							
Heptachlor	ND	0.59	5.0	"							
Aldrin	ND	0.66	5.0	"							
Heptachlor epoxide	ND	0.98	5.0	"							
gamma-Chlordane	ND	0.93	5.0	"							
alpha-Chlordane	ND	0.83	5.0	"							
Endosulfan I	ND	0.81	5.0	"							
4,4'-DDE	ND	0.78	5.0	"							
Dieldrin	ND	1.1	5.0	"							
Endrin	ND	1.1	5.0	"							
4,4'-DDD	ND	1.2	5.0	"							
Endosulfan II	ND	1.1	5.0	"							
4,4'-DDT	ND	0.80	5.0	"							
Endrin aldehyde	ND	1.7	5.0	"							
Endosulfan sulfate	ND	0.61	5.0	"							
Methoxychlor	ND	0.40	5.0	"							
Endrin ketone	ND	1.3	5.0	"							
Toxaphene	ND	5.8	20	"							
Chlordane (tech)	ND	5.0	50	"							
Chlordane (Total)	ND		5.0	"							

**LCS (9111517-BS1)**

Prepared: 11/15/19 Analyzed: 11/19/19

Surrogate: Tetrachloro-meta-xylene	10.0			ug/kg	10.1		99.2	35-140			
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SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:27

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

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

**Batch 9111517 - EPA 3550 ECD/GCMS**

**LCS (9111517-BS1)**

Prepared: 11/15/19 Analyzed: 11/19/19

Surrogate: Decachlorobiphenyl	11.0			ug/kg	10.1		109	35-140			
gamma-BHC (Lindane)	43.0	0.96	5.0	"	40.4		106	40-120			
Heptachlor	43.2	0.59	5.0	"	40.4		107	40-120			
Aldrin	39.1	0.66	5.0	"	40.4		96.8	40-120			
Dieldrin	43.4	1.1	5.0	"	40.4		108	40-120			
Endrin	43.8	1.1	5.0	"	40.4		109	40-120			
4,4'-DDT	41.7	0.80	5.0	"	40.4		103	33-147			

**LCS Dup (9111517-BSD1)**

Prepared: 11/15/19 Analyzed: 11/19/19

Surrogate: Tetrachloro-meta-xylene	8.92			ug/kg	10.1		88.4	35-140			
Surrogate: Decachlorobiphenyl	12.1			"	10.1		120	35-140			
gamma-BHC (Lindane)	41.5	0.96	5.0	"	40.4		103	40-120	3.54	30	
Heptachlor	42.8	0.59	5.0	"	40.4		106	40-120	0.838	30	
Aldrin	40.0	0.66	5.0	"	40.4		98.9	40-120	2.19	30	
Dieldrin	46.2	1.1	5.0	"	40.4		114	40-120	6.26	30	
Endrin	46.6	1.1	5.0	"	40.4		115	40-120	6.06	30	
4,4'-DDT	45.5	0.80	5.0	"	40.4		113	33-147	8.74	30	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:27

### Notes and Definitions

S-GC Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.

J Detected but below the Standard Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the Method Detection Limit (MDL)

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference





Chain of Custody Record

1193979

Client: NV5  
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928  
Phone: 530-894-2487 Fax: 530-894-2437  
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019  
Project Name: Hamilton Union High School  
Collector: HJC/CWB Client Project #: 70779.01.001.003  
Batch #: \_\_\_\_\_ EDF #: \_\_\_\_\_

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
ASD-0	11/12/2019	1220	SOIL	8 oz jar				01		1
ASD-0-CL	11/12/2019	1236	SOIL	8 oz jar				02		1
B5D-0	11/12/2019	#245	SOIL	8 oz jar				03		1
B5D-0-CL	11/12/2019	1250	SOIL	8 oz jar				04		1
C5D-0	11/12/2019	1300	SOIL	8 oz jar	X			05		1
C5D-0-CL	11/12/2019	1310	SOIL	8 oz jar				06		1
D5D-0	11/12/2019	1325	SOIL	8 oz jar				07		1
D5D-0-CL	11/12/2019	1330	SOIL	8 oz jar				08		1
									Lab to prepare ABCD5C-0 as 4:1 composite of ASD-0, B5D-0, C5D-0 and D5D-0	
									Lab to prepare ABCD5C-0-CL as 4:1 composite of ASD-0-CL, B5D-0-CL, C5D-0-CL and D5D-0-CL	
A6D-0	11/12/2019	1355	SOIL	8 oz jar			X			1
B6D-0	11/12/2019	1410	SOIL	8 oz jar						1
C6D-0	11/12/2019	1420	SOIL	8 oz jar						1
D6D-0	11/12/2019	1435	SOIL	8 oz jar						1
ABCD6C-0	11/12/2019		SOIL				X		Lab to prepare ABCD5C-0 as 4:1 composite of ASD-0, B5D-0, C5D-0 and D5D-0	1
Relinquished by: (signature) _____ Date / Time <u>11/14/19 1606</u> Received by: (signature) <u>GSO</u> Date / Time <u>11/14/19 1606</u> Relinquished by: (signature) _____ Date / Time _____ Received by: (signature) _____ Date / Time _____ Relinquished by: (signature) <u>GSO 11-15-19 8:34</u> Date / Time _____ Received by: (signature) _____ Date / Time _____										
Sample disposal instructions: Disposal @ \$2.00 each _____ Return to client _____ Pickup _____ Turn around time: <u>5 day</u>										
Total # of containers _____ Chain of Custody seals _____ Seals Intact? <u>Y</u> Received good condition/cold <u>Y</u> Received good condition/cold <u>2-82</u>										
Notes: Method 8081 report Chloridane and Technical Chloridane Please return H&K/NV5 ice chests										

SunStar Laboratories  
 25712 Commercentre Dr  
 Lake Forest, CA 92630  
 949-297-5020

Chain of Custody Record

**REVISED**

**7193979**

Client: NVS  
 Address: 48 Bellamine Court, Ste 40, Chico, CA 95928  
 Phone: 530-894-2487 Fax: 530-894-2437  
 Project Manager: Heidi Cummings, heidi.cummings@NVS.com

Date: 11/14/2019  
 Project Name: Hamilton Union High School  
 Collector: HJC/GWB Client Project #: 70779.01.001.003  
 Batch #: \_\_\_\_\_ EDF #: \_\_\_\_\_

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
ASD-0	11/12/2019	1220	SOIL	8 oz jar				01		1
ASD-0-CL	11/12/2019	1230	SOIL	8 oz jar				02		1
BSD-0	11/12/2019	1245	SOIL	8 oz jar				03		1
BSD-0-CL	11/12/2019	1250	SOIL	8 oz jar				04		1
CSD-0	11/12/2019	1300	SOIL	8 oz jar	X	X		05		1
CSD-0-CL	11/12/2019	1310	SOIL	8 oz jar				06		1
DSD-0	11/12/2019	1325	SOIL	8 oz jar				07		1
DSD-0-CL	11/12/2019	1330	SOIL	8 oz jar				08		1
Lab to prepare ABCD5C-0 as 4:1 composite of ASD-0, BSD-0, CSD-0 and DSD-0										09
Lab to prepare ABCD5C-0-CL as 4:1 composite of ASD-0-CL, BSD-0-CL, CSD-0-CL and DSD-0-CL										10
ABD-0	11/12/2019	1355	SOIL	8 oz jar				11		1
B6D-0	11/12/2019	1410	SOIL	8 oz jar				12		1
C6D-0	11/12/2019	1420	SOIL	8 oz jar				13		1
D6D-0	11/12/2019	1470	SOIL	8 oz jar				14		1
ABCD6C-0	11/12/2019		SOIL				X		Lab to prepare ABCD6C-0 as 4:1 composite of ASD-0, BSD-0, CSD-0 and DSD-0	15
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time	Total # of containers		Chain of Custody seals		Notes		
<i>[Signature]</i>	11/14/19 1600	GSO	11/14/19 1608	Seals intact: <input checked="" type="checkbox"/> Y/N/A		Received good condition/cold		Method 8081 report Chlordane and Technical Chlordane		
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time	Turn around time: 5 day				Please return H&K/NV5 ice chests		
GSO	11/15/19 8:34	<i>[Signature]</i>	11/15/19 8:34							

Sample disposal instructions: Disposal @ \$2.00 each

Return to client \_\_\_\_\_ Pickup \_\_\_\_\_





## SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: 7193979  
 Client Name: NV5 Project: HAMILTON UNION HIGH SCHOOL  
 Delivered by:  Client  SunStar Courier  GSO  FedEx  Other  
 If Courier, Received by: \_\_\_\_\_ Date/Time Courier Received: \_\_\_\_\_  
 Lab Received by: SUNNY Date/Time Lab Received: 11-15-19 / 8:34  
 Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due to: 6/27/20

Temperature: Cooler #1 <u>1.6</u>	°C +/- the CF (+ 1.2°C) = <u>2.8</u>	°C corrected temperature
Temperature: Cooler #2	°C +/- the CF (+ 1.2°C) =	°C corrected temperature
Temperature: Cooler #3	°C +/- the CF (+ 1.2°C) =	°C corrected temperature
<b>Temperature criteria = ≤ 6°C (no frozen containers)</b>	Within criteria?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>If NO:</b>		
Samples received on ice?	<input type="checkbox"/> Yes	<input type="checkbox"/> No → <b>Complete Non-Conformance Sheet</b>
If on ice, samples received same day collected?	<input type="checkbox"/> Yes → Acceptable	<input type="checkbox"/> No → <b>Complete Non-Conformance Sheet</b>

Custody seals intact on cooler/sample  Yes  No\*  N/A  
 Sample containers intact  Yes  No\*  
 Sample labels match Chain of Custody IDs  Yes  No\*  
 Total number of containers received match COC  Yes  No\*  
 Proper containers received for analyses requested on COC  Yes  No\*  
 Proper preservative indicated on COC/containers for analyses requested  Yes  No\*  N/A  
 Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times  Yes  No\*

\* Complete Non-Conformance Receiving Sheet if checked      Cooler/Sample Review - Initials and date: SL 11-15-19

**Comments:** \_\_\_\_\_

**WORK ORDER**

**T193979**

**Client: NV5**  
**Project: Hamilton Union High School**

**Project Manager: Jeff Lee**  
**Project Number: 70779.01.001.003**

**Report To:**

NV5  
 Heidi Cummings  
 48 Bellarmine Ct, Suite 40  
 Chico, CA 95928

Date Due: 11/22/19 17:00 (5 day TAT)

Received By: Sunny Lounethone

Date Received: 11/15/19 08:34

Logged In By: Sunny Lounethone

Date Logged In: 11/15/19 11:17

Samples Received at: **2.8°C**  
 Custody Seals Yes Received On Ice Yes  
 Containers Intact Yes  
 COC/Labels Agree Yes  
 Preservation Confir No

Analysis	Due	TAT	Expires	Comments
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T193979-01 A5D-0 [Soil] Sampled 11/12/19 12:20 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
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T193979-02 A5D-0-CL [Soil] Sampled 11/12/19 12:30 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
--	--	--	--	--

T193979-03 B5D-0 [Soil] Sampled 11/12/19 12:45 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
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T193979-04 B5D-0-CL [Soil] Sampled 11/12/19 12:50 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
--	--	--	--	--

T193979-05 C5D-0 [Soil] Sampled 11/12/19 13:00 (GMT-08:00) Pacific Time (US & 6010 Individual Metals	11/22/19 15:00	5	05/10/20 13:00	As and Pb only
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T193979-06 C5D-0-CL [Soil] Sampled 11/12/19 13:10 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
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T193979-07 D5D-0 [Soil] Sampled 11/12/19 13:25 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
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**WORK ORDER**

**T193979**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193979-08 D5D-0-CL [Soil] Sampled 11/12/19 13:30 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-09 ABCD5C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp; 8081 Pesticides</b>	11/22/19 15:00	5	11/26/19 00:00	<b>COMPOSITE 4:1 (A5D-0, B5D-0, C5D-0, D5D-0) Chlorodane and Technical Chlorodane</b>
<b>T193979-10 ABCD5C-0-CL [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp; 8081 Pesticides</b>	11/22/19 15:00	5	11/26/19 00:00	<b>COMPOSITE 4:1 (A5D-0-CL, B5D-0-CL, C5D-0-CL, D5D-0-CL) Chlorodane and Technical Chlorodane</b>
<b>T193979-11 A6D-0 [Soil] Sampled 11/12/19 13:55 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-12 B6D-0 [Soil] Sampled 11/12/19 14:10 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-13 C6D-0 [Soil] Sampled 11/12/19 14:20 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-14 D6D-0 [Soil] Sampled 11/12/19 14:35 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-15 ABCD6C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp; 8081 Pesticides</b>	11/22/19 15:00	5	11/26/19 00:00	<b>COMPOSITE 4:1 (A6D-0, B6D-0, C6D-0, D6D-0) Chlorodane and Technical Chlorodane</b>
<b>T193979-16 A7D-0 [Soil] Sampled 11/12/19 14:45 (GMT-08:00) Pacific Time (US &amp; 6010 Individual Metals</b>	11/22/19 15:00	5	05/10/20 14:45	<b>As and Pb only</b>
<b>T193979-17 A7D-0-FR [Soil] Sampled 11/12/19 14:46 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-18 A7D-0-CL [Soil] Sampled 11/12/19 14:55 (GMT-08:00) Pacific Time (US &amp; 6010 Individual Metals</b>	11/22/19 15:00	5	05/10/20 14:55	<b>As and Pb only</b>

**WORK ORDER**

**T193979**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193979-19 B7D-0 [Soil] Sampled 11/12/19 15:05 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-20 B7D-0-FR [Soil] Sampled 11/12/19 15:06 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-21 C7D-0 [Soil] Sampled 11/12/19 15:15 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-22 C7D-0-FR [Soil] Sampled 11/12/19 15:16 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-23 D7D-0 [Soil] Sampled 11/12/19 15:30 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-24 D7D-0-FR [Soil] Sampled 11/12/19 15:31 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 15:31	As and Pb only
<b>T193979-25 ABCD7C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
<b>T193979-26 ABCD7C-0-FR [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
<b>T193979-27 A8D-0 [Soil] Sampled 11/12/19 15:45 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-28 B8D-0 [Soil] Sampled 11/12/19 15:55 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-29 C8D-0 [Soil] Sampled 11/12/19 16:05 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 16:05	As and Pb only



**WORK ORDER**

**T193979**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193979-30 D8D-0 [Soil] Sampled 11/12/19 16:15 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-31 ABCD8C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp; 8081 Pesticides</b>	11/22/19 15:00	5	11/26/19 00:00	<b>COMPOSITE 4:1 (A8D-0, B8D-0, C8D-0, D8D-0) Chlorodane and Technical Chlorodane</b>



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949.297.5027 Fax

11 December 2019

Heidi Cummings

NV5

48 Bellarmine Ct, Suite 40

Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/15/19 08:34. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeff Lee", is written over a light gray rectangular background.

Jeff Lee

Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:32

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E2D-0	T193981-03	Soil	11/13/19 09:25	11/15/19 08:34
EF1EF2C-0	T193981-05	Soil	11/13/19 00:00	11/15/19 08:34
F3D-0	T193981-08	Soil	11/13/19 10:00	11/15/19 08:34
F3D-0-FR	T193981-10	Soil	11/13/19 10:01	11/15/19 08:34
EF3EF4C-0	T193981-15	Soil	11/13/19 00:00	11/15/19 08:34
EF3EF4C-0-CL	T193981-16	Soil	11/13/19 00:00	11/15/19 08:34
E5D-0	T193981-17	Soil	11/13/19 11:30	11/15/19 08:34
EFGH5C-0	T193981-21	Soil	11/13/19 00:00	11/15/19 08:34
H6D-0	T193981-25	Soil	11/13/19 13:10	11/15/19 08:34
EFGH6C-0	T193981-26	Soil	11/13/19 00:00	11/15/19 08:34
EB-2	T193981-27	Water	11/13/19 15:00	11/15/19 08:34
EB-3	T193981-28	Water	11/13/19 15:00	11/15/19 08:34
F7D-0	T193981-30	Soil	11/13/19 13:30	11/15/19 08:34
EFGH7C-0	T193981-33	Soil	11/13/19 00:00	11/15/19 08:34
H8D-0	T193981-40	Soil	11/13/19 15:25	11/15/19 08:34
EFGH8C-0	T193981-42	Soil	11/13/19 00:00	11/15/19 08:34
EFGH8C-0-CL	T193981-43	Soil	11/13/19 00:00	11/15/19 08:34

This report has been revised to report Arsenic under EPA 6020 instead of EPA 6010 to provide the lowest MDL value possible.  
JL 12/11/19



NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	<b>Reported:</b> 12/11/19 09:32
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**DETECTIONS SUMMARY**

Sample ID:	Laboratory ID:					
E2D-0	T193981-03					
		<b>Reporting</b>				
Analyte	Result	Limit	Units	Method	Notes	
Lead	4.92	3.00	mg/kg	EPA 6010b		
Arsenic	4.9	0.25	mg/kg	6020 ICP-MS		
E2D-0	T193981-05					
		<b>Reporting</b>				
Analyte	Result	Limit	Units	Method	Notes	
4,4'-DDE	9.0	5.0	ug/kg	EPA 8081A		
F3D-0	T193981-08					
		<b>Reporting</b>				
Analyte	Result	Limit	Units	Method	Notes	
Lead	5.46	3.00	mg/kg	EPA 6010b		
Arsenic	5.5	0.23	mg/kg	6020 ICP-MS		
F3D-0-FR	T193981-10					
		<b>Reporting</b>				
Analyte	Result	Limit	Units	Method	Notes	
Lead	5.42	2.73	mg/kg	EPA 6010b		
Arsenic	5.4	0.23	mg/kg	6020 ICP-MS		
EF3EF4C-0	T193981-15					
		<b>Reporting</b>				
Analyte	Result	Limit	Units	Method	Notes	
4,4'-DDE	8.2	5.0	ug/kg	EPA 8081A		



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48 Bellarmine Ct, Suite 40  
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Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:32

**Sample ID:** EF3EF4C-0-CL **Laboratory ID:** T193981-16

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	11	5.0	ug/kg	EPA 8081A	

**Sample ID:** E5D-0 **Laboratory ID:** T193981-17

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	5.67	3.00	mg/kg	EPA 6010b	
Arsenic	6.0	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** EFGH5C-0 **Laboratory ID:** T193981-21

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	7.7	5.0	ug/kg	EPA 8081A	

**Sample ID:** H6D-0 **Laboratory ID:** T193981-25

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	5.90	3.00	mg/kg	EPA 6010b	
Arsenic	5.6	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** EFGH6C-0 **Laboratory ID:** T193981-26

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	8.5	5.0	ug/kg	EPA 8081A	

**Sample ID:** EB-2 **Laboratory ID:** T193981-27

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Mercury	0.022	0.50	ug/l	EPA 7470A Water	J



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Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:32

**Sample ID:** EB-3

**Laboratory ID:** T193981-28

No Results Detected

**Sample ID:** F7D-0

**Laboratory ID:** T193981-30

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	5.17	3.00	mg/kg	EPA 6010b	
Arsenic	4.7	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** EFGH7C-0

**Laboratory ID:** T193981-33

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	8.3	5.0	ug/kg	EPA 8081A	

**Sample ID:** H8D-0

**Laboratory ID:** T193981-40

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	5.84	3.00	mg/kg	EPA 6010b	
Arsenic	5.8	0.25	mg/kg	6020 ICP-MS	

**Sample ID:** EFGH8C-0

**Laboratory ID:** T193981-42

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	6.6	5.0	ug/kg	EPA 8081A	

**Sample ID:** EFGH8C-0-CL

**Laboratory ID:** T193981-43

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	5.3	5.0	ug/kg	EPA 8081A	

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Project: Hamilton Union High School  
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12/11/19 09:32



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Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:32

**E2D-0**

**T193981-03(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>4.92</b>	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>4.9</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:32

**EF1EF2C-0**  
**T193981-05(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>9.0</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			55.5 %	35-140		"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			101 %	35-140		"	"	"	"	



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Chico CA, 95928

Project: Hamilton Union High School  
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Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:32

**F3D-0**  
**T193981-08(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>5.46</b>	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.5</b>	0.0023	0.23	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
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Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:32

**F3D-0-FR**  
**T193981-10(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>5.42</b>	0.879	2.73	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.4</b>	0.0023	0.23	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
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48 Bellarmine Ct, Suite 40  
Chico CA, 95928

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Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:32

**EF3EF4C-0**  
**T193981-15(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>8.2</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			53.7 %		35-140		"	"	"	"
<i>Surrogate: Decachlorobiphenyl</i>			96.4 %		35-140		"	"	"	"

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25712 Commercentre Drive  
 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:32

**EF3EF4C-0-CL**  
**T193981-16(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>11</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			82.7 %		35-140	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			85.1 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:32

**E5D-0**

**T193981-17(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>5.67</b>	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>6.0</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
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48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:32

**EFGH5C-0**  
**T193981-21(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>7.7</b>	<b>0.78</b>	<b>5.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			68.6 %	35-140		"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			97.8 %	35-140		"	"	"	"	

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:32

**H6D-0**  
**T193981-25(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>5.90</b>	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.6</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:32

**EFGH6C-0**  
**T193981-26(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>8.5</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			65.5 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl			93.1 %		35-140	"	"	"	"	



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:32

**EB-2**  
**T193981-27(Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Antimony	ND	17	50	ug/l	1	9111527	11/15/19	11/19/19	EPA 6010b	
Silver	ND	24	50	"	"	"	"	"	"	
Arsenic	ND	17	50	"	"	"	"	"	"	
Barium	ND	13	50	"	"	"	"	"	"	
Beryllium	ND	18	50	"	"	"	"	"	"	
Cadmium	ND	21	50	"	"	"	"	"	"	
Chromium	ND	21	50	"	"	"	"	"	"	
Cobalt	ND	14	50	"	"	"	"	"	"	
Copper	ND	20	50	"	"	"	"	"	"	
Lead	ND	17	50	"	"	"	"	"	"	
Molybdenum	ND	14	50	"	"	"	"	"	"	
Nickel	ND	14	50	"	"	"	"	"	"	
Selenium	ND	19	50	"	"	"	"	"	"	
Thallium	ND	16	50	"	"	"	"	"	"	
Vanadium	ND	20	50	"	"	"	"	"	"	
Zinc	ND	17	50	"	"	"	"	"	"	

**Cold Vapor Extraction EPA 7470/7471**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	0.022	0.022	0.50	ug/l	1	9111529	11/15/19	11/20/19	EPA 7470A Water	J

**Organochlorine Pesticides by EPA Method 8081A**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.04	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.03	1.00	"	"	"	"	"	"	
beta-BHC	ND	0.05	1.00	"	"	"	"	"	"	
delta-BHC	ND	0.02	1.00	"	"	"	"	"	"	
Heptachlor	ND	0.04	1.00	"	"	"	"	"	"	
Aldrin	ND	0.02	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.04	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	0.05	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	0.03	1.00	"	"	"	"	"	"	
Endosulfan I	ND	0.02	1.00	"	"	"	"	"	"	
4,4'-DDE	ND	0.04	1.00	"	"	"	"	"	"	
Dieldrin	ND	0.03	1.00	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:32

**EB-2**  
**T193981-27(Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

Endrin	ND	0.04	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
4,4'-DDD	ND	0.03	1.00	"	"	"	"	"	"	
Endosulfan II	ND	0.04	1.00	"	"	"	"	"	"	
4,4'-DDT	ND	0.06	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	0.02	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.05	1.00	"	"	"	"	"	"	
Methoxychlor	ND	0.03	1.00	"	"	"	"	"	"	
Endrin ketone	ND	0.05	1.00	"	"	"	"	"	"	
Chlordane (tech)	ND	1.00	10.0	"	"	"	"	"	"	
Toxaphene	ND	5.79	20.0	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			78.5 %	35-140		"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			85.6 %	35-140		"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:32

**EB-3**

**T193981-28(Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

Antimony	ND	17	50	ug/l	1	9111527	11/15/19	11/19/19	EPA 6010b	
Silver	ND	24	50	"	"	"	"	"	"	
Arsenic	ND	17	50	"	"	"	"	"	"	
Barium	ND	13	50	"	"	"	"	"	"	
Beryllium	ND	18	50	"	"	"	"	"	"	
Cadmium	ND	21	50	"	"	"	"	"	"	
Chromium	ND	21	50	"	"	"	"	"	"	
Cobalt	ND	14	50	"	"	"	"	"	"	
Copper	ND	20	50	"	"	"	"	"	"	
Lead	ND	17	50	"	"	"	"	"	"	
Molybdenum	ND	14	50	"	"	"	"	"	"	
Nickel	ND	14	50	"	"	"	"	"	"	
Selenium	ND	19	50	"	"	"	"	"	"	
Thallium	ND	16	50	"	"	"	"	"	"	
Vanadium	ND	20	50	"	"	"	"	"	"	
Zinc	ND	17	50	"	"	"	"	"	"	

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.022	0.50	ug/l	1	9111529	11/15/19	11/20/19	EPA 7470A Water	
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**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.04	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.03	1.00	"	"	"	"	"	"	
beta-BHC	ND	0.05	1.00	"	"	"	"	"	"	
delta-BHC	ND	0.02	1.00	"	"	"	"	"	"	
Heptachlor	ND	0.04	1.00	"	"	"	"	"	"	
Aldrin	ND	0.02	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.04	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	0.05	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	0.03	1.00	"	"	"	"	"	"	
Endosulfan I	ND	0.02	1.00	"	"	"	"	"	"	
4,4'-DDE	ND	0.04	1.00	"	"	"	"	"	"	
Dieldrin	ND	0.03	1.00	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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25712 Commercentre Drive  
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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:32

**EB-3**  
**T193981-28(Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

Endrin	ND	0.04	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
4,4'-DDD	ND	0.03	1.00	"	"	"	"	"	"	
Endosulfan II	ND	0.04	1.00	"	"	"	"	"	"	
4,4'-DDT	ND	0.06	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	0.02	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.05	1.00	"	"	"	"	"	"	
Methoxychlor	ND	0.03	1.00	"	"	"	"	"	"	
Endrin ketone	ND	0.05	1.00	"	"	"	"	"	"	
Chlordane (tech)	ND	1.00	10.0	"	"	"	"	"	"	
Toxaphene	ND	5.79	20.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			75.5 %	35-140		"	"	"	"	
Surrogate: Decachlorobiphenyl			85.8 %	35-140		"	"	"	"	

SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
12/11/19 09:32

**F7D-0**  
**T193981-30(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>5.17</b>	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>4.7</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:32

**EFGH7C-0**  
**T193981-33(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>8.3</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			54.5 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl			81.4 %		35-140	"	"	"	"	



NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	<b>Reported:</b> 12/11/19 09:32
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**H8D-0**  
**T193981-40(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Metals by EPA 6010B**

<b>Lead</b>	<b>5.84</b>	0.967	3.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
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**Metals by EPA 6020 Method**

<b>Arsenic</b>	<b>5.8</b>	0.0025	0.25	mg/kg	1	9121019	12/10/19	12/10/19	6020 ICP-MS	
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SunStar Laboratories, Inc.

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:32

**EFGH8C-0**  
**T193981-42(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>6.6</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene			82.1 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl			104 %		35-140	"	"	"	"	



NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:32

**EFGH8C-0-CL**  
**T193981-43(Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.56	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.96	5.0	"	"	"	"	"	"	
beta-BHC	ND	1.4	5.0	"	"	"	"	"	"	
delta-BHC	ND	0.64	5.0	"	"	"	"	"	"	
Heptachlor	ND	0.59	5.0	"	"	"	"	"	"	
Aldrin	ND	0.66	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.98	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	0.93	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	0.83	5.0	"	"	"	"	"	"	
Endosulfan I	ND	0.81	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>5.3</b>	0.78	5.0	"	"	"	"	"	"	
Dieldrin	ND	1.1	5.0	"	"	"	"	"	"	
Endrin	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	1.2	5.0	"	"	"	"	"	"	
Endosulfan II	ND	1.1	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	0.80	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.7	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.61	5.0	"	"	"	"	"	"	
Methoxychlor	ND	0.40	5.0	"	"	"	"	"	"	
Endrin ketone	ND	1.3	5.0	"	"	"	"	"	"	
Toxaphene	ND	5.8	20	"	"	"	"	"	"	
Chlordane (tech)	ND	5.0	50	"	"	"	"	"	"	
Chlordane (Total)	ND		5.0	"	"	"	"	"	"	
<i>Surrogate: Tetrachloro-meta-xylene</i>			63.0 %		35-140	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>			90.1 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.

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25712 Commercentre Drive  
 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:32

**Metals by EPA 6010B - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111527 - EPA 3010A**

**Blank (9111527-BLK1)**

Prepared: 11/15/19 Analyzed: 11/19/19

Antimony	ND	17	50	ug/l							
Silver	ND	24	50	"							
Arsenic	ND	17	50	"							
Barium	ND	13	50	"							
Beryllium	ND	18	50	"							
Cadmium	ND	21	50	"							
Chromium	ND	21	50	"							
Cobalt	ND	14	50	"							
Copper	ND	20	50	"							
Lead	ND	17	50	"							
Molybdenum	ND	14	50	"							
Nickel	ND	14	50	"							
Selenium	ND	19	50	"							
Thallium	ND	16	50	"							
Vanadium	ND	20	50	"							
Zinc	ND	17	50	"							

**LCS (9111527-BS1)**

Prepared: 11/15/19 Analyzed: 11/19/19

Arsenic	525	17	50	ug/l	500		105	75-125			
Barium	538	13	50	"	500		108	75-125			
Cadmium	543	21	50	"	500		109	75-125			
Chromium	539	21	50	"	500		108	75-125			
Lead	525	17	50	"	500		105	75-125			

**Batch 9111532 - EPA 3050B**

**Blank (9111532-BLK1)**

Prepared: 11/15/19 Analyzed: 11/18/19

Arsenic	ND	0.800	5.00	mg/kg							
Lead	ND	0.967	3.00	"							

SunStar Laboratories, Inc.

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Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:32

**Metals by EPA 6010B - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 9111532 - EPA 3050B</b>											
<b>LCS (9111532-BS1)</b>											
						Prepared: 11/15/19 Analyzed: 11/18/19					
Arsenic	97.4	0.800	5.00	mg/kg	100		97.4	75-125			
Lead	99.5	0.967	3.00	"	100		99.5	75-125			
<b>Matrix Spike (9111532-MS1)</b>											
						Source: T193974-24 Prepared: 11/15/19 Analyzed: 11/18/19					
Arsenic	73.0	0.800	5.00	mg/kg	99.0		73.7	75-125			QM-05
Lead	76.9	0.967	3.00	"	99.0		77.7	75-125			QM-05
<b>Matrix Spike Dup (9111532-MSD1)</b>											
						Source: T193974-24 Prepared: 11/15/19 Analyzed: 11/18/19					
Arsenic	66.9	0.800	5.00	mg/kg	93.5		71.6	75-125	8.64	20	QM-05
Lead	68.9	0.967	3.00	"	93.5		73.8	75-125	11.0	20	QM-05

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 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:32

**Metals by EPA 6020 Method - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 9121019 - EPA 3050B</b>											
<b>Blank (9121019-BLK1)</b>					Prepared & Analyzed: 12/10/19						
Arsenic	ND	0.0025	0.25	mg/kg							
Thallium	ND	0.099	0.25	"							
<b>LCS (9121019-BS1)</b>					Prepared & Analyzed: 12/10/19						
Arsenic	25.9	0.0025	0.25	mg/kg	25.0		104	80-120			
<b>Matrix Spike (9121019-MS1)</b>					Source: T193941-46 Prepared & Analyzed: 12/10/19						
Arsenic	30.7	0.0025	0.25	mg/kg	24.8	5.81	101	75-125			
<b>Matrix Spike Dup (9121019-MSD1)</b>					Source: T193941-46 Prepared & Analyzed: 12/10/19						
Arsenic	29.1	0.0025	0.25	mg/kg	24.8	5.81	94.1	75-125	5.46	20	

SunStar Laboratories, Inc.

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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 12/11/19 09:32
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**Cold Vapor Extraction EPA 7470/7471 - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 9111529 - EPA 7470A Water</b>											
<b>Blank (9111529-BLK1)</b>											
						Prepared: 11/15/19 Analyzed: 11/20/19					
Mercury	ND	0.022	0.50	ug/l							
<b>LCS (9111529-BS1)</b>											
						Prepared: 11/15/19 Analyzed: 11/20/19					
Mercury	4.42	0.022	0.50	ug/l	5.00	ND	88.5	80-120			
<b>Matrix Spike (9111529-MS1)</b>											
						Source: T193981-27 Prepared: 11/15/19 Analyzed: 11/20/19					
Mercury	4.10	0.022	0.50	ug/l	5.00	ND	81.9	75-125			
<b>Matrix Spike Dup (9111529-MSD1)</b>											
						Source: T193981-27 Prepared: 11/15/19 Analyzed: 11/20/19					
Mercury	4.22	0.022	0.50	ug/l	5.00	ND	84.4	75-125	2.91	20	

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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 12/11/19 09:32
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**Organochlorine Pesticides by EPA Method 8081A - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111517 - EPA 3550 ECD/GCMS**

**Blank (9111517-BLK1)**

Prepared: 11/15/19 Analyzed: 11/18/19

Surrogate: Tetrachloro-meta-xylene	9.16			ug/kg	10.1		90.6	35-140			
Surrogate: Decachlorobiphenyl	14.3			"	10.1		141	35-140			S-GC
alpha-BHC	ND	0.56	5.0	"							
gamma-BHC (Lindane)	ND	0.96	5.0	"							
beta-BHC	ND	1.4	5.0	"							
delta-BHC	ND	0.64	5.0	"							
Heptachlor	ND	0.59	5.0	"							
Aldrin	ND	0.66	5.0	"							
Heptachlor epoxide	ND	0.98	5.0	"							
gamma-Chlordane	ND	0.93	5.0	"							
alpha-Chlordane	ND	0.83	5.0	"							
Endosulfan I	ND	0.81	5.0	"							
4,4'-DDE	ND	0.78	5.0	"							
Dieldrin	ND	1.1	5.0	"							
Endrin	ND	1.1	5.0	"							
4,4'-DDD	ND	1.2	5.0	"							
Endosulfan II	ND	1.1	5.0	"							
4,4'-DDT	ND	0.80	5.0	"							
Endrin aldehyde	ND	1.7	5.0	"							
Endosulfan sulfate	ND	0.61	5.0	"							
Methoxychlor	ND	0.40	5.0	"							
Endrin ketone	ND	1.3	5.0	"							
Toxaphene	ND	5.8	20	"							
Chlordane (tech)	ND	5.0	50	"							
Chlordane (Total)	ND		5.0	"							

**LCS (9111517-BS1)**

Prepared: 11/15/19 Analyzed: 11/19/19

Surrogate: Tetrachloro-meta-xylene	10.0			ug/kg	10.1		99.2	35-140			
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NV5  
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Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:32

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111517 - EPA 3550 ECD/GCMS**

**LCS (9111517-BS1)**

Prepared: 11/15/19 Analyzed: 11/19/19

Surrogate: Decachlorobiphenyl	11.0			ug/kg	10.1		109	35-140			
gamma-BHC (Lindane)	43.0	0.96	5.0	"	40.4		106	40-120			
Heptachlor	43.2	0.59	5.0	"	40.4		107	40-120			
Aldrin	39.1	0.66	5.0	"	40.4		96.8	40-120			
Dieldrin	43.4	1.1	5.0	"	40.4		108	40-120			
Endrin	43.8	1.1	5.0	"	40.4		109	40-120			
4,4'-DDT	41.7	0.80	5.0	"	40.4		103	33-147			

**LCS Dup (9111517-BSD1)**

Prepared: 11/15/19 Analyzed: 11/19/19

Surrogate: Tetrachloro-meta-xylene	8.92			ug/kg	10.1		88.4	35-140			
Surrogate: Decachlorobiphenyl	12.1			"	10.1		120	35-140			
gamma-BHC (Lindane)	41.5	0.96	5.0	"	40.4		103	40-120	3.54	30	
Heptachlor	42.8	0.59	5.0	"	40.4		106	40-120	0.838	30	
Aldrin	40.0	0.66	5.0	"	40.4		98.9	40-120	2.19	30	
Dieldrin	46.2	1.1	5.0	"	40.4		114	40-120	6.26	30	
Endrin	46.6	1.1	5.0	"	40.4		115	40-120	6.06	30	
4,4'-DDT	45.5	0.80	5.0	"	40.4		113	33-147	8.74	30	

**Batch 9111825 - EPA 3510C GCMS/ECD**

**Blank (9111825-BLK1)**

Prepared: 11/18/19 Analyzed: 11/19/19

Surrogate: Tetrachloro-meta-xylene	0.823			ug/l	1.00		82.3	35-140			
Surrogate: Decachlorobiphenyl	0.965			"	1.00		96.5	35-140			
alpha-BHC	ND	0.04	1.00	"							
gamma-BHC (Lindane)	ND	0.03	1.00	"							
beta-BHC	ND	0.05	1.00	"							
delta-BHC	ND	0.02	1.00	"							
Heptachlor	ND	0.04	1.00	"							
Aldrin	ND	0.02	1.00	"							

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NV5  
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 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:32

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111825 - EPA 3510C GCMS/ECD**

**Blank (9111825-BLK1)**

Prepared: 11/18/19 Analyzed: 11/19/19

Heptachlor epoxide	ND	0.04	1.00	ug/l							
gamma-Chlordane	ND	0.05	1.00	"							
alpha-Chlordane	ND	0.03	1.00	"							
Endosulfan I	ND	0.02	1.00	"							
4,4'-DDE	ND	0.04	1.00	"							
Dieldrin	ND	0.03	1.00	"							
Endrin	ND	0.04	1.00	"							
4,4'-DDD	ND	0.03	1.00	"							
Endosulfan II	ND	0.04	1.00	"							
4,4'-DDT	ND	0.06	1.00	"							
Endrin aldehyde	ND	0.02	1.00	"							
Endosulfan sulfate	ND	0.05	1.00	"							
Methoxychlor	ND	0.03	1.00	"							
Endrin ketone	ND	0.05	1.00	"							
Chlordane (tech)	ND	1.00	10.0	"							
Toxaphene	ND	5.79	20.0	"							

**LCS (9111825-BS1)**

Prepared: 11/18/19 Analyzed: 11/19/19

Surrogate: Tetrachloro-meta-xylene	0.737			ug/l	1.00		73.7	35-140			
Surrogate: Decachlorobiphenyl	0.928			"	1.00		92.8	35-140			
gamma-BHC (Lindane)	3.79	0.03	1.00	"	4.00		94.6	40-120			
Heptachlor	3.79	0.04	1.00	"	4.00		94.7	40-120			
Aldrin	3.41	0.02	1.00	"	4.00		85.2	40-120			
Dieldrin	4.05	0.03	1.00	"	4.00		101	40-120			
Endrin	4.24	0.04	1.00	"	4.00		106	40-120			
4,4'-DDT	4.15	0.06	1.00	"	4.00		104	40-120			

**LCS Dup (9111825-BSD1)**

Prepared: 11/18/19 Analyzed: 11/19/19

Surrogate: Tetrachloro-meta-xylene	0.866			ug/l	1.00		86.6	35-140			
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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 12/11/19 09:32

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111825 - EPA 3510C GCMS/ECD**

**LCS Dup (9111825-BSD1)**

Prepared: 11/18/19 Analyzed: 11/19/19

Surrogate: Decachlorobiphenyl	0.978			ug/l	1.00		97.8	35-140			
gamma-BHC (Lindane)	4.28	0.03	1.00	"	4.00		107	40-120	12.2	20	
Heptachlor	4.26	0.04	1.00	"	4.00		106	40-120	11.7	20	
Aldrin	3.96	0.02	1.00	"	4.00		99.0	40-120	15.0	20	
Dieldrin	4.45	0.03	1.00	"	4.00		111	40-120	9.33	20	
Endrin	4.59	0.04	1.00	"	4.00		115	40-120	7.84	20	
4,4'-DDT	4.42	0.06	1.00	"	4.00		110	40-120	6.31	20	

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
12/11/19 09:32

### Notes and Definitions

S-GC Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.

J Detected but below the Standard Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the Method Detection Limit (MDL)

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference



**Chain of Custody Record**

SunStar Laboratories  
 25712 Commerce Centre Dr  
 Lake Forest, CA 92630  
 949-297-5020

Client: NV5  
 Address: 48 Bellamine Court, Ste 40, Chico, CA 95928  
 Phone: 530-894-2487 Fax: 530-894-2437  
 Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019  
 Project Name: Hamilton Union High School  
 Collector: HJC/CWB Client Project #: 70779.01.001.003  
 Batch #: 793981 EDF #: \_\_\_\_\_

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Lab to prepare EF-1/EF-2C-0 as 4:1 composite of E1D-0, F1D-0, E2D-0 and F2D-0	Laboratory ID #	Comments/Preservative	Total # of
E1D-0	11/13/2019	0850	SOIL	8 oz jar					01		1
F1D-0	11/13/2019	0900	SOIL	8 oz jar					02		1
E2D-0	11/13/2019	0925	SOIL	8 oz jar	X	X			03		1
F2D-0	11/13/2019	0915	SOIL	8 oz jar					04		1
E3D-0	11/13/2019	0940	SOIL	8 oz jar					06		1
E3D-0-CL	11/13/2019	0945	SOIL	8 oz jar					07		1
F3D-0	11/13/2019	1000	SOIL	8 oz jar	X	X			08		1
F3D-0-CL	11/13/2019	1005	SOIL	8 oz jar					09		1
F3D-0-FR	11/13/2019	1001	SOIL	8 oz jar	X	X			10		1
E4D-0	11/13/2019	1050	SOIL	8 oz jar					11		1
E4D-0-CL	11/13/2019	1105	SOIL	8 oz jar					12		1
F4D-0	11/13/2019	1025	SOIL	8 oz jar					13		1
F4D-0-CL	11/13/2019	1035	SOIL	8 oz jar					14		1
Relinquished by: (signature) <u>[Signature]</u>			Date / Time	Received by: (signature) <u>GSO</u>	Date / Time	Total # of containers		Chain of Custody seals <u>N/A</u>		Received good condition/cold	
Relinquished by: (signature) <u>GSO</u>			Date / Time	Received by: (signature) <u>[Signature]</u>	Date / Time	Seals intact? <u>N/A</u>		Received good condition/cold		2.5%	
Relinquished by: (signature) _____			Date / Time	Received by: (signature) _____	Date / Time	Turn around time: <u>5 day</u>					

Sample disposal instructions: Disposal @ \$2.00 each \_\_\_\_\_ Return to client \_\_\_\_\_ Pickup \_\_\_\_\_

Notes  
 Method 8081 report Chlordane and Technical Chlordane  
 Please return H&K/NV5 ice chests

SunStar Laboratories  
 25712 Commercentre Dr  
 Lake Forest, CA 92630  
 949-297-5020

Chain of Custody Record

Client: NV5  
 Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928  
 Phone: 530-894-2487 Fax: 530-894-2437  
 Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019  
 Project Name: Hamilton Union High School  
 Collector: HJC/CWB Client Project #: 70779.01.001.003  
 Batch #: ~~7998~~ 793981 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Title 22 Metals	Laboratory ID #	Comments/Preservative	Total # of
E5D-0	11/13/2019	1130	SOIL	8 oz jar	X					Lab to prepare EF3EF4C-0-CL as 4:1 composite of E3D-0-CL, F3D-0-CL, E4D-0-CL and F4D-0-	1
F5D-0	11/13/2019	1140	SOIL	8 oz jar							1
G5D-0	11/13/2019	1155	SOIL	8 oz jar							1
H5D-0	11/13/2019	1210	SOIL	8 oz jar							1
E6D-0	11/13/2019	1230	SOIL	8 oz jar			X			Lab to prepare EF6GH5C-0 as 4:1 composite of E5D-0, F5D-0, G5D-0 and H5D-0	1
F6D-0	11/13/2019	1240	SOIL	8 oz jar							1
G6D-0	11/13/2019	1255	SOIL	8 oz jar							1
H6D-0	11/13/2019	1310	SOIL	8 oz jar	X						1
EB-2	11/12/2019	1500	Water	Amber, plastic			X				2
EB-3	11/13/2019	1500	Water	Amber, plastic			X				2
Relinquished by: (signature)		Date / Time	Received by: (signature)		Date / Time	Total # of containers		Chain of Custody seals		Notes	
<i>[Signature]</i>		11/14/19 1600	GSO		11/14/19 1600	0/N/A		0/N/A		Method 8081 report Chloroform and Technical Chloroform Please return H&K/NV5 Ice chests	
Relinquished by: (signature)		Date / Time	Received by: (signature)		Date / Time	Seals intact?		Received good condition/cold			
<i>[Signature]</i>		11-15-19 8:34	<i>[Signature]</i>		11-15-19 8:34	0/N/A		2/2			
Relinquished by: (signature)		Date / Time	Received by: (signature)		Date / Time	Turn around time:					
<i>[Signature]</i>			<i>[Signature]</i>			5 day					

Sample disposal instructions: Disposal @ \$2.00 each

Return to client \_\_\_\_\_ Pickup \_\_\_\_\_

Client: NV5  
Address: 48 Bellamine Court, Ste 40, Chico, CA 95928  
Phone: 530-894-2487 Fax: 530-894-2437  
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019  
Project Name: Hamilton Union High School  
Collector: HJGCWB Client Project #: 70779.01.001.003  
Batch #: 7193981 EDF #: \_\_\_\_\_

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of
E7D-0	11/13/2019	1320	SOIL	8 oz jar	X	X		29		1
F7D-0	11/13/2019	1330	SOIL	8 oz jar				30		1
G7D-0	11/13/2019	1345	SOIL	8 oz jar				31		1
H7D-0	11/13/2019	1400	SOIL	8 oz jar			X	32		1
E8D-0	11/13/2019	1415	SOIL	8 oz jar				34		1
F8D-0-CL	11/13/2019	1425	SOIL	8 oz jar				35		1
F8D-0	11/13/2019	1435	SOIL	8 oz jar				36		1
F8D-0-CL	11/13/2019	1445	SOIL	8 oz jar				37		1
G8D-0	11/13/2019	1500	SOIL	8 oz jar				38		1
G8D-0-CL	11/13/2019	1510	SOIL	8 oz jar				39		1
H8D-0	11/13/2019	1525	SOIL	8 oz jar	X	X		40		1
H8D-0-CL	11/13/2019	1535	SOIL	8 oz jar			X	41		1
Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>11/14/19 1600</u>					Received by: (signature) <u>[Signature]</u> Date / Time <u>11/14/19 1600</u>					
Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>11/15/19 8:34</u>					Received by: (signature) <u>[Signature]</u> Date / Time <u>11/15/19 8:34</u>					
Relinquished by: (signature) _____ Date / Time _____					Received by: (signature) _____ Date / Time _____					
Sample disposal instructions: Disposal @ \$2.00 each _____					Return to client _____	Pickup _____				
Total # of containers _____					Chain of Custody seals _____	Seals intact <input checked="" type="checkbox"/> N/A				
Received good condition/cold _____					Turn around time: <u>5 day</u>					
Notes: Method 8081 report Chlordane and Technical Chlordane Please return H&K/NV5 ice chests										

## SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: 7193981  
 Client Name: NV5 Project: HAMILTON UNION HIGH SCHOOL  
 Delivered by:  Client  SunStar Courier  GSO  FedEx  Other  
 If Courier, Received by: \_\_\_\_\_ Date/Time Courier Received: \_\_\_\_\_  
 Lab Received by: SUNNY Date/Time Lab Received: 11-15-19 / 8:34  
 Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due: 6/27/20

Temperature: Cooler #1	<u>1.3</u>	°C +/- the CF (+ 1.2°C) =	<u>2.5</u>	°C corrected temperature
Temperature: Cooler #2		°C +/- the CF (+ 1.2°C) =		°C corrected temperature
Temperature: Cooler #3		°C +/- the CF (+ 1.2°C) =		°C corrected temperature
<b>Temperature criteria = ≤ 6°C (no frozen containers)</b>		Within criteria?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>If NO:</b>				
Samples received on ice?		<input type="checkbox"/> Yes	<input type="checkbox"/> No → Complete Non-Conformance Sheet	
If on ice, samples received same day collected?		<input type="checkbox"/> Yes → Acceptable	<input type="checkbox"/> No → Complete Non-Conformance Sheet	

Custody seals intact on cooler/sample  Yes  No\*  N/A  
 Sample containers intact  Yes  No\*  
 Sample labels match Chain of Custody IDs  Yes  No\*  
 Total number of containers received match COC  Yes  No\*  
 Proper containers received for analyses requested on COC  Yes  No\*  
 Proper preservative indicated on COC/containers for analyses requested  Yes  No\*  N/A  
 Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times  Yes  No\*

\* Complete Non-Conformance Receiving Sheet if checked      Cooler/Sample Review - Initials and date: SL 11-15-19

Comments: \_\_\_\_\_

**WORK ORDER**

**T193981**

**Client: NV5**  
**Project: Hamilton Union High School**

**Project Manager: Jeff Lee**  
**Project Number: 70779.01.001.003**

**Report To:**

NV5  
 Heidi Cummings  
 48 Bellarmine Ct, Suite 40  
 Chico, CA 95928

Date Due: 11/22/19 17:00 (5 day TAT)

Received By: Sunny Lounethone

Date Received: 11/15/19 08:34

Logged In By: Sunny Lounethone

Date Logged In: 11/15/19 11:57

Samples Received at: **2.5°C**  
 Custody Seals Yes Received On Ice Yes  
 Containers Intact Yes  
 COC/Labels Agree Yes  
 Preservation Confir No

Analysis	Due	TAT	Expires	Comments
<b>T193981-01 E1D-0 [Soil] Sampled 11/13/19 08:50 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-02 F1D-0 [Soil] Sampled 11/13/19 09:00 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-03 E2D-0 [Soil] Sampled 11/13/19 09:25 (GMT-08:00) Pacific Time (US &amp;</b> 6010 Individual Metals	11/22/19 15:00	5	05/11/20 09:25	As and Pb only
<b>T193981-04 F2D-0 [Soil] Sampled 11/13/19 09:15 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-05 EF1EF2C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b> 8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	COMPOSITE 4:1 (E1D-0, F1D-0, E2D-0, F2D-0)
<b>T193981-06 E3D-0 [Soil] Sampled 11/13/19 09:40 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-07 E3D-0-CL [Soil] Sampled 11/13/19 09:45 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				



**WORK ORDER**

**T193981**

<b>Client: NV5</b>	<b>Project Manager: Jeff Lee</b>
<b>Project: Hamilton Union High School</b>	<b>Project Number: 70779.01.001.003</b>

Analysis	Due	TAT	Expires	Comments
<b>T193981-08 F3D-0 [Soil] Sampled 11/13/19 10:00 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 10:00	As and Pb only
<b>T193981-09 F3D-0-CL [Soil] Sampled 11/13/19 10:05 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193981-10 F3D-0-FR [Soil] Sampled 11/13/19 10:01 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 10:01	As and Pb only
<b>T193981-11 E4D-0 [Soil] Sampled 11/13/19 10:50 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193981-12 E4D-0-CL [Soil] Sampled 11/13/19 11:05 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193981-13 F4D-0 [Soil] Sampled 11/13/19 10:25 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193981-14 F4D-0-CL [Soil] Sampled 11/13/19 10:35 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193981-15 EF3EF4C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	COMPOSITE 4:1 (E3D-0, F3D-0, E4D-0, F4D-0)
<b>T193981-16 EF3EF4C-0-CL [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	COMPOSITE 4:1 (E3D-0-CL, F3D-0-CL, E4D-0-CL, F4D-0-CL)
<b>T193981-17 E5D-0 [Soil] Sampled 11/13/19 11:30 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 11:30	As and Pb only
<b>T193981-18 F5D-0 [Soil] Sampled 11/13/19 11:40 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				

**WORK ORDER**

**T193981**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193981-19 G5D-0 [Soil] Sampled 11/13/19 11:55 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-20 H5D-0 [Soil] Sampled 11/13/19 12:10 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-21 EFGH5C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp; 8081 Pesticides</b>	11/22/19 15:00	5	11/27/19 00:00	<b>COMPOSITE 4:1 (E5D-0, F5D-0, G5D-0, H5D-0)</b>
<b>T193981-22 E6D-0 [Soil] Sampled 11/13/19 12:30 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-23 F6D-0 [Soil] Sampled 11/13/19 12:40 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-24 G6D-0 [Soil] Sampled 11/13/19 12:55 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-25 H6D-0 [Soil] Sampled 11/13/19 13:10 (GMT-08:00) Pacific Time (US &amp; 6010 Individual Metals</b>	11/22/19 15:00	5	05/11/20 13:10	<b>As and Pb only</b>
<b>T193981-26 EFGH6C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp; 8081 Pesticides</b>	11/22/19 15:00	5	11/27/19 00:00	<b>COMPOSITE 4:1 (E6D-0, F6D-0, G6D-0, H6D-0)</b>
<b>T193981-27 EB-2 [Water] Sampled 11/13/19 15:00 (GMT-08:00) Pacific Time (US &amp; 6010 Title 22</b>	11/22/19 15:00	5	05/11/20 15:00	
<b>8081 Pesticides</b>	11/22/19 15:00	5	11/20/19 15:00	
<b>T193981-28 EB-3 [Water] Sampled 11/13/19 15:00 (GMT-08:00) Pacific Time (US &amp; 6010 Title 22</b>	11/22/19 15:00	5	05/11/20 15:00	
<b>8081 Pesticides</b>	11/22/19 15:00	5	11/20/19 15:00	

**WORK ORDER**

**T193981**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193981-29 E7D-0 [Soil] Sampled 11/13/19 13:20 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-30 F7D-0 [Soil] Sampled 11/13/19 13:30 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 13:30	As and Pb only
<b>T193981-31 G7D-0 [Soil] Sampled 11/13/19 13:45 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-32 H7D-0 [Soil] Sampled 11/13/19 14:00 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-33 EFGH7C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	COMPOSITE 4:1 (E7D-0, F7D-0, G7D-0, H7D-0)
<b>T193981-34 E8D-0 [Soil] Sampled 11/13/19 14:15 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-35 E8D-0-CL [Soil] Sampled 11/13/19 14:25 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-36 F8D-0 [Soil] Sampled 11/13/19 14:35 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-37 F8D-0-CL [Soil] Sampled 11/13/19 14:45 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-38 G8D-0 [Soil] Sampled 11/13/19 15:00 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-39 G8D-0-CL [Soil] Sampled 11/13/19 15:10 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				

**WORK ORDER**

**T193981**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193981-40 H8D-0 [Soil] Sampled 11/13/19 15:25 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 15:25	As and Pb only
<b>T193981-41 H8D-0-CL [Soil] Sampled 11/13/19 15:35 (GMT-08:00) Pacific Time (US &amp;</b>				
<b>[NO ANALYSES]</b>				
<b>T193981-42 EFGH8C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	<b>COMPOSITE 4:1 (E8D-0, F8D-0, G8D-0, H8D-0)</b>
<b>T193981-43 EFGH8C-0-CL [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	<b>COMPOSITE 4:1 (E8D-0-CL, F8D-0-CL, G8D-0-CL, H8D-0-CL)</b>

**Analysis groups included in this work order**

---

6010 Title 22

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subgroup 6010B T22                      7470/71 Hg



25712 Commercentre Drive  
Lake Forest, California 92630  
949.297.5020 Phone  
949.297.5027 Fax

26 November 2019

Heidi Cummings

NV5

48 Bellarmine Ct, Suite 40

Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/20/19 08:42. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee

Project Manager



25712 Commercentre Drive  
Lake Forest, California 92630  
949.297.5020 Phone  
949.297.5027 Fax

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.02  
Project Manager: Heidi Cummings

**Reported:**  
11/26/19 09:54

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AW-1	T194029-01	Water	11/19/19 14:40	11/20/19 08:42

SunStar Laboratories, Inc.

*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.*

Jeff Lee, Project Manager



25712 Commercentre Drive  
Lake Forest, California 92630  
949.297.5020 Phone  
949.297.5027 Fax

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.02  
Project Manager: Heidi Cummings

**Reported:**  
11/26/19 09:54

**DETECTIONS SUMMARY**

**Sample ID:** AW-1

**Laboratory ID:** T194029-01

**No Results Detected**

SunStar Laboratories, Inc.

*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.*

Jeff Lee, Project Manager



25712 Commercentre Drive  
 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.02 Project Manager: Heidi Cummings	Reported: 11/26/19 09:54
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**AW-1**  
**T194029-01 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	1.00	ug/l	1	9112032	11/20/19	11/25/19	EPA 8081A	
gamma-BHC (Lindane)	ND	1.00	"	"	"	"	"	"	
beta-BHC	ND	1.00	"	"	"	"	"	"	
delta-BHC	ND	1.00	"	"	"	"	"	"	
Heptachlor	ND	1.00	"	"	"	"	"	"	
Aldrin	ND	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	1.00	"	"	"	"	"	"	
Endosulfan I	ND	1.00	"	"	"	"	"	"	
4,4'-DDE	ND	1.00	"	"	"	"	"	"	
Dieldrin	ND	1.00	"	"	"	"	"	"	
Endrin	ND	1.00	"	"	"	"	"	"	
4,4'-DDD	ND	1.00	"	"	"	"	"	"	
Endosulfan II	ND	1.00	"	"	"	"	"	"	
4,4'-DDT	ND	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	1.00	"	"	"	"	"	"	
Methoxychlor	ND	1.00	"	"	"	"	"	"	
Endrin ketone	ND	1.00	"	"	"	"	"	"	
Toxaphene	ND	20.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		80.3 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		99.7 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.

*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.*

Jeff Lee, Project Manager





25712 Commercentre Drive  
 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.02  
 Project Manager: Heidi Cummings

Reported:  
 11/26/19 09:54

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9112032 - EPA 3510C GCMS/ECD**

**Blank (9112032-BLK1)**

Prepared: 11/20/19 Analyzed: 11/25/19

alpha-BHC	ND	1.00	ug/l							
gamma-BHC (Lindane)	ND	1.00	"							
beta-BHC	ND	1.00	"							
delta-BHC	ND	1.00	"							
Heptachlor	ND	1.00	"							
Aldrin	ND	1.00	"							
Heptachlor epoxide	ND	1.00	"							
gamma-Chlordane	ND	1.00	"							
alpha-Chlordane	ND	1.00	"							
Endosulfan I	ND	1.00	"							
4,4'-DDE	ND	1.00	"							
Dieldrin	ND	1.00	"							
Endrin	ND	1.00	"							
4,4'-DDD	ND	1.00	"							
Endosulfan II	ND	1.00	"							
4,4'-DDT	ND	1.00	"							
Endrin aldehyde	ND	1.00	"							
Endosulfan sulfate	ND	1.00	"							
Methoxychlor	ND	1.00	"							
Endrin ketone	ND	1.00	"							
Toxaphene	ND	20.0	"							

Surrogate: Tetrachloro-meta-xylene

ND 1.00 " 1.00 85.3 35-140

Surrogate: Decachlorobiphenyl

0.907 1.00 " 1.00 90.7 35-140

**LCS (9112032-BS1)**

Prepared: 11/20/19 Analyzed: 11/25/19

gamma-BHC (Lindane)	3.33	1.00	ug/l	4.00		83.3	40-120
Heptachlor	3.43	1.00	"	4.00		85.8	40-120
Aldrin	3.11	1.00	"	4.00		77.7	40-120
Dieldrin	3.61	1.00	"	4.00		90.2	40-120
Endrin	3.73	1.00	"	4.00		93.2	40-120
4,4'-DDT	3.80	1.00	"	4.00		95.1	40-120

Surrogate: Tetrachloro-meta-xylene

0.828 1.00 " 1.00 82.8 35-140

Surrogate: Decachlorobiphenyl

0.993 1.00 " 1.00 99.3 35-140

SunStar Laboratories, Inc.

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.

Jeff Lee, Project Manager

NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.02 Project Manager: Heidi Cummings	Reported: 11/26/19 09:54
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**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9112032 - EPA 3510C GCMS/ECD**

**LCS Dup (9112032-BSD1)**

Prepared: 11/20/19 Analyzed: 11/25/19

gamma-BHC (Lindane)	3.21	1.00	ug/l	4.00		80.3	40-120	3.72	20	
Heptachlor	3.23	1.00	"	4.00		80.8	40-120	5.97	20	
Aldrin	2.91	1.00	"	4.00		72.8	40-120	6.51	20	
Dieldrin	3.39	1.00	"	4.00		84.8	40-120	6.11	20	
Endrin	3.50	1.00	"	4.00		87.4	40-120	6.45	20	
4,4'-DDT	3.53	1.00	"	4.00		88.3	40-120	7.43	20	
Surrogate: Tetrachloro-meta-xylene	0.769		"	1.00		76.9	35-140			
Surrogate: Decachlorobiphenyl	0.963		"	1.00		96.3	35-140			

SunStar Laboratories, Inc.



Jeff Lee, Project Manager

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25712 Commercentre Drive  
Lake Forest, California 92630  
949.297.5020 Phone  
949.297.5027 Fax

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.02  
Project Manager: Heidi Cummings

**Reported:**  
11/26/19 09:54

### 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 weight basis  
RPD Relative Percent Difference

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Jeff Lee, Project Manager



## SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T194029  
 Client Name: NV5 Project: Hamilton Union High School  
 Delivered by:  Client  SunStar Courier  GSO  FedEx  Other  
 If Courier, Received by: \_\_\_\_\_ Date/Time Courier Received: \_\_\_\_\_  
 Lab Received by: Travis Date/Time Lab Received: 11-20-19 8:42  
 Total number of coolers received: 1 Thermometer ID: 5C-1 Calibration due: 6/27/20

Temperature:	Cooler #1	1.2 °C +/- the CF (+ 1.2°C) =	2.4 °C corrected temperature
Temperature:	Cooler #2	°C +/- the CF (+ 1.2°C) =	°C corrected temperature
Temperature:	Cooler #3	°C +/- the CF (+ 1.2°C) =	°C corrected temperature
<b>Temperature criteria = ≤ 6°C (no frozen containers)</b>		Within criteria?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>If NO:</b>			
Samples received on ice?		<input type="checkbox"/> Yes	<input type="checkbox"/> No → Complete Non-Conformance Sheet
If on ice, samples received same day collected?		<input type="checkbox"/> Yes → Acceptable	<input type="checkbox"/> No → Complete Non-Conformance Sheet

Custody seals intact on cooler/sample  Yes  No\*  N/A  
 Sample containers intact  Yes  No\*  
 Sample labels match Chain of Custody IDs  Yes  No\*  
 Total number of containers received match COC  Yes  No\*  
 Proper containers received for analyses requested on COC  Yes  No\*  
 Proper preservative indicated on COC/containers for analyses requested  Yes  No\*  N/A  
 Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times  Yes  No\*

\* Complete Non-Conformance Receiving Sheet if checked

 Cooler/Sample Review - Initials and date: TB 11-20-19

Comments: \_\_\_\_\_

**WORK ORDER**

**T194029**

**Client: NV5**

**Project Manager: Jeff Lee**

**Project: Hamilton Union High School**

**Project Number: 70779.02**

**Report To:**

NV5  
 Heidi Cummings  
 48 Bellarmine Ct, Suite 40  
 Chico, CA 95928

Date Due: 11/27/19 17:00 (5 day TAT)

Received By: Travis Berner

Date Received: 11/20/19 08:42

Logged In By: Travis Berner

Date Logged In: 11/20/19 09:25

Samples Received at: **2.4°C**  
 Custody Seals Yes Received On Ice Yes  
 Containers Intact Yes  
 COC/Labels Agree Yes  
 Preservation Confir No

Analysis	Due	TAT	Expires	Comments
----------	-----	-----	---------	----------

**T194029-01 AW-1 [Water] Sampled 11/19/19 14:40 (GMT-08:00) Pacific Time**

(US & 8081 Pesticides	11/27/19 15:00	5	11/26/19 14:40	
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27 November 2019

Heidi Cummings

NV5

48 Bellarmine Ct, Suite 40

Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/13/19 08:27. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee

Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 11:23

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A1D-0	T193941-01	Soil	11/12/19 08:30	11/13/19 08:27
C1D-0	T193941-03	Soil	11/12/19 08:50	11/13/19 08:27
C1D-0-CL	T193941-04	Soil	11/12/19 09:00	11/13/19 08:27
ABCD1C-0	T193941-06	Soil	11/12/19 00:00	11/13/19 08:27
ABCD2C-0	T193941-15	Soil	11/12/19 00:00	11/13/19 08:27
ABCD2C-0-FR	T193941-16	Soil	11/12/19 00:00	11/13/19 08:27
B3D-0	T193941-18	Soil	11/12/19 10:25	11/13/19 08:27
B3D-0-FR	T193941-19	Soil	11/12/19 10:26	11/13/19 08:27
D3D-0	T193941-21	Soil	11/12/19 11:00	11/13/19 08:27
ABCD3C-0	T193941-22	Soil	11/12/19 00:00	11/13/19 08:27
ABCD4C-0	T193941-27	Soil	11/12/19 00:00	11/13/19 08:27
HHS1D-2	T193941-28	Soil	11/11/19 08:30	11/13/19 08:27
HHS2D-2	T193941-29	Soil	11/11/19 09:15	11/13/19 08:27
HHS3D-2	T193941-30	Soil	11/11/19 10:15	11/13/19 08:27
HHS3D-2-FR	T193941-31	Soil	11/11/19 10:18	11/13/19 08:27
HHS4D-2	T193941-32	Soil	11/11/19 10:30	11/13/19 08:27
HHS5D-2	T193941-33	Soil	11/11/19 10:45	11/13/19 08:27
HHS5D-2-CL	T193941-34	Soil	11/11/19 10:55	11/13/19 08:27
HHS6D-2	T193941-35	Soil	11/11/19 11:30	11/13/19 08:27
HHS7D-2	T193941-36	Soil	11/11/19 12:25	11/13/19 08:27
HHS8D-2	T193941-37	Soil	11/11/19 13:30	11/13/19 08:27
PMT-E6D-0	T193941-38	Soil	11/11/19 15:05	11/13/19 08:27
PMT-E6D-0-CL	T193941-39	Soil	11/11/19 15:15	11/13/19 08:27
PMT-E6D-2	T193941-40	Soil	11/11/19 15:30	11/13/19 08:27
EB-1	T193941-41	Water	11/11/19 15:00	11/13/19 08:27
DD1D-0	T193941-42	Soil	11/11/19 13:40	11/13/19 08:27

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Jeff Lee, Project Manager

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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

**Reported:**  
 11/27/19 11:23

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DD2D-0	T193941-43	Soil	11/11/19 13:45	11/13/19 08:27
DD2D-0-CL	T193941-44	Soil	11/11/19 13:50	11/13/19 08:27
DD3D-0	T193941-45	Soil	11/11/19 14:05	11/13/19 08:27
DD4D-0	T193941-46	Soil	11/11/19 14:10	11/13/19 08:27
DD4D-0-FR	T193941-47	Soil	11/11/19 14:15	11/13/19 08:27
DD5D-0	T193941-48	Soil	11/11/19 14:25	11/13/19 08:27
DD6D-0	T193941-49	Soil	11/11/19 14:35	11/13/19 08:27
DD7D-0	T193941-50	Soil	11/11/19 15:00	11/13/19 08:27

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Jeff Lee, Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 11:23

**DETECTIONS SUMMARY**

Sample ID:	Laboratory ID:					
Analyte	Result	Reporting Limit	Units	Method	Notes	
A1D-0	T193941-01					
Lead	4.47	3.00	mg/kg	EPA 6010b		
C1D-0	T193941-03					
Lead	4.33	3.00	mg/kg	EPA 6010b		
C1D-0-CL	T193941-04					
Lead	4.72	3.00	mg/kg	EPA 6010b		
ABCD1C-0	T193941-06					
4,4'-DDE	12	5.0	ug/kg	EPA 8081A		
ABCD2C-0	T193941-15					
4,4'-DDE	11	5.0	ug/kg	EPA 8081A		
ABCD2C-0-FR	T193941-16					
4,4'-DDE	8.7	5.0	ug/kg	EPA 8081A		

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Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 11:23

**Sample ID:** HHS3D-2

**Laboratory ID:** T193941-30

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Lead	4.07	3.00		mg/kg	EPA 6010b	

**Sample ID:** HHS3D-2-FR

**Laboratory ID:** T193941-31

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Lead	3.74	3.00		mg/kg	EPA 6010b	

**Sample ID:** HHS4D-2

**Laboratory ID:** T193941-32

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Lead	3.97	3.00		mg/kg	EPA 6010b	

**Sample ID:** HHS5D-2

**Laboratory ID:** T193941-33

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Lead	3.72	3.00		mg/kg	EPA 6010b	

**Sample ID:** HHS5D-2-CL

**Laboratory ID:** T193941-34

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Lead	4.07	3.00		mg/kg	EPA 6010b	

**Sample ID:** HHS6D-2

**Laboratory ID:** T193941-35

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Lead	4.08	3.00		mg/kg	EPA 6010b	

**Sample ID:** HHS7D-2

**Laboratory ID:** T193941-36

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Lead	3.80	3.00		mg/kg	EPA 6010b	

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48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 11:23

**Sample ID:** DD1D-0

**Laboratory ID:** T193941-42

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Vanadium	28	5.0		mg/kg	EPA 6010b	
Zinc	52	1.0		mg/kg	EPA 6010b	
4,4'-DDE	9.3	5.0		ug/kg	EPA 8081A	

**Sample ID:** DD2D-0

**Laboratory ID:** T193941-43

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
C29-C40 (MORO)	17	10		mg/kg	EPA 8015B	
Barium	65	1.0		mg/kg	EPA 6010b	
Chromium	40	2.0		mg/kg	EPA 6010b	
Cobalt	9.2	2.0		mg/kg	EPA 6010b	
Copper	22	1.0		mg/kg	EPA 6010b	
Lead	4.7	3.0		mg/kg	EPA 6010b	
Nickel	56	2.0		mg/kg	EPA 6010b	
Vanadium	27	5.0		mg/kg	EPA 6010b	
Zinc	52	1.0		mg/kg	EPA 6010b	
4,4'-DDE	11	5.0		ug/kg	EPA 8081A	

**Sample ID:** DD2D-0-CL

**Laboratory ID:** T193941-44

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
C29-C40 (MORO)	25	10		mg/kg	EPA 8015B	
Barium	65	0.91		mg/kg	EPA 6010b	
Chromium	37	1.8		mg/kg	EPA 6010b	
Cobalt	8.7	1.8		mg/kg	EPA 6010b	
Copper	21	0.91		mg/kg	EPA 6010b	
Lead	4.5	2.7		mg/kg	EPA 6010b	
Nickel	54	1.8		mg/kg	EPA 6010b	
Vanadium	26	4.5		mg/kg	EPA 6010b	
Zinc	52	0.91		mg/kg	EPA 6010b	
4,4'-DDE	12	5.0		ug/kg	EPA 8081A	

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Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
11/27/19 11:23

Sample ID: DD3D-0

Laboratory ID: T193941-45

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
C29-C40 (MORO)	16	10		mg/kg	EPA 8015B	
Barium	62	1.0		mg/kg	EPA 6010b	
Chromium	35	2.0		mg/kg	EPA 6010b	
Cobalt	8.4	2.0		mg/kg	EPA 6010b	
Copper	20	1.0		mg/kg	EPA 6010b	
Lead	4.8	3.0		mg/kg	EPA 6010b	
Nickel	50	2.0		mg/kg	EPA 6010b	
Vanadium	25	5.0		mg/kg	EPA 6010b	
Zinc	51	1.0		mg/kg	EPA 6010b	
4,4'-DDE	21	5.0		ug/kg	EPA 8081A	

Sample ID: DD4D-0

Laboratory ID: T193941-46

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
C29-C40 (MORO)	30	10		mg/kg	EPA 8015B	
Barium	65	1.0		mg/kg	EPA 6010b	
Chromium	35	2.0		mg/kg	EPA 6010b	
Cobalt	9.1	2.0		mg/kg	EPA 6010b	
Copper	21	1.0		mg/kg	EPA 6010b	
Lead	5.2	3.0		mg/kg	EPA 6010b	
Nickel	52	2.0		mg/kg	EPA 6010b	
Vanadium	26	5.0		mg/kg	EPA 6010b	
Zinc	51	1.0		mg/kg	EPA 6010b	
4,4'-DDE	40	5.0		ug/kg	EPA 8081A	

Sample ID: DD4D-0-FR

Laboratory ID: T193941-47

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
C29-C40 (MORO)	33	10		mg/kg	EPA 8015B	
Barium	64	1.0		mg/kg	EPA 6010b	
Chromium	35	2.0		mg/kg	EPA 6010b	
Cobalt	8.8	2.0		mg/kg	EPA 6010b	
Copper	21	1.0		mg/kg	EPA 6010b	
Lead	5.5	3.0		mg/kg	EPA 6010b	
Nickel	51	2.0		mg/kg	EPA 6010b	

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 11:23

**Sample ID:** DD4D-0-FR

**Laboratory ID:** T193941-47

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Vanadium	25	5.0		mg/kg	EPA 6010b	
Zinc	56	1.0		mg/kg	EPA 6010b	
4,4'-DDE	36	5.0		ug/kg	EPA 8081A	

**Sample ID:** DD5D-0

**Laboratory ID:** T193941-48

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
C29-C40 (MORO)	26	10		mg/kg	EPA 8015B	
Barium	190	4.0		mg/kg	EPA 6010b	RE-01
Chromium	41	2.0		mg/kg	EPA 6010b	
Cobalt	9.8	2.0		mg/kg	EPA 6010b	
Copper	26	1.0		mg/kg	EPA 6010b	
Lead	6.4	3.0		mg/kg	EPA 6010b	
Nickel	59	2.0		mg/kg	EPA 6010b	
Vanadium	30	5.0		mg/kg	EPA 6010b	
Zinc	77	1.0		mg/kg	EPA 6010b	

**Sample ID:** DD5D-0

**Laboratory ID:** T193941-48RE1

No Results Detected

**Sample ID:** DD6D-0

**Laboratory ID:** T193941-49

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
C13-C28 (DRO)	11	10		mg/kg	EPA 8015B	
C29-C40 (MORO)	48	10		mg/kg	EPA 8015B	
Barium	200	4.0		mg/kg	EPA 6010b	RE-01
Chromium	40	2.0		mg/kg	EPA 6010b	
Cobalt	9.6	2.0		mg/kg	EPA 6010b	
Copper	25	1.0		mg/kg	EPA 6010b	
Lead	6.5	3.0		mg/kg	EPA 6010b	
Nickel	57	2.0		mg/kg	EPA 6010b	
Vanadium	29	5.0		mg/kg	EPA 6010b	

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Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 11:23

**Sample ID:** DD6D-0

**Laboratory ID:** T193941-49

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Zinc	81	1.0		mg/kg	EPA 6010b	
4,4'-DDE	14	5.0		ug/kg	EPA 8081A	

**Sample ID:** DD7D-0

**Laboratory ID:** T193941-50

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
C13-C28 (DRO)	10	10		mg/kg	EPA 8015B	
C29-C40 (MORO)	35	10		mg/kg	EPA 8015B	
Barium	190	4.0		mg/kg	EPA 6010b	RE-01
Chromium	38	2.0		mg/kg	EPA 6010b	
Cobalt	9.4	2.0		mg/kg	EPA 6010b	
Copper	22	1.0		mg/kg	EPA 6010b	
Lead	4.9	3.0		mg/kg	EPA 6010b	
Nickel	57	2.0		mg/kg	EPA 6010b	
Vanadium	28	5.0		mg/kg	EPA 6010b	
Zinc	58	1.0		mg/kg	EPA 6010b	
4,4'-DDE	43	5.0		ug/kg	EPA 8081A	

SunStar Laboratories, Inc.



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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 11/27/19 11:23
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**A1D-0**  
**T193941-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>4.47</b>	3.00	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 11/27/19 11:23
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**C1D-0**  
**T193941-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>4.33</b>	3.00	"	"	"	"	"	"	

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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 11/27/19 11:23
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**C1D-0-CL**  
**T193941-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>4.72</b>	3.00	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 11/27/19 11:23
--	--	-----------------------------

**ABCD1C-0**  
**T193941-06 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>12</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		126 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		107 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
11/27/19 11:23

**ABCD2C-0**  
**T193941-15 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>11</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		118 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		128 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager



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**ABCD2C-0-FR**  
**T193941-16 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>8.7</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		119 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		77.6 %		35-140	"	"	"	"	

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**B3D-0**  
**T193941-18 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>4.67</b>	3.00	"	"	"	"	"	"	

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**B3D-0-FR**  
**T193941-19 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>4.28</b>	3.00	"	"	"	"	"	"	

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**D3D-0**  
**T193941-21 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>4.54</b>	3.00	"	"	"	"	"	"	

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**ABCD3C-0**  
**T193941-22 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>9.8</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		120 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		67.0 %		35-140	"	"	"	"	

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**ABCD4C-0**  
**T193941-27 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>7.6</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		116 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		74.3 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager



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**HHS1D-2**  
**T193941-28 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>4.32</b>	3.00	"	"	"	"	"	"	

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**HHS2D-2**  
**T193941-29 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>4.35</b>	3.00	"	"	"	"	"	"	

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**HHS3D-2**  
**T193941-30 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>4.07</b>	3.00	"	"	"	"	"	"	

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Jeff Lee, Project Manager



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**HHS3D-2-FR**  
**T193941-31 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>3.74</b>	3.00	"	"	"	"	"	"	

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Jeff Lee, Project Manager





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**HHS4D-2**  
**T193941-32 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>3.97</b>	3.00	"	"	"	"	"	"	

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**HHS5D-2**  
**T193941-33 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>3.72</b>	3.00	"	"	"	"	"	"	

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**HHS5D-2-CL**  
**T193941-34 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>4.07</b>	3.00	"	"	"	"	"	"	

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**HHS6D-2**  
**T193941-35 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>4.08</b>	3.00	"	"	"	"	"	"	

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**HHS7D-2**  
**T193941-36 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>3.80</b>	3.00	"	"	"	"	"	"	

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Jeff Lee, Project Manager



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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	<b>Reported:</b> 11/27/19 11:23
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**HHS8D-2**  
**T193941-37 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111360	11/13/19	11/14/19	EPA 6010b	
<b>Lead</b>	<b>4.22</b>	3.00	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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**PMT-E6D-0**  
**T193941-38 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Polychlorinated Biphenyls by EPA Method 8082**

PCB-1016	ND	10	ug/kg	1	9111415	11/14/19	11/14/19	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		76.8 %	35-140		"	"	"	"	
Surrogate: Decachlorobiphenyl		75.2 %	35-140		"	"	"	"	

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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 11/27/19 11:23
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**PMT-E6D-0-CL**  
**T193941-39 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Polychlorinated Biphenyls by EPA Method 8082**

PCB-1016	ND	10	ug/kg	1	9111415	11/14/19	11/14/19	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		88.1 %	35-140		"	"	"	"	
Surrogate: Decachlorobiphenyl		102 %	35-140		"	"	"	"	

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**PMT-E6D-2**  
**T193941-40 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Polychlorinated Biphenyls by EPA Method 8082**

PCB-1016	ND	10	ug/kg	1	9111415	11/14/19	11/14/19	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		87.3 %	35-140		"	"	"	"	
Surrogate: Decachlorobiphenyl		119 %	35-140		"	"	"	"	

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Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 11:23

**EB-1**

**T193941-41 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	50	ug/l	1	9111347	11/13/19	11/14/19	EPA 8015B	
C13-C28 (DRO)	ND	50	"	"	"	"	"	"	
C29-C40 (MORO)	ND	100	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>		115 %	65-135		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	50	ug/l	1	9111354	11/13/19	11/15/19	EPA 6010b	
Silver	ND	50	"	"	"	"	"	"	
Arsenic	ND	50	"	"	"	"	"	"	
Barium	ND	50	"	"	"	"	"	"	
Beryllium	ND	50	"	"	"	"	11/15/19	"	
Cadmium	ND	50	"	"	"	"	11/15/19	"	
Chromium	ND	50	"	"	"	"	"	"	
Cobalt	ND	50	"	"	"	"	"	"	
Copper	ND	50	"	"	"	"	"	"	
Lead	ND	50	"	"	"	"	"	"	
Molybdenum	ND	50	"	"	"	"	"	"	
Nickel	ND	50	"	"	"	"	"	"	
Selenium	ND	50	"	"	"	"	"	"	
Thallium	ND	50	"	"	"	"	"	"	
Vanadium	ND	50	"	"	"	"	"	"	
Zinc	ND	50	"	"	"	"	"	"	

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.50	ug/l	1	9111355	11/13/19	11/15/19	EPA 7470A Water	
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**EB-1**  
**T193941-41 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	1.00	ug/l	1	9111344	11/13/19	11/13/19	EPA 8081A	
gamma-BHC (Lindane)	ND	1.00	"	"	"	"	"	"	
beta-BHC	ND	1.00	"	"	"	"	"	"	
delta-BHC	ND	1.00	"	"	"	"	"	"	
Heptachlor	ND	1.00	"	"	"	"	"	"	
Aldrin	ND	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	1.00	"	"	"	"	"	"	
Endosulfan I	ND	1.00	"	"	"	"	"	"	
4,4'-DDE	ND	1.00	"	"	"	"	"	"	
Dieldrin	ND	1.00	"	"	"	"	"	"	
Endrin	ND	1.00	"	"	"	"	"	"	
4,4'-DDD	ND	1.00	"	"	"	"	"	"	
Endosulfan II	ND	1.00	"	"	"	"	"	"	
4,4'-DDT	ND	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	1.00	"	"	"	"	"	"	
Methoxychlor	ND	1.00	"	"	"	"	"	"	
Endrin ketone	ND	1.00	"	"	"	"	"	"	
Chlordane (tech)	ND	10.0	"	"	"	"	"	"	
Toxaphene	ND	20.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		61.2 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		77.7 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 11:23

**DD1D-0**  
**T193941-42 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
<b>C29-C40 (MORO)</b>	<b>17</b>	<b>10</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<i>Surrogate: p-Terphenyl</i>		<i>106 %</i>	<i>65-135</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

**Metals by EPA 6010B**

Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
<b>Barium</b>	<b>70</b>	<b>1.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
Beryllium	ND	1.0	"	"	"	"	11/15/19	"	
Cadmium	ND	2.0	"	"	"	"	11/15/19	"	
<b>Chromium</b>	<b>40</b>	<b>2.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Cobalt</b>	<b>9.7</b>	<b>2.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Copper</b>	<b>23</b>	<b>1.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Lead</b>	<b>4.5</b>	<b>3.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
Molybdenum	ND	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>59</b>	<b>2.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>28</b>	<b>5.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Zinc</b>	<b>52</b>	<b>1.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
11/27/19 11:23

**DD1D-0**  
**T193941-42 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>9.3</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		120 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		96.6 %		35-140	"	"	"	"	

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**DD2D-0**  
**T193941-43 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
<b>C29-C40 (MORO)</b>	<b>17</b>	<b>10</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<i>Surrogate: p-Terphenyl</i>		<i>111 %</i>	<i>65-135</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

**Metals by EPA 6010B**

Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
<b>Barium</b>	<b>65</b>	<b>1.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
<b>Chromium</b>	<b>40</b>	<b>2.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Cobalt</b>	<b>9.2</b>	<b>2.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Copper</b>	<b>22</b>	<b>1.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Lead</b>	<b>4.7</b>	<b>3.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
Molybdenum	ND	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>56</b>	<b>2.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>27</b>	<b>5.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Zinc</b>	<b>52</b>	<b>1.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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**DD2D-0**  
**T193941-43 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>11</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		112 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		69.0 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager



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**DD2D-0-CL**  
**T193941-44 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
<b>C29-C40 (MORO)</b>	<b>25</b>	<b>10</b>	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>		<i>111 %</i>	<i>65-135</i>		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	2.7	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	1.8	"	"	"	"	"	"	
Arsenic	ND	4.5	"	"	"	"	"	"	
<b>Barium</b>	<b>65</b>	<b>0.91</b>	"	"	"	"	"	"	
Beryllium	ND	0.91	"	"	"	"	11/15/19	"	
Cadmium	ND	1.8	"	"	"	"	11/15/19	"	
<b>Chromium</b>	<b>37</b>	<b>1.8</b>	"	"	"	"	"	"	
<b>Cobalt</b>	<b>8.7</b>	<b>1.8</b>	"	"	"	"	"	"	
<b>Copper</b>	<b>21</b>	<b>0.91</b>	"	"	"	"	"	"	
<b>Lead</b>	<b>4.5</b>	<b>2.7</b>	"	"	"	"	"	"	
Molybdenum	ND	4.5	"	"	"	"	"	"	
<b>Nickel</b>	<b>54</b>	<b>1.8</b>	"	"	"	"	"	"	
Selenium	ND	4.5	"	"	"	"	"	"	
Thallium	ND	1.8	"	"	"	"	"	"	
<b>Vanadium</b>	<b>26</b>	<b>4.5</b>	"	"	"	"	"	"	
<b>Zinc</b>	<b>52</b>	<b>0.91</b>	"	"	"	"	"	"	

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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Jeff Lee, Project Manager





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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 11/27/19 11:23
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**DD2D-0-CL**  
**T193941-44 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>12</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		106 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		57.7 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 11:23

**DD3D-0**  
**T193941-45 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
<b>C29-C40 (MORO)</b>	<b>16</b>	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>		96.0 %	65-135		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
<b>Barium</b>	<b>62</b>	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
<b>Chromium</b>	<b>35</b>	2.0	"	"	"	"	"	"	
<b>Cobalt</b>	<b>8.4</b>	2.0	"	"	"	"	"	"	
<b>Copper</b>	<b>20</b>	1.0	"	"	"	"	"	"	
<b>Lead</b>	<b>4.8</b>	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>50</b>	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>25</b>	5.0	"	"	"	"	"	"	
<b>Zinc</b>	<b>51</b>	1.0	"	"	"	"	"	"	

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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**DD3D-0**  
**T193941-45 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>21</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		117 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		112 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 11:23

**DD4D-0**  
**T193941-46 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
<b>C29-C40 (MORO)</b>	<b>30</b>	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>		114 %	65-135		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
<b>Barium</b>	<b>65</b>	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
<b>Chromium</b>	<b>35</b>	2.0	"	"	"	"	"	"	
<b>Cobalt</b>	<b>9.1</b>	2.0	"	"	"	"	"	"	
<b>Copper</b>	<b>21</b>	1.0	"	"	"	"	"	"	
<b>Lead</b>	<b>5.2</b>	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>52</b>	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>26</b>	5.0	"	"	"	"	"	"	
<b>Zinc</b>	<b>51</b>	1.0	"	"	"	"	"	"	

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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SunStar Laboratories, Inc.



Jeff Lee, Project Manager

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**DD4D-0**  
**T193941-46 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>40</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		116 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		89.6 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 11:23

**DD4D-0-FR**  
**T193941-47 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
<b>C29-C40 (MORO)</b>	<b>33</b>	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>		112 %	65-135		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
<b>Barium</b>	<b>64</b>	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	11/15/19	"	
Cadmium	ND	2.0	"	"	"	"	11/15/19	"	
<b>Chromium</b>	<b>35</b>	2.0	"	"	"	"	"	"	
<b>Cobalt</b>	<b>8.8</b>	2.0	"	"	"	"	"	"	
<b>Copper</b>	<b>21</b>	1.0	"	"	"	"	"	"	
<b>Lead</b>	<b>5.5</b>	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>51</b>	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>25</b>	5.0	"	"	"	"	"	"	
<b>Zinc</b>	<b>56</b>	1.0	"	"	"	"	"	"	

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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SunStar Laboratories, Inc.



Jeff Lee, Project Manager

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**DD4D-0-FR**  
**T193941-47 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>36</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		114 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		81.8 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager



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**DD5D-0**  
**T193941-48 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
<b>C29-C40 (MORO)</b>	<b>26</b>	<b>10</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<i>Surrogate: p-Terphenyl</i>		<i>111 %</i>	<i>65-135</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

**Metals by EPA 6010B**

Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
<b>Barium</b>	<b>190</b>	<b>4.0</b>	<b>"</b>	<b>4</b>	<b>"</b>	<b>"</b>	<b>11/15/19</b>	<b>"</b>	RE-01
Beryllium	ND	1.0	"	1	"	"	11/15/19	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
<b>Chromium</b>	<b>41</b>	<b>2.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Cobalt</b>	<b>9.8</b>	<b>2.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Copper</b>	<b>26</b>	<b>1.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Lead</b>	<b>6.4</b>	<b>3.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
Molybdenum	ND	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>59</b>	<b>2.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>30</b>	<b>5.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
<b>Zinc</b>	<b>77</b>	<b>1.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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**DD5D-0**  
**T193941-48RE1 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	5.0	ug/kg	1	9112036	11/20/19	11/26/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		109 %	35-140		"	"	"	"	
Surrogate: Decachlorobiphenyl		104 %	35-140		"	"	"	"	

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**DD6D-0**  
**T193941-49 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
<b>C13-C28 (DRO)</b>	<b>11</b>	10	"	"	"	"	"	"	
<b>C29-C40 (MORO)</b>	<b>48</b>	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>		<i>117 %</i>	<i>65-135</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

**Metals by EPA 6010B**

Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	11/15/19	"	
Arsenic	ND	5.0	"	"	"	"	11/15/19	"	
<b>Barium</b>	<b>200</b>	4.0	"	4	"	"	11/15/19	"	RE-01
Beryllium	ND	1.0	"	1	"	"	11/15/19	"	
Cadmium	ND	2.0	"	"	"	"	11/15/19	"	
<b>Chromium</b>	<b>40</b>	2.0	"	"	"	"	11/15/19	"	
<b>Cobalt</b>	<b>9.6</b>	2.0	"	"	"	"	11/15/19	"	
<b>Copper</b>	<b>25</b>	1.0	"	"	"	"	11/15/19	"	
<b>Lead</b>	<b>6.5</b>	3.0	"	"	"	"	11/15/19	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>57</b>	2.0	"	"	"	"	11/15/19	"	
Selenium	ND	5.0	"	"	"	"	11/15/19	"	
Thallium	ND	2.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>29</b>	5.0	"	"	"	"	11/15/19	"	
<b>Zinc</b>	<b>81</b>	1.0	"	"	"	"	"	"	

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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**DD6D-0**  
**T193941-49 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>14</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		116 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		106 %		35-140	"	"	"	"	

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**DD7D-0**  
**T193941-50 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Extractable Petroleum Hydrocarbons by 8015B**

C6-C12 (GRO)	ND	10	mg/kg	1	9111411	11/14/19	11/15/19	EPA 8015B	
<b>C13-C28 (DRO)</b>	<b>10</b>	10	"	"	"	"	"	"	
<b>C29-C40 (MORO)</b>	<b>35</b>	10	"	"	"	"	"	"	
<i>Surrogate: p-Terphenyl</i>		119 %	65-135		"	"	"	"	

**Metals by EPA 6010B**

Antimony	ND	3.0	mg/kg	1	9111418	11/14/19	11/15/19	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
<b>Barium</b>	<b>190</b>	4.0	"	4	"	"	11/15/19	"	RE-01
Beryllium	ND	1.0	"	1	"	"	11/15/19	"	
Cadmium	ND	2.0	"	"	"	"	11/15/19	"	
<b>Chromium</b>	<b>38</b>	2.0	"	"	"	"	"	"	
<b>Cobalt</b>	<b>9.4</b>	2.0	"	"	"	"	"	"	
<b>Copper</b>	<b>22</b>	1.0	"	"	"	"	"	"	
<b>Lead</b>	<b>4.9</b>	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
<b>Nickel</b>	<b>57</b>	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
<b>Vanadium</b>	<b>28</b>	5.0	"	"	"	"	"	"	
<b>Zinc</b>	<b>58</b>	1.0	"	"	"	"	"	"	

**Cold Vapor Extraction EPA 7470/7471**

Mercury	ND	0.10	mg/kg	1	9111422	11/14/19	11/15/19	EPA 7471A Soil	
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**DD7D-0**  
**T193941-50 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111350	11/13/19	11/14/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>43</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		126 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		96.3 %		35-140	"	"	"	"	

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**Extractable Petroleum Hydrocarbons by 8015B - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111347 - EPA 3510C GC**

<b>Blank (9111347-BLK1)</b>										
										Prepared: 11/13/19 Analyzed: 11/14/19
C6-C12 (GRO)	ND	50	ug/l							
C13-C28 (DRO)	ND	50	"							
C29-C40 (MORO)	ND	100	"							
Surrogate: <i>p</i> -Terphenyl	5900		"	4000		147	65-135			S-13

<b>LCS (9111347-BS1)</b>										
										Prepared: 11/13/19 Analyzed: 11/14/19
C13-C28 (DRO)	19400	50	ug/l	20000		97.0	75-125			
Surrogate: <i>p</i> -Terphenyl	4670		"	4000		117	65-135			

<b>LCS Dup (9111347-BSD1)</b>										
										Prepared: 11/13/19 Analyzed: 11/14/19
C13-C28 (DRO)	19100	50	ug/l	20000		95.3	75-125	1.76	20	
Surrogate: <i>p</i> -Terphenyl	4820		"	4000		121	65-135			

**Batch 9111411 - EPA 3550B GC**

<b>Blank (9111411-BLK1)</b>										
										Prepared: 11/14/19 Analyzed: 11/15/19
C6-C12 (GRO)	ND	10	mg/kg							
C13-C28 (DRO)	ND	10	"							
C29-C40 (MORO)	ND	10	"							
Surrogate: <i>p</i> -Terphenyl	112		"	101		111	65-135			

<b>LCS (9111411-BS1)</b>										
										Prepared: 11/14/19 Analyzed: 11/15/19
C13-C28 (DRO)	510	10	mg/kg	505		102	75-125			
Surrogate: <i>p</i> -Terphenyl	114		"	101		113	65-135			

<b>LCS Dup (9111411-BSD1)</b>										
										Prepared: 11/14/19 Analyzed: 11/15/19
C13-C28 (DRO)	500	10	mg/kg	505		99.7	75-125	1.88	20	
Surrogate: <i>p</i> -Terphenyl	110		"	101		109	65-135			

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48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	11/27/19 11:23
Chico CA, 95928	Project Manager: Heidi Cummings	

**Metals by EPA 6010B - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111354 - EPA 3010A**

**Blank (9111354-BLK1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Antimony	ND	50	ug/l							
Silver	ND	50	"							
Arsenic	ND	50	"							
Barium	ND	50	"							
Beryllium	ND	50	"							
Cadmium	ND	50	"							
Chromium	ND	50	"							
Cobalt	ND	50	"							
Copper	ND	50	"							
Lead	ND	50	"							
Molybdenum	ND	50	"							
Nickel	ND	50	"							
Selenium	ND	50	"							
Thallium	ND	50	"							
Vanadium	ND	50	"							
Zinc	ND	50	"							

**LCS (9111354-BS1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Arsenic	503	50	ug/l	500		101	75-125			
Barium	511	50	"	500		102	75-125			
Cadmium	512	50	"	500		102	75-125			
Chromium	513	50	"	500		103	75-125			
Lead	509	50	"	500		102	75-125			

**Matrix Spike (9111354-MS1)**

Source: T193930-01

Prepared: 11/13/19 Analyzed: 11/14/19

Arsenic	528	50	ug/l	500	ND	106	75-125			
Barium	662	50	"	500	170	98.4	75-125			QM-05
Cadmium	505	50	"	500	ND	101	75-125			
Chromium	507	50	"	500	ND	101	75-125			
Lead	494	50	"	500	ND	98.8	75-125			

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NV5	Project: Hamilton Union High School	Reported:
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	11/27/19 11:23
Chico CA, 95928	Project Manager: Heidi Cummings	

**Metals by EPA 6010B - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111354 - EPA 3010A**

**Matrix Spike Dup (9111354-MSD1)**

Source: T193930-01

Prepared: 11/13/19 Analyzed: 11/14/19

Arsenic	529	50	ug/l	500	ND	106	75-125	0.209	20	
Barium	656	50	"	500	170	97.3	75-125	0.860	20	QM-05
Cadmium	498	50	"	500	ND	99.7	75-125	1.23	20	
Chromium	501	50	"	500	ND	100	75-125	1.28	20	
Lead	496	50	"	500	ND	99.1	75-125	0.352	20	

**Batch 9111360 - EPA 3050B**

**Blank (9111360-BLK1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Antimony	ND	3.00	mg/kg							
Arsenic	ND	5.00	"							
Barium	ND	1.00	"							
Beryllium	ND	1.00	"							
Cadmium	ND	2.00	"							
Chromium	ND	2.00	"							
Cobalt	ND	2.00	"							
Copper	ND	1.00	"							
Lead	ND	3.00	"							
Molybdenum	ND	5.00	"							
Nickel	ND	2.00	"							
Selenium	ND	5.00	"							
Silver	ND	2.00	"							
Thallium	ND	2.00	"							
Vanadium	ND	5.00	"							
Zinc	ND	1.00	"							

**LCS (9111360-BS1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Arsenic	101	5.00	mg/kg	100		101	75-125			
Barium	102	1.00	"	100		102	75-125			
Cadmium	101	2.00	"	100		101	75-125			
Chromium	102	2.00	"	100		102	75-125			
Lead	101	3.00	"	100		101	75-125			

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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 11/27/19 11:23
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**Metals by EPA 6010B - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111360 - EPA 3050B**

Matrix Spike (9111360-MS1)	Source: T193921-01			Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	57.2	5.00	mg/kg	97.1	ND	58.9	75-125			QM-05
Barium	125	1.00	"	97.1	41.9	85.8	75-125			QM-05
Cadmium	56.6	2.00	"	97.1	0.155	58.1	75-125			QM-05
Chromium	62.6	2.00	"	97.1	3.62	60.8	75-125			QM-05
Lead	55.7	3.00	"	97.1	1.02	56.3	75-125			QM-05

Matrix Spike Dup (9111360-MSD1)	Source: T193921-01			Prepared: 11/13/19 Analyzed: 11/14/19						
Arsenic	62.0	5.00	mg/kg	97.1	ND	63.9	75-125	8.08	20	QM-05
Barium	133	1.00	"	97.1	41.9	93.4	75-125	5.71	20	QM-05
Cadmium	58.5	2.00	"	97.1	0.155	60.1	75-125	3.36	20	QM-05
Chromium	65.0	2.00	"	97.1	3.62	63.3	75-125	3.82	20	QM-05
Lead	59.5	3.00	"	97.1	1.02	60.3	75-125	6.65	20	QM-05

**Batch 9111418 - EPA 3050B**

Blank (9111418-BLK1)	Prepared: 11/14/19 Analyzed: 11/15/19				
Antimony	ND	3.0	mg/kg		
Silver	ND	2.0	"		
Arsenic	ND	5.0	"		
Barium	ND	1.0	"		
Beryllium	ND	1.0	"		
Cadmium	ND	2.0	"		
Chromium	ND	2.0	"		
Cobalt	ND	2.0	"		
Copper	ND	1.0	"		
Lead	ND	3.0	"		
Molybdenum	ND	5.0	"		
Nickel	ND	2.0	"		
Selenium	ND	5.0	"		
Thallium	ND	2.0	"		
Vanadium	ND	5.0	"		
Zinc	ND	1.0	"		

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Jeff Lee, Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
11/27/19 11:23

**Metals by EPA 6010B - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111418 - EPA 3050B**

**LCS (9111418-BS1)**

Prepared: 11/14/19 Analyzed: 11/15/19

Arsenic	94.2	5.0	mg/kg	100		94.2	75-125			
Barium	94.4	1.0	"	100		94.4	75-125			
Cadmium	94.0	2.0	"	100		94.0	75-125			
Chromium	94.1	2.0	"	100		94.1	75-125			
Lead	94.8	3.0	"	100		94.8	75-125			

**Matrix Spike (9111418-MS1)**

Source: T193941-42

Prepared: 11/14/19 Analyzed: 11/15/19

Arsenic	51.2	5.0	mg/kg	96.2	ND	53.2	75-125			QM-05
Barium	119	1.0	"	96.2	69.9	50.8	75-125			QM-05
Cadmium	49.8	2.0	"	96.2	0.532	51.2	75-125			QM-05
Chromium	92.4	2.0	"	96.2	40.3	54.2	75-125			QM-05
Lead	52.2	3.0	"	96.2	4.54	49.6	75-125			QM-05

**Matrix Spike Dup (9111418-MSD1)**

Source: T193941-42

Prepared: 11/14/19 Analyzed: 11/15/19

Arsenic	55.3	5.0	mg/kg	98.0	ND	56.4	75-125	7.78	20	QM-05
Barium	121	1.0	"	98.0	69.9	52.3	75-125	2.05	20	QM-05
Cadmium	52.5	2.0	"	98.0	0.532	53.0	75-125	5.28	20	QM-05
Chromium	94.5	2.0	"	98.0	40.3	55.2	75-125	2.21	20	QM-05
Lead	55.7	3.0	"	98.0	4.54	52.1	75-125	6.34	20	QM-05

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Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 11:23

**Cold Vapor Extraction EPA 7470/7471 - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111355 - EPA 7470A Water**

<b>Blank (9111355-BLK1)</b>										
										Prepared: 11/13/19 Analyzed: 11/15/19
Mercury	ND	0.50	ug/l							
<b>LCS (9111355-BS1)</b>										
										Prepared: 11/13/19 Analyzed: 11/15/19
Mercury	4.71	0.50	ug/l	5.00		94.2	80-120			
<b>Matrix Spike (9111355-MS1)</b>										
										Source: T193930-01 Prepared: 11/13/19 Analyzed: 11/15/19
Mercury	4.60	0.50	ug/l	5.00	ND	92.0	75-125			
<b>Matrix Spike Dup (9111355-MSD1)</b>										
										Source: T193930-01 Prepared: 11/13/19 Analyzed: 11/15/19
Mercury	4.56	0.50	ug/l	5.00	ND	91.1	75-125	0.939	20	

**Batch 9111422 - EPA 7471A Soil**

<b>Blank (9111422-BLK1)</b>										
										Prepared: 11/14/19 Analyzed: 11/15/19
Mercury	ND	0.10	mg/kg							
<b>LCS (9111422-BS1)</b>										
										Prepared: 11/14/19 Analyzed: 11/15/19
Mercury	0.418	0.10	mg/kg	0.410		102	80-120			
<b>Matrix Spike (9111422-MS1)</b>										
										Source: T193921-01 Prepared: 11/14/19 Analyzed: 11/15/19
Mercury	0.434	0.10	mg/kg	0.410	ND	106	75-125			
<b>Matrix Spike Dup (9111422-MSD1)</b>										
										Source: T193921-01 Prepared: 11/14/19 Analyzed: 11/15/19
Mercury	0.415	0.10	mg/kg	0.397	ND	105	75-125	4.42	20	

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NV5	Project: Hamilton Union High School	Reported:
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	11/27/19 11:23
Chico CA, 95928	Project Manager: Heidi Cummings	

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111344 - EPA 3510C GCMS/ECD**

**Blank (9111344-BLK1)**

Prepared & Analyzed: 11/13/19

alpha-BHC	ND	1.00	ug/l							
gamma-BHC (Lindane)	ND	1.00	"							
beta-BHC	ND	1.00	"							
delta-BHC	ND	1.00	"							
Heptachlor	ND	1.00	"							
Aldrin	ND	1.00	"							
Heptachlor epoxide	ND	1.00	"							
gamma-Chlordane	ND	1.00	"							
alpha-Chlordane	ND	1.00	"							
Endosulfan I	ND	1.00	"							
4,4'-DDE	ND	1.00	"							
Dieldrin	ND	1.00	"							
Endrin	ND	1.00	"							
4,4'-DDD	ND	1.00	"							
Endosulfan II	ND	1.00	"							
4,4'-DDT	ND	1.00	"							
Endrin aldehyde	ND	1.00	"							
Endosulfan sulfate	ND	1.00	"							
Methoxychlor	ND	1.00	"							
Endrin ketone	ND	1.00	"							
Chlordane (tech)	ND	10.0	"							
Toxaphene	ND	20.0	"							

Surrogate: Tetrachloro-meta-xylene

ND 1.00 " 1.00 69.0 35-140

Surrogate: Decachlorobiphenyl

0.836 1.00 " 1.00 83.6 35-140

**LCS (9111344-BS1)**

Prepared & Analyzed: 11/13/19

gamma-BHC (Lindane)	4.01	1.00	ug/l	4.00		100	40-120			
Heptachlor	4.14	1.00	"	4.00		103	40-120			
Aldrin	3.66	1.00	"	4.00		91.4	40-120			
Dieldrin	4.03	1.00	"	4.00		101	40-120			
Endrin	4.21	1.00	"	4.00		105	40-120			
4,4'-DDT	4.15	1.00	"	4.00		104	40-120			

Surrogate: Tetrachloro-meta-xylene

0.805 1.00 " 1.00 80.5 35-140

Surrogate: Decachlorobiphenyl

0.876 1.00 " 1.00 87.6 35-140

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Jeff Lee, Project Manager



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NV5	Project: Hamilton Union High School	Reported:
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	11/27/19 11:23
Chico CA, 95928	Project Manager: Heidi Cummings	

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111344 - EPA 3510C GCMS/ECD**

**LCS Dup (9111344-BSD1)**

Prepared & Analyzed: 11/13/19

gamma-BHC (Lindane)	4.49	1.00	ug/l	4.00		112	40-120	11.3	20	
Heptachlor	4.56	1.00	"	4.00		114	40-120	9.72	20	
Aldrin	3.79	1.00	"	4.00		94.7	40-120	3.55	20	
Dieldrin	4.26	1.00	"	4.00		106	40-120	5.36	20	
Endrin	4.36	1.00	"	4.00		109	40-120	3.45	20	
4,4'-DDT	4.29	1.00	"	4.00		107	40-120	3.25	20	
Surrogate: Tetrachloro-meta-xylene	0.892		"	1.00		89.2	35-140			
Surrogate: Decachlorobiphenyl	0.793		"	1.00		79.3	35-140			

**Batch 9111350 - EPA 3550 ECD/GCMS**

**Blank (9111350-BLK1)**

Prepared: 11/13/19 Analyzed: 11/14/19

alpha-BHC	ND	5.0	ug/kg							
gamma-BHC (Lindane)	ND	5.0	"							
beta-BHC	ND	5.0	"							
delta-BHC	ND	5.0	"							
Heptachlor	ND	5.0	"							
Aldrin	ND	5.0	"							
Heptachlor epoxide	ND	5.0	"							
gamma-Chlordane	ND	5.0	"							
alpha-Chlordane	ND	5.0	"							
Endosulfan I	ND	5.0	"							
4,4'-DDE	ND	5.0	"							
Dieldrin	ND	5.0	"							
Endrin	ND	5.0	"							
4,4'-DDD	ND	5.0	"							
Endosulfan II	ND	5.0	"							
4,4'-DDT	ND	5.0	"							
Endrin aldehyde	ND	5.0	"							
Endosulfan sulfate	ND	5.0	"							
Methoxychlor	ND	5.0	"							
Endrin ketone	ND	5.0	"							
Toxaphene	ND	20	"							
Chlordane (tech)	ND	50	"							
Chlordane (Total)	ND	5.0	"							
Surrogate: Tetrachloro-meta-xylene	12.5		"	10.1		124	35-140			

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Jeff Lee, Project Manager

NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 11/27/19 11:23
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**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111350 - EPA 3550 ECD/GCMS**

**Blank (9111350-BLK1)**

Prepared: 11/13/19 Analyzed: 11/14/19

Surrogate: Decachlorobiphenyl	13.2		ug/kg	10.1		131	35-140			
<b>LCS (9111350-BS1)</b>										
Prepared: 11/13/19 Analyzed: 11/14/19										
gamma-BHC (Lindane)	59.1	5.0	ug/kg	40.4		146	40-120			QM-12
Heptachlor	61.0	5.0	"	40.4		151	40-120			QM-12
Aldrin	54.1	5.0	"	40.4		134	40-120			QM-12
Dieldrin	58.9	5.0	"	40.4		146	40-120			QM-12
Endrin	60.4	5.0	"	40.4		149	40-120			QM-12
4,4'-DDT	53.5	5.0	"	40.4		132	33-147			
Surrogate: Tetrachloro-meta-xylene	13.0		"	10.1		128	35-140			
Surrogate: Decachlorobiphenyl	10.6		"	10.1		105	35-140			

**LCS Dup (9111350-BS1)**

Prepared: 11/13/19 Analyzed: 11/14/19

gamma-BHC (Lindane)	51.6	5.0	ug/kg	40.4		128	40-120	13.6	30	QM-12
Heptachlor	53.6	5.0	"	40.4		133	40-120	12.9	30	QM-12
Aldrin	47.1	5.0	"	40.4		117	40-120	13.8	30	QM-12
Dieldrin	52.2	5.0	"	40.4		129	40-120	12.0	30	QM-12
Endrin	53.1	5.0	"	40.4		132	40-120	12.8	30	QM-12
4,4'-DDT	48.4	5.0	"	40.4		120	33-147	9.93	30	
Surrogate: Tetrachloro-meta-xylene	11.6		"	10.1		115	35-140			
Surrogate: Decachlorobiphenyl	10.5		"	10.1		104	35-140			

**Batch 9112036 - EPA 3550 ECD/GCMS**

**Blank (9112036-BLK1)**

Prepared: 11/20/19 Analyzed: 11/26/19

alpha-BHC	ND	5.0	ug/kg							
gamma-BHC (Lindane)	ND	5.0	"							
beta-BHC	ND	5.0	"							
delta-BHC	ND	5.0	"							
Heptachlor	ND	5.0	"							
Aldrin	ND	5.0	"							
Heptachlor epoxide	ND	5.0	"							
gamma-Chlordane	ND	5.0	"							
alpha-Chlordane	ND	5.0	"							
Endosulfan I	ND	5.0	"							
4,4'-DDE	ND	5.0	"							

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Jeff Lee, Project Manager



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NV5  
 48 Bellarmine Ct, Suite 40  
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Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 11/27/19 11:23

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9112036 - EPA 3550 ECD/GCMS**

**Blank (9112036-BLK1)**

Prepared: 11/20/19 Analyzed: 11/26/19

Dieldrin	ND	5.0	ug/kg							
Endrin	ND	5.0	"							
4,4'-DDD	ND	5.0	"							
Endosulfan II	ND	5.0	"							
4,4'-DDT	ND	5.0	"							
Endrin aldehyde	ND	5.0	"							
Endosulfan sulfate	ND	5.0	"							
Methoxychlor	ND	5.0	"							
Endrin ketone	ND	5.0	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	11.5		"	10.0		115	35-140			
Surrogate: Decachlorobiphenyl	11.6		"	10.0		116	35-140			QM-14

**LCS (9112036-BS1)**

Prepared: 11/20/19 Analyzed: 11/26/19

gamma-BHC (Lindane)	48.8	5.0	ug/kg	40.0		122	40-120			QM-14
Heptachlor	53.3	5.0	"	40.0		133	40-120			QM-14
Aldrin	43.0	5.0	"	40.0		107	40-120			
Dieldrin	47.8	5.0	"	40.0		119	40-120			
Endrin	53.2	5.0	"	40.0		133	40-120			QM-14
4,4'-DDT	72.6	5.0	"	40.0		182	33-147			QM-14
Surrogate: Tetrachloro-meta-xylene	11.5		"	10.0		115	35-140			
Surrogate: Decachlorobiphenyl	11.2		"	10.0		112	35-140			

**LCS Dup (9112036-BS1)**

Prepared: 11/20/19 Analyzed: 11/26/19

gamma-BHC (Lindane)	51.1	5.0	ug/kg	40.0		128	40-120	4.69	30	QM-14
Heptachlor	54.3	5.0	"	40.0		136	40-120	1.87	30	QM-14
Aldrin	44.4	5.0	"	40.0		111	40-120	3.22	30	
Dieldrin	49.5	5.0	"	40.0		124	40-120	3.55	30	QM-14
Endrin	54.2	5.0	"	40.0		136	40-120	1.86	30	QM-14
4,4'-DDT	70.1	5.0	"	40.0		175	33-147	3.53	30	QM-14
Surrogate: Tetrachloro-meta-xylene	11.9		"	10.0		119	35-140			
Surrogate: Decachlorobiphenyl	12.1		"	10.0		121	35-140			

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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 11/27/19 11:23

**Polychlorinated Biphenyls by EPA Method 8082 - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111415 - EPA 3550 ECD/GCMS**

**Blank (9111415-BLK1)**

Prepared & Analyzed: 11/14/19

PCB-1016	ND	10	ug/kg							
PCB-1221	ND	10	"							
PCB-1232	ND	10	"							
PCB-1242	ND	10	"							
PCB-1248	ND	10	"							
PCB-1254	ND	10	"							
PCB-1260	ND	10	"							
Surrogate: Tetrachloro-meta-xylene	9.41		"	10.0		94.1	35-140			
Surrogate: Decachlorobiphenyl	10.1		"	10.0		101	35-140			

**LCS (9111415-BS1)**

Prepared & Analyzed: 11/14/19

PCB-1016	97.0	10	ug/kg	100		97.0	40-130			
PCB-1260	98.0	10	"	100		98.0	40-130			
Surrogate: Tetrachloro-meta-xylene	8.88		"	10.0		88.8	35-140			
Surrogate: Decachlorobiphenyl	9.93		"	10.0		99.3	35-140			

**LCS Dup (9111415-BSD1)**

Prepared & Analyzed: 11/14/19

PCB-1016	92.6	10	ug/kg	100		92.6	40-130	4.59	30	
PCB-1260	91.2	10	"	100		91.2	40-130	7.24	30	
Surrogate: Tetrachloro-meta-xylene	8.98		"	10.0		89.8	35-140			
Surrogate: Decachlorobiphenyl	9.79		"	10.0		97.9	35-140			

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Jeff Lee, Project Manager



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48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 11:23

### Notes and Definitions

- S-13 Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of surrogates in client samples and remaining QC including CCV.
- RE-01 Sample contained analytes with concentrations above calibration limits and was rerun at a dilution.
- QM-14 The LCS and LCSD were above acceptance criteria. The method blank and sample were ND for the analyte in question. The CCV was within acceptance criteria. No negative impact on data is expected.
- QM-12 The % recovery for this analyte was above acceptance criteria in the LCS and/or LCSD. The MB and sample(s) were ND for the analyte. The CCV(s) was within acceptance criteria. No negative impact on data is expected.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

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Jeff Lee, Project Manager

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Chain of Custody Record

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 Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928  
 Phone: 530-894-2487 Fax: 530-894-2437  
 Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/12/2019  
 Project Name: Hamilton Union High School  
 Collector: HJCCWB Client Project #: 70779.01.001.003  
 Batch #: 7192941 EDF #: \_\_\_\_\_

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081						Laboratory ID #	Comments/Preservative	Total # of containers		
A1D-0	11/12/2019	0830	SOIL	8 oz jar	X	X							01	ICE Chest 1 of 2	1		
B1D-0	11/12/2019	0840	SOIL	8 oz jar									02		1		
C1D-0	11/12/2019	0850	SOIL	8 oz jar	X	X							03		1		
C1D-0-CL	11/12/2019	0900	SOIL	8 oz jar		X							04		1		
D1D-0	11/12/2019	0905	SOIL	8 oz jar									05		1		
ABCD1C-0	11/12/2019		SOIL	8 oz jar			X						06		1		
A2D-0	11/12/2019	0920	SOIL	8 oz jar									07		1		
A2D-0-FR	11/12/2019	0921	SOIL	8 oz jar									08		1		
B2D-0	11/12/2019	0935	SOIL	8 oz jar									09		1		
B-2D-0-FR	11/12/2019	0936	SOIL	8 oz jar									10		1		
C2D-0	11/12/2019	0950	SOIL	8 oz jar									11		1		
C-2D-0-FR	11/12/2019	0951	SOIL	8 oz jar									12		1		
D2D-0	11/12/2019	1005	SOIL	8 oz jar									13		1		
D-2D-0-FR	11/12/2019	1006	SOIL	8 oz jar									14		1		
ABCD2C-0	11/12/2019						X									15	
ABCD2C-0-FR	11/12/2019						X								16		
Relinquished by: (signature)			Date / Time			Received by: (signature)			Date / Time			Total # of containers			Chain of Custody seals Y/N/N/A Seals intact? Y/N/N/A Received good condition/cold		
<i>Heidi Cummings</i>			11/21/1600			<i>ESD</i>			11/21/1600								
Relinquished by: (signature)			Date / Time			Received by: (signature)			Date / Time			Turn around time:			Notes		
<i>ESD</i>			11-13-19 8:27			<i>ESD</i>			11-13-19 8:27			5 day			Method 8081 report Chloroform and Technical Chloroform Please return H&K/NV5 ice chests		
Relinquished by: (signature)			Date / Time			Received by: (signature)			Date / Time								
<i>ESD</i>			11-13-19 8:27			<i>ESD</i>			11-13-19 8:27								

Sample disposal instructions: Disposal @ \$2.00 each \_\_\_\_\_ Return to client \_\_\_\_\_ Pickup \_\_\_\_\_

Client: NV5  
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928  
Phone: 530-894-2487 Fax: 530-894-2437  
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/12/2019  
Project Name: Hamilton Union High School  
Collector: HJC/CWB Client Project #: 70779.01.001.003  
Batch #: 7193941 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
A3D-0	11/12/2019	1015	SOIL	8 oz jar				17	Ice Chest 1 of 2	
B3D-0	11/12/2019	1025	SOIL	8 oz jar	X	X	18			
B3D-0-FR	11/12/2019	1026	SOIL	8 oz jar	X	X	19			
C3D-0	11/12/2019	1040	SOIL	8 oz jar			20			
D3D-0	11/12/2019	1100	SOIL	8 oz jar	X	X	21			
ABCD3C-0	11/12/2019		SOIL					22		Lab to prepare ABCD3C-0 as 4:1 composite of A3D-0, B3D-0, C3D-0 and D3D-0
A4D-0	11/12/2019	1110	SOIL	8 oz jar				23		
B4D-0	11/12/2019	1120	SOIL	8 oz jar				24		
C4D-0	11/12/2019	1130	SOIL	8 oz jar				25		
D4D-0	11/12/2019	1140	SOIL	8 oz jar				26		
ABCD4C-0	11/12/2019		SOIL				X		27	Lab to prepare ABCD4C-0 as 4:1 composite of A4D-0, B4D-0, C4D-0 and D4D-0
Relinquished by: (signature) _____ Date / Time _____ Received by: (signature) _____ Date / Time _____										
Relinquished by: (signature) <i>Heidi Cummings</i> Date / Time <i>11/29/1600</i> Received by: (signature) <i>SSO</i> Date / Time <i>11/29/1600</i>										
Relinquished by: (signature) _____ Date / Time _____ Received by: (signature) _____ Date / Time _____										
Relinquished by: (signature) <i>SSO</i> Date / Time <i>11-13-19 8:27</i> Received by: (signature) <i>[Signature]</i> Date / Time <i>11-13-19 8:27</i>										
Sample disposal Instructions: Disposal @ \$2.00 each _____ Return to client _____ Pickup _____										
Turn around time: 5 day										
Total # of containers: _____ Chain of Custody seals: _____ Received good condition/cold: _____										
Notes: Method 8081 report Chlordane and Technical Chlordane Please return H&K/NV5 ice chests \$7.00 \$3.00										

Chain of Custody Record

Client: NV5  
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928  
Phone: 530-894-2487 Fax: 530-894-2437  
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/11/2019  
Project Name: Hamilton Union High School  
Collector: HJC/CWB Client Project #: 70779.01.001.003  
Batch #: 7102941 EDF #: \_\_\_\_\_

Sample ID	Date Sampled	Time	Sample Type	Container Type	PCBS EAP 8082	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	TPH CARBON CHAIN EPA 8260/8015	Title 22 Metals EPA	Laboratory ID #	Comments/Preservative	Total # of containers
HHS1D-2	11/11/2019	0830	SOIL	8 oz jar	X	X	X				28	ICE Chest 20g2	1
HHS2D-2	11/11/2019	0915	SOIL	8 oz jar	X	X	X				29		1
HHS3D-2	11/11/2019	1015	SOIL	8 oz jar	X	X	X				30		1
HHS3D-2-FR	11/11/2019	1018	SOIL	8 oz jar	X	X	X				31		1
HHS4D-2	11/11/2019	1030	SOIL	8 oz jar	X	X	X				32		1
HHS5D-2	11/11/2019	1045	SOIL	8 oz jar	X	X	X				33		1
HHS5D-2-CL	11/11/2019	1055	SOIL	8 oz jar	X	X	X				34		1
HHS6D-2	11/11/2019	1130	SOIL	8 oz jar	X	X	X				35		1
HHS7D-2	11/11/2019	1225	SOIL	8 oz jar	X	X	X				36		1
HHS8D-2	11/11/2019	1330	SOIL	8 oz jar	X	X	X				37		1
PMT-E6D-0	11/11/2019	1505	SOIL	8 oz jar	X						38		1
PMT-E6D-0-CL	11/11/2019	1515	SOIL	8 oz jar	X						39		1
PMT-E6D-2	11/11/2019	1530	SOIL	8 oz jar	X						40		1
EB-1	11/11/2019	1500	W	POLYAMBER/NOVA				X	X	X	41		5
Relinquished by: (signature) Heidi Cummings				Date / Time	Received by: (signature) GSO		Date / Time	Total # of containers		Chain of Custody seals Intact Y/N/N/A			Received good condition/cold
Relinquished by: (signature) GSO				11/29/1600	Received by: (signature) GSO		11/29/1600	5		Y		Method 8081 report Chloroform and Technical Chlordane	
Relinquished by: (signature) GSO				11/23/19 8:27	Received by: (signature) GSO		11/23/19 8:27	5 day		Y		Please return H&K/NV5 ice chests	

Sample disposal instructions: Disposal @ \$2.00 each

Return to client \_\_\_\_\_ Pickup \_\_\_\_\_

Notes  
Method 8081 report Chloroform and Technical Chlordane  
Please return H&K/NV5 ice chests  
3.7c  
3.0c



## SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: 7193941  
 Client Name: HOLDREGE & KULL - CHICO Project: HAMILTON UNION HIGH SCHOOL  
 Delivered by:  Client  SunStar Courier  GSO  FedEx  Other  
 If Courier, Received by: \_\_\_\_\_ Date/Time Courier Received: \_\_\_\_\_  
 Lab Received by: SUNNY Date/Time Lab Received: 11-13-19 / 8:27  
 Total number of coolers received: 2 Thermometer ID: 50-1 Calibration due: 6/27/20

Temperature: Cooler #1	<u>2.5</u>	°C +/- the CF (+ 1.2°C) = <u>3.7</u>	°C corrected temperature
Temperature: Cooler #2	<u>1.8</u>	°C +/- the CF (+ 1.2°C) = <u>3.0</u>	°C corrected temperature
Temperature: Cooler #3		°C +/- the CF (+ 1.2°C) =	°C corrected temperature
<b>Temperature criteria = ≤ 6°C (no frozen containers)</b>		Within criteria?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>If NO:</b>			
Samples received on ice?	<input type="checkbox"/> Yes	<input type="checkbox"/> No →	<b>Complete Non-Conformance Sheet</b>
If on ice, samples received same day collected?	<input type="checkbox"/> Yes → Acceptable	<input type="checkbox"/> No →	<b>Complete Non-Conformance Sheet</b>

Custody seals intact on cooler/sample  Yes  No\*  N/A  
 Sample containers intact  Yes  No\*  
 Sample labels match Chain of Custody IDs  Yes  No\*  
 Total number of containers received match COC  Yes  No\*  
 Proper containers received for analyses requested on COC  Yes  No\*  
 Proper preservative indicated on COC/containers for analyses requested  Yes  No\*  N/A  
 Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times  Yes  No\*

\* Complete Non-Conformance Receiving Sheet if checked      Cooler/Sample Review - Initials and date: SL 11-13-19

**Comments:** \_\_\_\_\_

**WORK ORDER**

**T193941**

**Client: NV5**  
**Project: Hamilton Union High School**

**Project Manager: Jeff Lee**  
**Project Number: 70779.01.001.003**

**Report To:**

NV5  
 Heidi Cummings  
 48 Bellarmine Ct, Suite 40  
 Chico, CA 95928

Date Due: 11/20/19 17:00 (5 day TAT)

Received By: Sunny Lounethone

Date Received: 11/13/19 08:27

Logged In By: Sunny Lounethone

Date Logged In: 11/13/19 09:50

Samples Received at: 3°C  
 Custody Seals Yes Received On Ice Yes  
 Containers Intact Yes  
 COC/Labels Agree Yes  
 Preservation Confir Yes

Analysis	Due	TAT	Expires	Comments
<b>T193941-01 A1D-0 [Soil] Sampled 11/12/19 08:30 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 08:30	As and Pb only
<b>T193941-02 B1D-0 [Soil] Sampled 11/12/19 08:40 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-03 C1D-0 [Soil] Sampled 11/12/19 08:50 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 08:50	As and Pb only
<b>T193941-04 C1D-0-CL [Soil] Sampled 11/12/19 09:00 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 09:00	As and Pb only
<b>T193941-05 D1D-0 [Soil] Sampled 11/12/19 09:05 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-06 ABCD1C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				<b>COMPOSITE 4:1 (A1D-0, B1D-0, C1D-0, D1D-0)</b>
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	
<b>T193941-07 A2D-0 [Soil] Sampled 11/12/19 09:20 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				

**WORK ORDER**

**T193941**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
T193941-08 A2D-0FR [Soil] Sampled 11/12/19 09:21 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-09 B2D-0 [Soil] Sampled 11/12/19 09:35 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-10 B-2D-0-FR [Soil] Sampled 11/12/19 09:36 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-11 C2D-0 [Soil] Sampled 11/12/19 09:50 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-12 C-2D-0-FR [Soil] Sampled 11/12/19 09:51 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-13 D2D-0 [Soil] Sampled 11/12/19 10:05 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-14 D-2D-0-FR [Soil] Sampled 11/12/19 10:06 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-15 ABCD2C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US & 8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	COMPOSITE 4:1 (A2D-0, B2D-0, C2D-0, D2D-0)
T193941-16 ABCD2C-0-FR [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US & 8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	COMPOSITE 4:1 (A2D-0-FR, B2D-0-FR, C2D-0-FR, D2D-0-FR)
T193941-17 A3D-0 [Soil] Sampled 11/12/19 10:15 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T193941-18 B3D-0 [Soil] Sampled 11/12/19 10:25 (GMT-08:00) Pacific Time (US & 6010 Individual Metals	11/20/19 15:00	5	05/10/20 10:25	As and Pb only



**WORK ORDER**

**T193941**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193941-19 B3D-0-FR [Soil] Sampled 11/12/19 10:26 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 10:26	As and Pb only
<b>T193941-20 C3D-0 [Soil] Sampled 11/12/19 10:40 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-21 D3D-0 [Soil] Sampled 11/12/19 11:00 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/10/20 11:00	As and Pb only
<b>T193941-22 ABCD3C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	COMPOSITE 4:1 (A3D-0, B3D-0, C3D-0, D3D-0)
<b>T193941-23 A4D-0 [Soil] Sampled 11/12/19 11:10 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-24 B4D-0 [Soil] Sampled 11/12/19 11:20 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-25 C4D-0 [Soil] Sampled 11/12/19 11:30 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-26 D4D-0 [Soil] Sampled 11/12/19 11:40 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193941-27 ABCD4C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/20/19 15:00	5	11/26/19 00:00	COMPOSITE 4:1 (A4D-0, B4D-0, C4D-0, D4D-0)
<b>T193941-28 HHS1D-2 [Soil] Sampled 11/11/19 08:30 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 08:30	As and Pb only
<b>T193941-29 HHS2D-2 [Soil] Sampled 11/11/19 09:15 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 09:15	As and Pb only

**WORK ORDER**

**T193941**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193941-30 HHS3D-2 [Soil] Sampled 11/11/19 10:15 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:15	As and Pb only
<b>T193941-31 HHS3D-2-FR [Soil] Sampled 11/11/19 10:18 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:18	As and Pb only
<b>T193941-32 HHS4D-2 [Soil] Sampled 11/11/19 10:30 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:30	As and Pb only
<b>T193941-33 HHS5D-2 [Soil] Sampled 11/11/19 10:45 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:45	As and Pb only
<b>T193941-34 HHS5D-2-CL [Soil] Sampled 11/11/19 10:55 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 10:55	As and Pb only
<b>T193941-35 HHS6D-2 [Soil] Sampled 11/11/19 11:30 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 11:30	As and Pb only
<b>T193941-36 HHS7D-2 [Soil] Sampled 11/11/19 12:25 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 12:25	As and Pb only
<b>T193941-37 HHS8D-2 [Soil] Sampled 11/11/19 13:30 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/20/19 15:00	5	05/09/20 13:30	As and Pb only
<b>T193941-38 PMT-E6D-0 [Soil] Sampled 11/11/19 15:05 (GMT-08:00) Pacific Time (US &amp;</b>				
8082 PCB	11/20/19 15:00	5	11/25/19 15:05	
<b>T193941-39 PMT-E6D-0-CL [Soil] Sampled 11/11/19 15:15 (GMT-08:00) Pacific Time (US &amp;</b>				
8082 PCB	11/20/19 15:00	5	11/25/19 15:15	
<b>T193941-40 PMT-E6D-2 [Soil] Sampled 11/11/19 15:30 (GMT-08:00) Pacific Time (US &amp;</b>				
8082 PCB	11/20/19 15:00	5	11/25/19 15:30	

**WORK ORDER**

**T193941**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193941-41 EB-1 [Water] Sampled 11/11/19 15:00 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 15:00	
8015 TPH-CC LLvL	11/20/19 15:00	5	11/25/19 15:00	
8081 Pesticides	11/20/19 15:00	5	11/18/19 15:00	
<b>T193941-42 DD1D-0 [Soil] Sampled 11/11/19 13:40 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 13:40	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 13:40	
8081 Pesticides	11/20/19 15:00	5	11/25/19 13:40	
<b>T193941-43 DD2D-0 [Soil] Sampled 11/11/19 13:45 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 13:45	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 13:45	
8081 Pesticides	11/20/19 15:00	5	11/25/19 13:45	
<b>T193941-44 DD2D-0-CL [Soil] Sampled 11/11/19 13:50 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 13:50	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 13:50	
8081 Pesticides	11/20/19 15:00	5	11/25/19 13:50	
<b>T193941-45 DD3D-0 [Soil] Sampled 11/11/19 14:05 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:05	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:05	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:05	
<b>T193941-46 DD4D-0 [Soil] Sampled 11/11/19 14:10 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:10	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:10	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:10	
<b>T193941-47 DD4D-0-FR [Soil] Sampled 11/11/19 14:15 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:15	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:15	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:15	

**WORK ORDER**

**T193941**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193941-48 DD5D-0 [Soil] Sampled 11/11/19 14:25 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:25	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:25	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:25	
<b>T193941-49 DD6D-0 [Soil] Sampled 11/11/19 14:35 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 14:35	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 14:35	
8081 Pesticides	11/20/19 15:00	5	11/25/19 14:35	
<b>T193941-50 DD7D-0 [Soil] Sampled 11/11/19 15:00 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Title 22	11/20/19 15:00	5	05/09/20 15:00	
8015 Carbon Chain	11/20/19 15:00	5	11/25/19 15:00	
8081 Pesticides	11/20/19 15:00	5	11/25/19 15:00	

**Analysis groups included in this work order**

6010 Title 22

subgroup 6010B T22      7470/71 Hg



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27 November 2019

Heidi Cummings

NV5

48 Bellarmine Ct, Suite 40

Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/15/19 08:34. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee

Project Manager



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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

**Reported:**  
 11/27/19 09:57

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C5D-0	T193979-05	Soil	11/12/19 13:00	11/15/19 08:34
ABCD5C-0	T193979-09	Soil	11/12/19 00:00	11/15/19 08:34
ABCD5C-0-CL	T193979-10	Soil	11/12/19 00:00	11/15/19 08:34
ABCD6C-0	T193979-15	Soil	11/12/19 00:00	11/15/19 08:34
A7D-0	T193979-16	Soil	11/12/19 14:45	11/15/19 08:34
A7D-0-CL	T193979-18	Soil	11/12/19 14:55	11/15/19 08:34
D7D-0	T193979-23	Soil	11/12/19 15:30	11/15/19 08:34
D7D-0-FR	T193979-24	Soil	11/12/19 15:31	11/15/19 08:34
ABCD7C-0	T193979-25	Soil	11/12/19 00:00	11/15/19 08:34
ABCD7C-0-FR	T193979-26	Soil	11/12/19 00:00	11/15/19 08:34
C8D-0	T193979-29	Soil	11/12/19 16:05	11/15/19 08:34
ABCD8C-0	T193979-31	Soil	11/12/19 00:00	11/15/19 08:34

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Jeff Lee, Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 09:57

**DETECTIONS SUMMARY**

Sample ID: C5D-0		Laboratory ID: T193979-05			
Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	5.10	3.00	mg/kg	EPA 6010b	

Sample ID: ABCD5C-0		Laboratory ID: T193979-09			
Analyte	Result	Reporting Limit	Units	Method	Notes
4,4'-DDE	0.0066	0.0050	mg/kg	EPA 8081A	

Sample ID: ABCD5C-0-CL		Laboratory ID: T193979-10			
Analyte	Result	Reporting Limit	Units	Method	Notes
4,4'-DDE	0.0070	0.0050	mg/kg	EPA 8081A	

Sample ID: ABCD6C-0		Laboratory ID: T193979-15			
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No Results Detected

Sample ID: A7D-0		Laboratory ID: T193979-16			
Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	5.35	3.00	mg/kg	EPA 6010b	

Sample ID: A7D-0-CL		Laboratory ID: T193979-18			
Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	5.35	3.00	mg/kg	EPA 6010b	

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**C5D-0**  
**T193979-05 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
<b>Lead</b>	<b>5.10</b>	3.00	"	"	"	"	"	"	

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NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
11/27/19 09:57

**ABCD5C-0**  
**T193979-09 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.0050	mg/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>0.0066</b>	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4'-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4'-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	"	"	"	"	"	"	
Chlordane (Total)	ND	0.0050	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		103 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		109 %		35-140	"	"	"	"	

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**ABCD5C-0-CL**  
**T193979-10 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.0050	mg/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>0.0070</b>	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4'-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4'-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	"	"	"	"	"	"	
Chlordane (Total)	ND	0.0050	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		89.0 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		113 %		35-140	"	"	"	"	

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**ABCD6C-0**  
**T193979-15 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.0050	mg/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4'-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4'-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4'-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	"	"	"	"	"	"	
Chlordane (Total)	ND	0.0050	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		85.9 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		93.9 %		35-140	"	"	"	"	

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**A7D-0**  
**T193979-16 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
<b>Lead</b>	<b>5.35</b>	3.00	"	"	"	"	"	"	

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**A7D-0-CL**  
**T193979-18 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
<b>Lead</b>	<b>5.35</b>	3.00	"	"	"	"	"	"	

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**D7D-0**  
**T193979-23 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9112523	11/25/19	11/26/19	EPA 6010b	
<b>Lead</b>	<b>5.75</b>	3.00	"	"	"	"	"	"	

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**D7D-0-FR**  
**T193979-24 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
<b>Lead</b>	<b>5.61</b>	3.00	"	"	"	"	"	"	

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**ABCD7C-0**  
**T193979-25 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.0050	mg/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4'-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4'-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4'-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	"	"	"	"	"	"	
Chlordane (Total)	ND	0.0050	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		56.1 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		95.3 %		35-140	"	"	"	"	

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**ABCD7C-0-FR**  
**T193979-26 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.0050	mg/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4'-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4'-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4'-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	"	"	"	"	"	"	
Chlordane (Total)	ND	0.0050	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		43.3 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		83.0 %		35-140	"	"	"	"	

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**C8D-0**  
**T193979-29 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	4.55	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
<b>Lead</b>	<b>4.95</b>	2.73	"	"	"	"	"	"	

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**ABCD8C-0**  
**T193979-31 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	0.0050	mg/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4'-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4'-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4'-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Chlordane (tech)	ND	0.050	"	"	"	"	"	"	
Chlordane (Total)	ND	0.0050	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		45.3 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		84.8 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.

*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.*

Jeff Lee, Project Manager



25712 Commercentre Drive  
 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5	Project: Hamilton Union High School	Reported:
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	11/27/19 09:57
Chico CA, 95928	Project Manager: Heidi Cummings	

**Metals by EPA 6010B - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111532 - EPA 3050B**

<b>Blank (9111532-BLK1)</b>			Prepared: 11/15/19 Analyzed: 11/18/19							
Antimony	ND	3.00	mg/kg							
Arsenic	ND	5.00	"							
Barium	ND	1.00	"							
Beryllium	ND	1.00	"							
Cadmium	ND	2.00	"							
Chromium	ND	2.00	"							
Cobalt	ND	2.00	"							
Copper	ND	1.00	"							
Lead	ND	3.00	"							
Molybdenum	ND	5.00	"							
Nickel	ND	2.00	"							
Selenium	ND	5.00	"							
Silver	ND	2.00	"							
Thallium	ND	2.00	"							
Vanadium	ND	5.00	"							
Zinc	ND	1.00	"							

<b>LCS (9111532-BS1)</b>			Prepared: 11/15/19 Analyzed: 11/18/19							
Arsenic	97.4	5.00	mg/kg	100		97.4	75-125			
Barium	98.5	1.00	"	100		98.5	75-125			
Cadmium	98.5	2.00	"	100		98.5	75-125			
Chromium	98.3	2.00	"	100		98.3	75-125			
Lead	99.5	3.00	"	100		99.5	75-125			

<b>Matrix Spike (9111532-MS1)</b>			Source: T193974-24		Prepared: 11/15/19 Analyzed: 11/18/19					
Arsenic	73.0	5.00	mg/kg	99.0		73.7	75-125			QM-05
Barium	114	1.00	"	99.0		115	75-125			QM-05
Cadmium	70.4	2.00	"	99.0		71.1	75-125			QM-05
Chromium	82.1	2.00	"	99.0		82.9	75-125			QM-05
Lead	76.9	3.00	"	99.0		77.7	75-125			QM-05

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager



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 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5	Project: Hamilton Union High School	Reported:
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	11/27/19 09:57
Chico CA, 95928	Project Manager: Heidi Cummings	

**Metals by EPA 6010B - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 911532 - EPA 3050B**

**Matrix Spike Dup (911532-MSD1)**

Source: T193974-24

Prepared: 11/15/19 Analyzed: 11/18/19

Arsenic	66.9	5.00	mg/kg	93.5		71.6	75-125	8.64	20	QM-05
Barium	96.5	1.00	"	93.5		103	75-125	16.7	20	QM-05
Cadmium	63.8	2.00	"	93.5		68.2	75-125	9.89	20	QM-05
Chromium	72.8	2.00	"	93.5		77.9	75-125	11.9	20	QM-05
Lead	68.9	3.00	"	93.5		73.8	75-125	11.0	20	QM-05

**Batch 9112523 - EPA 3050B**

**Blank (9112523-BLK1)**

Prepared: 11/25/19 Analyzed: 11/26/19

Antimony	ND	3.00	mg/kg							
Arsenic	ND	5.00	"							
Barium	ND	1.00	"							
Beryllium	ND	1.00	"							
Cadmium	ND	2.00	"							
Chromium	ND	2.00	"							
Cobalt	ND	2.00	"							
Copper	ND	1.00	"							
Lead	ND	3.00	"							
Molybdenum	ND	5.00	"							
Nickel	ND	2.00	"							
Selenium	ND	5.00	"							
Silver	ND	2.00	"							
Thallium	ND	2.00	"							
Vanadium	ND	5.00	"							
Zinc	ND	1.00	"							
Aluminum	ND	10.0	"							
Manganese	ND	10.0	"							
Iron	ND	10.0	"							

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager



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 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5	Project: Hamilton Union High School	Reported:
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	11/27/19 09:57
Chico CA, 95928	Project Manager: Heidi Cummings	

**Metals by EPA 6010B - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9112523 - EPA 3050B**

**LCS (9112523-BS1)**

Prepared: 11/25/19 Analyzed: 11/26/19

Arsenic	95.8	5.00	mg/kg	100		95.8	75-125			
Barium	95.8	1.00	"	100		95.8	75-125			
Cadmium	95.7	2.00	"	100		95.7	75-125			
Chromium	95.5	2.00	"	100		95.5	75-125			
Lead	95.7	3.00	"	100		95.7	75-125			

**Matrix Spike (9112523-MS1)**

Source: T193979-23

Prepared: 11/25/19 Analyzed: 11/26/19

Arsenic	61.3	5.00	mg/kg	93.5	ND	65.6	75-125			QM-05
Barium	140	1.00	"	93.5		149	75-125			QM-05
Cadmium	57.4	2.00	"	93.5		61.5	75-125			QM-05
Chromium	106	2.00	"	93.5		113	75-125			QM-05
Lead	59.0	3.00	"	93.5	5.75	57.0	75-125			QM-05

**Matrix Spike Dup (9112523-MSD1)**

Source: T193979-23

Prepared: 11/25/19 Analyzed: 11/26/19

Arsenic	70.4	5.00	mg/kg	100	ND	70.4	75-125	13.7	20	QM-05
Barium	156	1.00	"	100		156	75-125	11.4	20	QM-05
Cadmium	66.6	2.00	"	100		66.6	75-125	14.7	20	QM-05
Chromium	121	2.00	"	100		121	75-125	13.4	20	QM-05
Lead	68.6	3.00	"	100	5.75	62.8	75-125	14.9	20	QM-05

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager



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 Lake Forest, California 92630  
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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 11/27/19 09:57

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111517 - EPA 3550 ECD/GCMS**

**Blank (9111517-BLK1)**

Prepared: 11/15/19 Analyzed: 11/18/19

alpha-BHC	ND	0.0050	mg/kg							
gamma-BHC (Lindane)	ND	0.0050	"							
beta-BHC	ND	0.0050	"							
delta-BHC	ND	0.0050	"							
Heptachlor	ND	0.0050	"							
Aldrin	ND	0.0050	"							
Heptachlor epoxide	ND	0.0050	"							
gamma-Chlordane	ND	0.0050	"							
alpha-Chlordane	ND	0.0050	"							
Endosulfan I	ND	0.0050	"							
4,4'-DDE	ND	0.0050	"							
Dieldrin	ND	0.0050	"							
Endrin	ND	0.0050	"							
4,4'-DDD	ND	0.0050	"							
Endosulfan II	ND	0.0050	"							
4,4'-DDT	ND	0.0050	"							
Endrin aldehyde	ND	0.0050	"							
Endosulfan sulfate	ND	0.0050	"							
Methoxychlor	ND	0.0050	"							
Endrin ketone	ND	0.0050	"							
Toxaphene	ND	0.020	"							
Chlordane (tech)	ND	0.050	"							
Chlordane (Total)	ND	0.0050	"							
Surrogate: Tetrachloro-meta-xylene	0.00916		"	0.0101		90.6	35-140			
Surrogate: Decachlorobiphenyl	0.0143		"	0.0101		141	35-140			S-GC

**LCS (9111517-BS1)**

Prepared: 11/15/19 Analyzed: 11/19/19

gamma-BHC (Lindane)	0.0430	0.0050	mg/kg	0.0404		106	40-120			
Heptachlor	0.0432	0.0050	"	0.0404		107	40-120			
Aldrin	0.0391	0.0050	"	0.0404		96.8	40-120			
Dieldrin	0.0434	0.0050	"	0.0404		108	40-120			
Endrin	0.0438	0.0050	"	0.0404		109	40-120			
4,4'-DDT	0.0417	0.0050	"	0.0404		103	33-147			
Surrogate: Tetrachloro-meta-xylene	0.0100		"	0.0101		99.2	35-140			
Surrogate: Decachlorobiphenyl	0.0110		"	0.0101		109	35-140			

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager





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 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5	Project: Hamilton Union High School	Reported:
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	11/27/19 09:57
Chico CA, 95928	Project Manager: Heidi Cummings	

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111517 - EPA 3550 ECD/GCMS**

**LCS Dup (9111517-BSD1)**

Prepared: 11/15/19 Analyzed: 11/19/19

gamma-BHC (Lindane)	0.0415	0.0050	mg/kg	0.0404		103	40-120	3.54	30	
Heptachlor	0.0428	0.0050	"	0.0404		106	40-120	0.838	30	
Aldrin	0.0400	0.0050	"	0.0404		98.9	40-120	2.19	30	
Dieldrin	0.0462	0.0050	"	0.0404		114	40-120	6.26	30	
Endrin	0.0466	0.0050	"	0.0404		115	40-120	6.06	30	
4,4'-DDT	0.0455	0.0050	"	0.0404		113	33-147	8.74	30	
Surrogate: Tetrachloro-meta-xylene	0.00892		"	0.0101		88.4	35-140			
Surrogate: Decachlorobiphenyl	0.0121		"	0.0101		120	35-140			

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager



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Lake Forest, California 92630  
949.297.5020 Phone  
949.297.5027 Fax

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/27/19 09:57

### Notes and Definitions

- S-GC Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

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SunStar Laboratories, Inc.

*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.*

---

Jeff Lee, Project Manager

Chain of Custody Record

1193979

Client: NV5  
Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928  
Phone: 530-894-2487 Fax: 530-894-2437  
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019  
Project Name: Hamilton Union High School  
Collector: HJC/CWB Client Project #: 70779.01.001.003  
Batch #: \_\_\_\_\_ EDF #: \_\_\_\_\_

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
ASD-0	11/12/2019	1220	SOIL	8 oz jar				01		1
ASD-0-CL	11/12/2019	1236	SOIL	8 oz jar				02		1
B5D-0	11/12/2019	#245	SOIL	8 oz jar				03		1
B5D-0-CL	11/12/2019	1250	SOIL	8 oz jar				04		1
C5D-0	11/12/2019	1300	SOIL	8 oz jar	X			05		1
C5D-0-CL	11/12/2019	1310	SOIL	8 oz jar				06		1
D5D-0	11/12/2019	1325	SOIL	8 oz jar				07		1
D5D-0-CL	11/12/2019	1330	SOIL	8 oz jar				08		1
									Lab to prepare ABCD5C-0 as 4:1 composite of ASD-0, B5D-0, C5D-0 and D5D-0	
									Lab to prepare ABCD5C-0-CL as 4:1 composite of ASD-0-CL, B5D-0-CL, C5D-0-CL and D5D-0-CL	
A6D-0	11/12/2019	1355	SOIL	8 oz jar			X	11		1
B6D-0	11/12/2019	1410	SOIL	8 oz jar				12		1
C6D-0	11/12/2019	1420	SOIL	8 oz jar				13		1
D6D-0	11/12/2019	1435	SOIL	8 oz jar				14		1
ABCD6C-0	11/12/2019		SOIL				X		Lab to prepare ABCD5C-0 as 4:1 composite of ASD-0, B5D-0, C5D-0 and D5D-0	
Relinquished by: (signature) <u>[Signature]</u>		Date / Time	Received by: (signature) <u>GSO</u>	Date / Time	Total # of containers		Chain of Custody seals <u>N/A</u>		Notes	
Relinquished by: (signature) <u>[Signature]</u>		Date / Time	Received by: (signature) <u>[Signature]</u>	Date / Time	Seals Intact? <u>N/A</u>		Received good condition/cold		Method 8081 report Chloridane and Technical Chloridane	
Relinquished by: (signature) <u>[Signature]</u>		Date / Time	Received by: (signature) <u>[Signature]</u>	Date / Time	Turn around time: <u>5 day</u>				Please return H&K/NV5 ice chests	

Sample disposal instructions: Disposal @ \$2.00 each

Return to client \_\_\_\_\_ Pickup \_\_\_\_\_

15

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10

SunStar Laboratories  
 25712 Commercentre Dr  
 Lake Forest, CA 92630  
 949-297-5020

Chain of Custody Record

**REVISED**

**7193979**

Client: NVS  
 Address: 48 Bellamine Court, Ste 40, Chico, CA 95928  
 Phone: 530-894-2487 Fax: 530-894-2437  
 Project Manager: Heidi Cummings, heidi.cummings@NVS.com

Date: 11/14/2019  
 Project Name: Hamilton Union High School  
 Collector: HJC/GWB Client Project #: 70779.01.001.003  
 Batch #: \_\_\_\_\_ EDF #: \_\_\_\_\_

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of containers
ASD-0	11/12/2019	1220	SOIL	8 oz jar				01		1
ASD-0-CL	11/12/2019	1230	SOIL	8 oz jar				02		1
BSD-0	11/12/2019	1245	SOIL	8 oz jar				03		1
BSD-0-CL	11/12/2019	1250	SOIL	8 oz jar				04		1
CSD-0	11/12/2019	1300	SOIL	8 oz jar				05		1
CSD-0-CL	11/12/2019	1310	SOIL	8 oz jar				06		1
DSD-0	11/12/2019	1325	SOIL	8 oz jar				07		1
DSD-0-CL	11/12/2019	1330	SOIL	8 oz jar				08		1
Lab to prepare ABCD5C-0 as 4:1 composite of ASD-0, BSD-0, CSD-0 and DSD-0										09
Lab to prepare ABCD5C-0-CL as 4:1 composite of ASD-0-CL, BSD-0-CL, CSD-0-CL and DSD-0-CL										10
ASD-0	11/12/2019	1355	SOIL	8 oz jar				11		1
BSD-0	11/12/2019	1410	SOIL	8 oz jar				12		1
CSD-0	11/12/2019	1420	SOIL	8 oz jar				13		1
DSD-0	11/12/2019	1470	SOIL	8 oz jar				14		1
ABCD6C-0	11/12/2019		SOIL							15
Lab to prepare ABCD6C-0 as 4:1 composite of ASD-0, BSD-0, CSD-0 and DSD-0										
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time	Total # of containers		Chain of Custody sealed		Seals intact: Y/N/A		Received good condition/cold
<i>[Signature]</i>	11/14/19 1600	GSO	11/14/19 1608	0		Y		Y		280
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time	Turn around time:		Notes				
GSO	11/15/19 8:34	<i>[Signature]</i>	11/15/19 8:34	5 day		Method 8081 report Chlordane and Technical Chlordane Please return H&K/NV5 ice chests				

Sample disposal instructions: Disposal @ \$2.00 each

Return to client \_\_\_\_\_ Pickup \_\_\_\_\_





## SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: 7193979  
 Client Name: NV5 Project: HAMILTON UNION HIGH SCHOOL  
 Delivered by:  Client  SunStar Courier  GSO  FedEx  Other  
 If Courier, Received by: \_\_\_\_\_ Date/Time Courier Received: \_\_\_\_\_  
 Lab Received by: SUNNY Date/Time Lab Received: 11-15-19 / 8:34  
 Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due to: 6/27/20

Temperature: Cooler #1 <u>1.6</u>	°C +/- the CF (+ 1.2°C) = <u>2.8</u>	°C corrected temperature
Temperature: Cooler #2	°C +/- the CF (+ 1.2°C) =	°C corrected temperature
Temperature: Cooler #3	°C +/- the CF (+ 1.2°C) =	°C corrected temperature
<b>Temperature criteria = ≤ 6°C (no frozen containers)</b>	Within criteria?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>If NO:</b>		
Samples received on ice?	<input type="checkbox"/> Yes	<input type="checkbox"/> No → <b>Complete Non-Conformance Sheet</b>
If on ice, samples received same day collected?	<input type="checkbox"/> Yes → Acceptable	<input type="checkbox"/> No → <b>Complete Non-Conformance Sheet</b>

Custody seals intact on cooler/sample  Yes  No\*  N/A  
 Sample containers intact  Yes  No\*  
 Sample labels match Chain of Custody IDs  Yes  No\*  
 Total number of containers received match COC  Yes  No\*  
 Proper containers received for analyses requested on COC  Yes  No\*  
 Proper preservative indicated on COC/containers for analyses requested  Yes  No\*  N/A  
 Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times  Yes  No\*

\* Complete Non-Conformance Receiving Sheet if checked      Cooler/Sample Review - Initials and date: SL 11-15-19

**Comments:** \_\_\_\_\_

**WORK ORDER**

**T193979**

**Client: NV5**

**Project Manager: Jeff Lee**

**Project: Hamilton Union High School**

**Project Number: 70779.01.001.003**

**Report To:**

NV5  
 Heidi Cummings  
 48 Bellarmine Ct, Suite 40  
 Chico, CA 95928

Date Due: 11/22/19 17:00 (5 day TAT)

Received By: Sunny Lounethone

Date Received: 11/15/19 08:34

Logged In By: Sunny Lounethone

Date Logged In: 11/15/19 11:17

Samples Received at: **2.8°C**  
 Custody Seals Yes Received On Ice Yes  
 Containers Intact Yes  
 COC/Labels Agree Yes  
 Preservation Confir No

Analysis	Due	TAT	Expires	Comments
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T193979-01 A5D-0 [Soil] Sampled 11/12/19 12:20 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
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T193979-02 A5D-0-CL [Soil] Sampled 11/12/19 12:30 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
--	--	--	--	--

T193979-03 B5D-0 [Soil] Sampled 11/12/19 12:45 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
---	--	--	--	--

T193979-04 B5D-0-CL [Soil] Sampled 11/12/19 12:50 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
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T193979-05 C5D-0 [Soil] Sampled 11/12/19 13:00 (GMT-08:00) Pacific Time (US & 6010 Individual Metals	11/22/19 15:00	5	05/10/20 13:00	As and Pb only
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T193979-06 C5D-0-CL [Soil] Sampled 11/12/19 13:10 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
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T193979-07 D5D-0 [Soil] Sampled 11/12/19 13:25 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
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**WORK ORDER**

**T193979**

<b>Client: NV5</b>	<b>Project Manager: Jeff Lee</b>
<b>Project: Hamilton Union High School</b>	<b>Project Number: 70779.01.001.003</b>

Analysis	Due	TAT	Expires	Comments
<b>T193979-08 D5D-0-CL [Soil] Sampled 11/12/19 13:30 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-09 ABCD5C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp; 8081 Pesticides</b>	11/22/19 15:00	5	11/26/19 00:00	<b>COMPOSITE 4:1 (A5D-0, B5D-0, C5D-0, D5D-0) Chlorodane and Technical Chlorodane</b>
<b>T193979-10 ABCD5C-0-CL [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp; 8081 Pesticides</b>	11/22/19 15:00	5	11/26/19 00:00	<b>COMPOSITE 4:1 (A5D-0-CL, B5D-0-CL, C5D-0-CL, D5D-0-CL) Chlorodane and Technical Chlorodane</b>
<b>T193979-11 A6D-0 [Soil] Sampled 11/12/19 13:55 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-12 B6D-0 [Soil] Sampled 11/12/19 14:10 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-13 C6D-0 [Soil] Sampled 11/12/19 14:20 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-14 D6D-0 [Soil] Sampled 11/12/19 14:35 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-15 ABCD6C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp; 8081 Pesticides</b>	11/22/19 15:00	5	11/26/19 00:00	<b>COMPOSITE 4:1 (A6D-0, B6D-0, C6D-0, D6D-0) Chlorodane and Technical Chlorodane</b>
<b>T193979-16 A7D-0 [Soil] Sampled 11/12/19 14:45 (GMT-08:00) Pacific Time (US &amp; 6010 Individual Metals</b>	11/22/19 15:00	5	05/10/20 14:45	<b>As and Pb only</b>
<b>T193979-17 A7D-0-FR [Soil] Sampled 11/12/19 14:46 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-18 A7D-0-CL [Soil] Sampled 11/12/19 14:55 (GMT-08:00) Pacific Time (US &amp; 6010 Individual Metals</b>	11/22/19 15:00	5	05/10/20 14:55	<b>As and Pb only</b>

**WORK ORDER**

**T193979**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193979-19 B7D-0 [Soil] Sampled 11/12/19 15:05 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-20 B7D-0-FR [Soil] Sampled 11/12/19 15:06 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-21 C7D-0 [Soil] Sampled 11/12/19 15:15 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-22 C7D-0-FR [Soil] Sampled 11/12/19 15:16 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-23 D7D-0 [Soil] Sampled 11/12/19 15:30 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-24 D7D-0-FR [Soil] Sampled 11/12/19 15:31 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 15:31	As and Pb only
<b>T193979-25 ABCD7C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
<b>T193979-26 ABCD7C-0-FR [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/22/19 15:00	5	11/26/19 00:00	Chlorodane and Technical Chlorodane
<b>T193979-27 A8D-0 [Soil] Sampled 11/12/19 15:45 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-28 B8D-0 [Soil] Sampled 11/12/19 15:55 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-29 C8D-0 [Soil] Sampled 11/12/19 16:05 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/22/19 15:00	5	05/10/20 16:05	As and Pb only

**WORK ORDER**

**T193979**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193979-30 D8D-0 [Soil] Sampled 11/12/19 16:15 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193979-31 ABCD8C-0 [Soil] Sampled 11/12/19 00:00 (GMT-08:00) Pacific Time (US &amp; 8081 Pesticides</b>	11/22/19 15:00	5	11/26/19 00:00	<b>COMPOSITE 4:1 (A8D-0, B8D-0, C8D-0, D8D-0) Chlorodane and Technical Chlorodane</b>

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949.297.5027 Fax

21 November 2019

Heidi Cummings

NV5

48 Bellarmine Ct, Suite 40

Chico, CA 95928

RE: Hamilton Union High School

Enclosed are the results of analyses for samples received by the laboratory on 11/15/19 08:34. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee

Project Manager



25712 Commercentre Drive  
 Lake Forest, California 92630  
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 949.297.5027 Fax

NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

**Reported:**  
 11/21/19 09:25

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E2D-0	T193981-03	Soil	11/13/19 09:25	11/15/19 08:34
EF1EF2C-0	T193981-05	Soil	11/13/19 00:00	11/15/19 08:34
F3D-0	T193981-08	Soil	11/13/19 10:00	11/15/19 08:34
F3D-0-FR	T193981-10	Soil	11/13/19 10:01	11/15/19 08:34
EF3EF4C-0	T193981-15	Soil	11/13/19 00:00	11/15/19 08:34
EF3EF4C-0-CL	T193981-16	Soil	11/13/19 00:00	11/15/19 08:34
E5D-0	T193981-17	Soil	11/13/19 11:30	11/15/19 08:34
EFGH5C-0	T193981-21	Soil	11/13/19 00:00	11/15/19 08:34
H6D-0	T193981-25	Soil	11/13/19 13:10	11/15/19 08:34
EFGH6C-0	T193981-26	Soil	11/13/19 00:00	11/15/19 08:34
EB-2	T193981-27	Water	11/13/19 15:00	11/15/19 08:34
EB-3	T193981-28	Water	11/13/19 15:00	11/15/19 08:34
F7D-0	T193981-30	Soil	11/13/19 13:30	11/15/19 08:34
EFGH7C-0	T193981-33	Soil	11/13/19 00:00	11/15/19 08:34
H8D-0	T193981-40	Soil	11/13/19 15:25	11/15/19 08:34
EFGH8C-0	T193981-42	Soil	11/13/19 00:00	11/15/19 08:34
EFGH8C-0-CL	T193981-43	Soil	11/13/19 00:00	11/15/19 08:34

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Jeff Lee, Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/21/19 09:25

**DETECTIONS SUMMARY**

Sample ID:	E2D-0	Laboratory ID:	T193981-03			
Analyte	Result	Reporting Limit	Units	Method	Notes	
Lead	4.92	3.00	mg/kg	EPA 6010b		
Sample ID:	EF1EF2C-0	Laboratory ID:	T193981-05			
Analyte	Result	Reporting Limit	Units	Method	Notes	
4,4'-DDE	9.0	5.0	ug/kg	EPA 8081A		
Sample ID:	F3D-0	Laboratory ID:	T193981-08			
Analyte	Result	Reporting Limit	Units	Method	Notes	
Lead	5.46	3.00	mg/kg	EPA 6010b		
Sample ID:	F3D-0-FR	Laboratory ID:	T193981-10			
Analyte	Result	Reporting Limit	Units	Method	Notes	
Lead	5.42	2.73	mg/kg	EPA 6010b		
Sample ID:	EF3EF4C-0	Laboratory ID:	T193981-15			
Analyte	Result	Reporting Limit	Units	Method	Notes	
4,4'-DDE	8.2	5.0	ug/kg	EPA 8081A		
Sample ID:	EF3EF4C-0-CL	Laboratory ID:	T193981-16			
Analyte	Result	Reporting Limit	Units	Method	Notes	
4,4'-DDE	11	5.0	ug/kg	EPA 8081A		

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Jeff Lee, Project Manager

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**Sample ID:** E5D-0 **Laboratory ID:** T193981-17

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	5.67	3.00	mg/kg	EPA 6010b	

**Sample ID:** EFGH5C-0 **Laboratory ID:** T193981-21

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	7.7	5.0	ug/kg	EPA 8081A	

**Sample ID:** H6D-0 **Laboratory ID:** T193981-25

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	5.90	3.00	mg/kg	EPA 6010b	

**Sample ID:** EFGH6C-0 **Laboratory ID:** T193981-26

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
4,4'-DDE	8.5	5.0	ug/kg	EPA 8081A	

**Sample ID:** EB-2 **Laboratory ID:** T193981-27

No Results Detected

**Sample ID:** EB-3 **Laboratory ID:** T193981-28

No Results Detected

**Sample ID:** F7D-0 **Laboratory ID:** T193981-30

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	5.17	3.00	mg/kg	EPA 6010b	

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Jeff Lee, Project Manager

NV5  
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Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/21/19 09:25

**Sample ID:** EFGH7C-0

**Laboratory ID:** T193981-33

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
4,4'-DDE	8.3	5.0		ug/kg	EPA 8081A	

**Sample ID:** H8D-0

**Laboratory ID:** T193981-40

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Lead	5.84	3.00		mg/kg	EPA 6010b	

**Sample ID:** EFGH8C-0

**Laboratory ID:** T193981-42

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
4,4'-DDE	6.6	5.0		ug/kg	EPA 8081A	

**Sample ID:** EFGH8C-0-CL

**Laboratory ID:** T193981-43

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
4,4'-DDE	5.3	5.0		ug/kg	EPA 8081A	

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Jeff Lee, Project Manager



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48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/21/19 09:25

**E2D-0**  
**T193981-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
<b>Lead</b>	<b>4.92</b>	3.00	"	"	"	"	"	"	

SunStar Laboratories, Inc.



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Jeff Lee, Project Manager



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**EF1EF2C-0**  
**T193981-05 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>9.0</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		55.5 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		101 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager



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**F3D-0**  
**T193981-08 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
<b>Lead</b>	<b>5.46</b>	3.00	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager



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**F3D-0-FR**  
**T193981-10 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	4.55	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
<b>Lead</b>	<b>5.42</b>	2.73	"	"	"	"	"	"	

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Jeff Lee, Project Manager



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**EF3EF4C-0**  
**T193981-15 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>8.2</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		53.7 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		96.4 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager



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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 11/21/19 09:25
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**EF3EF4C-0-CL**  
**T193981-16 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>11</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		82.7 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		85.1 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager



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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 11/21/19 09:25
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**E5D-0**  
**T193981-17 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
<b>Lead</b>	<b>5.67</b>	3.00	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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**EFGH5C-0**  
**T193981-21 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>7.7</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		68.6 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		97.8 %		35-140	"	"	"	"	

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**H6D-0**  
**T193981-25 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
<b>Lead</b>	<b>5.90</b>	3.00	"	"	"	"	"	"	

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**EFGH6C-0**  
**T193981-26 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>8.5</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		65.5 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		93.1 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager

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Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
11/21/19 09:25

**EB-2**

**T193981-27 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Antimony	ND	50	ug/l	1	9111527	11/15/19	11/19/19	EPA 6010b	
Silver	ND	50	"	"	"	"	"	"	
Arsenic	ND	50	"	"	"	"	"	"	
Barium	ND	50	"	"	"	"	"	"	
Beryllium	ND	50	"	"	"	"	"	"	
Cadmium	ND	50	"	"	"	"	"	"	
Chromium	ND	50	"	"	"	"	"	"	
Cobalt	ND	50	"	"	"	"	"	"	
Copper	ND	50	"	"	"	"	"	"	
Lead	ND	50	"	"	"	"	"	"	
Molybdenum	ND	50	"	"	"	"	"	"	
Nickel	ND	50	"	"	"	"	"	"	
Selenium	ND	50	"	"	"	"	"	"	
Thallium	ND	50	"	"	"	"	"	"	
Vanadium	ND	50	"	"	"	"	"	"	
Zinc	ND	50	"	"	"	"	"	"	

**Cold Vapor Extraction EPA 7470/7471**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.50	ug/l	1	9111529	11/15/19	11/20/19	EPA 7470A Water	

**Organochlorine Pesticides by EPA Method 8081A**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
gamma-BHC (Lindane)	ND	1.00	"	"	"	"	"	"	
beta-BHC	ND	1.00	"	"	"	"	"	"	
delta-BHC	ND	1.00	"	"	"	"	"	"	
Heptachlor	ND	1.00	"	"	"	"	"	"	
Aldrin	ND	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	1.00	"	"	"	"	"	"	
Endosulfan I	ND	1.00	"	"	"	"	"	"	
4,4'-DDE	ND	1.00	"	"	"	"	"	"	

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Jeff Lee, Project Manager



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**EB-2**  
**T193981-27 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

Dieldrin	ND	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
Endrin	ND	1.00	"	"	"	"	"	"	
4,4'-DDD	ND	1.00	"	"	"	"	"	"	
Endosulfan II	ND	1.00	"	"	"	"	"	"	
4,4'-DDT	ND	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	1.00	"	"	"	"	"	"	
Methoxychlor	ND	1.00	"	"	"	"	"	"	
Endrin ketone	ND	1.00	"	"	"	"	"	"	
Toxaphene	ND	20.0	"	"	"	"	"	"	
Chlordane (tech)	ND	10.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		78.5 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		85.6 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager

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48 Bellarmine Ct, Suite 40  
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Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

Reported:  
11/21/19 09:25

**EB-3**

**T193981-28 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Antimony	ND	50	ug/l	1	9111527	11/15/19	11/19/19	EPA 6010b	
Silver	ND	50	"	"	"	"	"	"	
Arsenic	ND	50	"	"	"	"	"	"	
Barium	ND	50	"	"	"	"	"	"	
Beryllium	ND	50	"	"	"	"	"	"	
Cadmium	ND	50	"	"	"	"	"	"	
Chromium	ND	50	"	"	"	"	"	"	
Cobalt	ND	50	"	"	"	"	"	"	
Copper	ND	50	"	"	"	"	"	"	
Lead	ND	50	"	"	"	"	"	"	
Molybdenum	ND	50	"	"	"	"	"	"	
Nickel	ND	50	"	"	"	"	"	"	
Selenium	ND	50	"	"	"	"	"	"	
Thallium	ND	50	"	"	"	"	"	"	
Vanadium	ND	50	"	"	"	"	"	"	
Zinc	ND	50	"	"	"	"	"	"	

**Cold Vapor Extraction EPA 7470/7471**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.50	ug/l	1	9111529	11/15/19	11/20/19	EPA 7470A Water	

**Organochlorine Pesticides by EPA Method 8081A**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
gamma-BHC (Lindane)	ND	1.00	"	"	"	"	"	"	
beta-BHC	ND	1.00	"	"	"	"	"	"	
delta-BHC	ND	1.00	"	"	"	"	"	"	
Heptachlor	ND	1.00	"	"	"	"	"	"	
Aldrin	ND	1.00	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.00	"	"	"	"	"	"	
gamma-Chlordane	ND	1.00	"	"	"	"	"	"	
alpha-Chlordane	ND	1.00	"	"	"	"	"	"	
Endosulfan I	ND	1.00	"	"	"	"	"	"	
4,4'-DDE	ND	1.00	"	"	"	"	"	"	

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Jeff Lee, Project Manager

NV5  
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Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/21/19 09:25

**EB-3**

**T193981-28 (Water)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

Dieldrin	ND	1.00	ug/l	1	9111825	11/18/19	11/19/19	EPA 8081A	
Endrin	ND	1.00	"	"	"	"	"	"	
4,4'-DDD	ND	1.00	"	"	"	"	"	"	
Endosulfan II	ND	1.00	"	"	"	"	"	"	
4,4'-DDT	ND	1.00	"	"	"	"	"	"	
Endrin aldehyde	ND	1.00	"	"	"	"	"	"	
Endosulfan sulfate	ND	1.00	"	"	"	"	"	"	
Methoxychlor	ND	1.00	"	"	"	"	"	"	
Endrin ketone	ND	1.00	"	"	"	"	"	"	
Toxaphene	ND	20.0	"	"	"	"	"	"	
Chlordane (tech)	ND	10.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		75.5 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		85.8 %		35-140	"	"	"	"	

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**F7D-0**  
**T193981-30 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
<b>Lead</b>	<b>5.17</b>	3.00	"	"	"	"	"	"	

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**EFGH7C-0**  
**T193981-33 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>8.3</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		54.5 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		81.4 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager





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**H8D-0**  
**T193981-40 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Metals by EPA 6010B**

Arsenic	ND	5.00	mg/kg	1	9111532	11/15/19	11/18/19	EPA 6010b	
<b>Lead</b>	<b>5.84</b>	3.00	"	"	"	"	"	"	

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**EFGH8C-0**  
**T193981-42 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>6.6</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		82.1 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		104 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager



25712 Commercentre Drive  
 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 11/21/19 09:25
--	--	-----------------------------

**EFGH8C-0-CL**  
**T193981-43 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SunStar Laboratories, Inc.**

**Organochlorine Pesticides by EPA Method 8081A**

alpha-BHC	ND	5.0	ug/kg	1	9111517	11/15/19	11/18/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
<b>4,4'-DDE</b>	<b>5.3</b>	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Chlordane (tech)	ND	50	"	"	"	"	"	"	
Chlordane (Total)	ND	5.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		63.0 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		90.1 %		35-140	"	"	"	"	

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Jeff Lee, Project Manager



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NV5	Project: Hamilton Union High School	
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	Reported:
Chico CA, 95928	Project Manager: Heidi Cummings	11/21/19 09:25

**Metals by EPA 6010B - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111527 - EPA 3010A**

<b>Blank (9111527-BLK1)</b>				Prepared: 11/15/19 Analyzed: 11/19/19						
Antimony	ND	50	ug/l							
Silver	ND	50	"							
Arsenic	ND	50	"							
Barium	ND	50	"							
Beryllium	ND	50	"							
Cadmium	ND	50	"							
Chromium	ND	50	"							
Cobalt	ND	50	"							
Copper	ND	50	"							
Lead	ND	50	"							
Molybdenum	ND	50	"							
Nickel	ND	50	"							
Selenium	ND	50	"							
Thallium	ND	50	"							
Vanadium	ND	50	"							
Zinc	ND	50	"							

**LCS (9111527-BS1)**

<b>LCS (9111527-BS1)</b>				Prepared: 11/15/19 Analyzed: 11/19/19						
Arsenic	525	50	ug/l	500	105	75-125				
Barium	538	50	"	500	108	75-125				
Cadmium	543	50	"	500	109	75-125				
Chromium	539	50	"	500	108	75-125				
Lead	525	50	"	500	105	75-125				

**Batch 9111532 - EPA 3050B**

<b>Blank (9111532-BLK1)</b>				Prepared: 11/15/19 Analyzed: 11/18/19						
Antimony	ND	3.00	mg/kg							
Arsenic	ND	5.00	"							
Barium	ND	1.00	"							
Beryllium	ND	1.00	"							
Cadmium	ND	2.00	"							
Chromium	ND	2.00	"							
Cobalt	ND	2.00	"							
Copper	ND	1.00	"							
Lead	ND	3.00	"							

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager



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 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

NV5	Project: Hamilton Union High School	Reported:
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	11/21/19 09:25
Chico CA, 95928	Project Manager: Heidi Cummings	

**Metals by EPA 6010B - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111532 - EPA 3050B**

**Blank (9111532-BLK1)**

Prepared: 11/15/19 Analyzed: 11/18/19

Molybdenum	ND	5.00	mg/kg							
Nickel	ND	2.00	"							
Selenium	ND	5.00	"							
Silver	ND	2.00	"							
Thallium	ND	2.00	"							
Vanadium	ND	5.00	"							
Zinc	ND	1.00	"							

**LCS (9111532-BS1)**

Prepared: 11/15/19 Analyzed: 11/18/19

Arsenic	97.4	5.00	mg/kg	100		97.4	75-125			
Barium	98.5	1.00	"	100		98.5	75-125			
Cadmium	98.5	2.00	"	100		98.5	75-125			
Chromium	98.3	2.00	"	100		98.3	75-125			
Lead	99.5	3.00	"	100		99.5	75-125			

**Matrix Spike (9111532-MS1)**

Source: T193974-24

Prepared: 11/15/19 Analyzed: 11/18/19

Arsenic	73.0	5.00	mg/kg	99.0		73.7	75-125			QM-05
Barium	114	1.00	"	99.0		115	75-125			QM-05
Cadmium	70.4	2.00	"	99.0		71.1	75-125			QM-05
Chromium	82.1	2.00	"	99.0		82.9	75-125			QM-05
Lead	76.9	3.00	"	99.0		77.7	75-125			QM-05

**Matrix Spike Dup (9111532-MSD1)**

Source: T193974-24

Prepared: 11/15/19 Analyzed: 11/18/19

Arsenic	66.9	5.00	mg/kg	93.5		71.6	75-125	8.64	20	QM-05
Barium	96.5	1.00	"	93.5		103	75-125	16.7	20	QM-05
Cadmium	63.8	2.00	"	93.5		68.2	75-125	9.89	20	QM-05
Chromium	72.8	2.00	"	93.5		77.9	75-125	11.9	20	QM-05
Lead	68.9	3.00	"	93.5		73.8	75-125	11.0	20	QM-05

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager



25712 Commercentre Drive  
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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 11/21/19 09:25

**Cold Vapor Extraction EPA 7470/7471 - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111529 - EPA 7470A Water**

**Blank (9111529-BLK1)**

Prepared: 11/15/19 Analyzed: 11/20/19

Mercury	ND	0.50	ug/l							
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**LCS (9111529-BS1)**

Prepared: 11/15/19 Analyzed: 11/20/19

Mercury	4.42	0.50	ug/l	5.00		88.5	80-120			
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**Matrix Spike (9111529-MS1)**

Source: T193981-27

Prepared: 11/15/19 Analyzed: 11/20/19

Mercury	4.10	0.50	ug/l	5.00	ND	81.9	75-125			
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**Matrix Spike Dup (9111529-MSD1)**

Source: T193981-27

Prepared: 11/15/19 Analyzed: 11/20/19

Mercury	4.22	0.50	ug/l	5.00	ND	84.4	75-125	2.91	20	
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Jeff Lee, Project Manager



25712 Commercentre Drive  
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NV5  
 48 Bellarmine Ct, Suite 40  
 Chico CA, 95928

Project: Hamilton Union High School  
 Project Number: 70779.01.001.003  
 Project Manager: Heidi Cummings

Reported:  
 11/21/19 09:25

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111517 - EPA 3550 ECD/GCMS**

**Blank (9111517-BLK1)**

Prepared: 11/15/19 Analyzed: 11/18/19

alpha-BHC	ND	5.0	ug/kg							
gamma-BHC (Lindane)	ND	5.0	"							
beta-BHC	ND	5.0	"							
delta-BHC	ND	5.0	"							
Heptachlor	ND	5.0	"							
Aldrin	ND	5.0	"							
Heptachlor epoxide	ND	5.0	"							
gamma-Chlordane	ND	5.0	"							
alpha-Chlordane	ND	5.0	"							
Endosulfan I	ND	5.0	"							
4,4'-DDE	ND	5.0	"							
Dieldrin	ND	5.0	"							
Endrin	ND	5.0	"							
4,4'-DDD	ND	5.0	"							
Endosulfan II	ND	5.0	"							
4,4'-DDT	ND	5.0	"							
Endrin aldehyde	ND	5.0	"							
Endosulfan sulfate	ND	5.0	"							
Methoxychlor	ND	5.0	"							
Endrin ketone	ND	5.0	"							
Toxaphene	ND	20	"							
Chlordane (tech)	ND	50	"							
Chlordane (Total)	ND	5.0	"							
Surrogate: Tetrachloro-meta-xylene	9.16		"	10.1		90.6	35-140			
Surrogate: Decachlorobiphenyl	14.3		"	10.1		141	35-140			S-GC

**LCS (9111517-BS1)**

Prepared: 11/15/19 Analyzed: 11/19/19

gamma-BHC (Lindane)	43.0	5.0	ug/kg	40.4		106	40-120			
Heptachlor	43.2	5.0	"	40.4		107	40-120			
Aldrin	39.1	5.0	"	40.4		96.8	40-120			
Dieldrin	43.4	5.0	"	40.4		108	40-120			
Endrin	43.8	5.0	"	40.4		109	40-120			
4,4'-DDT	41.7	5.0	"	40.4		103	33-147			
Surrogate: Tetrachloro-meta-xylene	10.0		"	10.1		99.2	35-140			
Surrogate: Decachlorobiphenyl	11.0		"	10.1		109	35-140			

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Jeff Lee, Project Manager



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NV5	Project: Hamilton Union High School	Reported:
48 Bellarmine Ct, Suite 40	Project Number: 70779.01.001.003	11/21/19 09:25
Chico CA, 95928	Project Manager: Heidi Cummings	

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111517 - EPA 3550 ECD/GCMS**

**LCS Dup (9111517-BSD1)**

Prepared: 11/15/19 Analyzed: 11/19/19

gamma-BHC (Lindane)	41.5	5.0	ug/kg	40.4	103	40-120	3.54	30	
Heptachlor	42.8	5.0	"	40.4	106	40-120	0.838	30	
Aldrin	40.0	5.0	"	40.4	98.9	40-120	2.19	30	
Dieldrin	46.2	5.0	"	40.4	114	40-120	6.26	30	
Endrin	46.6	5.0	"	40.4	115	40-120	6.06	30	
4,4'-DDT	45.5	5.0	"	40.4	113	33-147	8.74	30	
Surrogate: Tetrachloro-meta-xylene	8.92		"	10.1	88.4	35-140			
Surrogate: Decachlorobiphenyl	12.1		"	10.1	120	35-140			

**Batch 9111825 - EPA 3510C GCMS/ECD**

**Blank (9111825-BLK1)**

Prepared: 11/18/19 Analyzed: 11/19/19

alpha-BHC	ND	1.00	ug/l						
gamma-BHC (Lindane)	ND	1.00	"						
beta-BHC	ND	1.00	"						
delta-BHC	ND	1.00	"						
Heptachlor	ND	1.00	"						
Aldrin	ND	1.00	"						
Heptachlor epoxide	ND	1.00	"						
gamma-Chlordane	ND	1.00	"						
alpha-Chlordane	ND	1.00	"						
Endosulfan I	ND	1.00	"						
4,4'-DDE	ND	1.00	"						
Dieldrin	ND	1.00	"						
Endrin	ND	1.00	"						
4,4'-DDD	ND	1.00	"						
Endosulfan II	ND	1.00	"						
4,4'-DDT	ND	1.00	"						
Endrin aldehyde	ND	1.00	"						
Endosulfan sulfate	ND	1.00	"						
Methoxychlor	ND	1.00	"						
Endrin ketone	ND	1.00	"						
Chlordane (tech)	ND	10.0	"						
Toxaphene	ND	20.0	"						
Surrogate: Tetrachloro-meta-xylene	ND		"	1.00	82.3	35-140			
Surrogate: Decachlorobiphenyl	0.965		"	1.00	96.5	35-140			

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager





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NV5 48 Bellarmine Ct, Suite 40 Chico CA, 95928	Project: Hamilton Union High School Project Number: 70779.01.001.003 Project Manager: Heidi Cummings	Reported: 11/21/19 09:25
--	--	-----------------------------

**Organochlorine Pesticides by EPA Method 8081A - Quality Control**

**SunStar Laboratories, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9111825 - EPA 3510C GCMS/ECD**

**LCS (9111825-BS1)**

Prepared: 11/18/19 Analyzed: 11/19/19

gamma-BHC (Lindane)	3.79	1.00	ug/l	4.00		94.6	40-120			
Heptachlor	3.79	1.00	"	4.00		94.7	40-120			
Aldrin	3.41	1.00	"	4.00		85.2	40-120			
Dieldrin	4.05	1.00	"	4.00		101	40-120			
Endrin	4.24	1.00	"	4.00		106	40-120			
4,4'-DDT	4.15	1.00	"	4.00		104	40-120			
Surrogate: Tetrachloro-meta-xylene	0.737		"	1.00		73.7	35-140			
Surrogate: Decachlorobiphenyl	0.928		"	1.00		92.8	35-140			

**LCS Dup (9111825-BSD1)**

Prepared: 11/18/19 Analyzed: 11/19/19

gamma-BHC (Lindane)	4.28	1.00	ug/l	4.00		107	40-120	12.2	20	
Heptachlor	4.26	1.00	"	4.00		106	40-120	11.7	20	
Aldrin	3.96	1.00	"	4.00		99.0	40-120	15.0	20	
Dieldrin	4.45	1.00	"	4.00		111	40-120	9.33	20	
Endrin	4.59	1.00	"	4.00		115	40-120	7.84	20	
4,4'-DDT	4.42	1.00	"	4.00		110	40-120	6.31	20	
Surrogate: Tetrachloro-meta-xylene	0.866		"	1.00		86.6	35-140			
Surrogate: Decachlorobiphenyl	0.978		"	1.00		97.8	35-140			

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager

NV5  
48 Bellarmine Ct, Suite 40  
Chico CA, 95928

Project: Hamilton Union High School  
Project Number: 70779.01.001.003  
Project Manager: Heidi Cummings

**Reported:**  
11/21/19 09:25

### Notes and Definitions

S-GC Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

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SunStar Laboratories, Inc.



Jeff Lee, Project Manager

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**Chain of Custody Record**

SunStar Laboratories  
 25712 Commercentre Dr  
 Lake Forest, CA 92630  
 949-297-5020

Client: NV5  
 Address: 48 Bellamine Court, Ste 40, Chico, CA 95928  
 Phone: 530-894-2487 Fax: 530-894-2437  
 Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019  
 Project Name: Hamilton Union High School  
 Collector: HJC/CWB Client Project #: 70779.01.001.003  
 Batch #: 793981 EDF #: \_\_\_\_\_

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Lab to prepare EF-1/EF-2C-0 as 4:1 composite of E1D-0, F1D-0, E2D-0 and F2D-0	Laboratory ID #	Comments/Preservative	Total # of
E1D-0	11/13/2019	0850	SOIL	8 oz jar					01		1
F1D-0	11/13/2019	0900	SOIL	8 oz jar					02		1
E2D-0	11/13/2019	0925	SOIL	8 oz jar	X	X			03		1
F2D-0	11/13/2019	0915	SOIL	8 oz jar					04		1
E3D-0	11/13/2019	0940	SOIL	8 oz jar					06		1
E3D-0-CL	11/13/2019	0945	SOIL	8 oz jar					07		1
F3D-0	11/13/2019	1000	SOIL	8 oz jar	X	X			08		1
F3D-0-CL	11/13/2019	1005	SOIL	8 oz jar					09		1
F3D-0-FR	11/13/2019	1001	SOIL	8 oz jar	X	X			10		1
E4D-0	11/13/2019	1050	SOIL	8 oz jar					11		1
E4D-0-CL	11/13/2019	1105	SOIL	8 oz jar					12		1
F4D-0	11/13/2019	1025	SOIL	8 oz jar					13		1
F4D-0-CL	11/13/2019	1035	SOIL	8 oz jar					14		1
Relinquished by: (signature) <i>[Signature]</i>			Date / Time	Received by: (signature) <i>[Signature]</i>	Date / Time	Total # of containers		Chain of Custody seals <i>[Signature]</i>		Notes	
Relinquished by: (signature) <i>[Signature]</i>			11/14/19 1600	Received by: (signature) <i>[Signature]</i>	11/14/19 1600	Received good condition/cold		Seals intact? <i>[Signature]</i>		Method 8081 report Chlordane and Technical Chlordane Please return H&K/NV5 ice chests	
Relinquished by: (signature) <i>[Signature]</i>			11/15/19 8:34	Received by: (signature) <i>[Signature]</i>	11/15/19 8:34	Turn around time: 5 day		Seals intact? <i>[Signature]</i>		2.5%	

Sample disposal instructions: Disposal @ \$2.00 each

Return to client \_\_\_\_\_ Pickup \_\_\_\_\_

SunStar Laboratories  
 25712 Commercentre Dr  
 Lake Forest, CA 92630  
 949-297-5020

Chain of Custody Record

Client: NV5  
 Address: 48 Bellarmine Court, Ste 40, Chico, CA 95928  
 Phone: 530-894-2487 Fax: 530-894-2437  
 Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019  
 Project Name: Hamilton Union High School  
 Collector: HJC/CWB Client Project #: 70779.01.001.003  
 Batch #: ~~7998~~ 79981 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Title 22 Metals	Laboratory ID #	Comments/Preservative	Total # of
E5D-0	11/13/2019	1130	SOIL	8 oz jar	X					Lab to prepare EF3EF4C-0-CL as 4:1 composite of E3D-0-CL, F3D-0-CL, E4D-0-CL and F4D-0-	17
F5D-0	11/13/2019	1140	SOIL	8 oz jar							18
G5D-0	11/13/2019	1155	SOIL	8 oz jar							19
H5D-0	11/13/2019	1210	SOIL	8 oz jar							20
E6D-0	11/13/2019	1230	SOIL	8 oz jar			X			Lab to prepare EF6GH5C-0 as 4:1 composite of E5D-0, F5D-0, G5D-0 and H5D-0	22
F6D-0	11/13/2019	1240	SOIL	8 oz jar							23
G6D-0	11/13/2019	1255	SOIL	8 oz jar							24
H6D-0	11/13/2019	1310	SOIL	8 oz jar	X						25
EB-2	11/12/2019	1500	Water	Amber, plastic			X				27
EB-3	11/13/2019	1500	Water	Amber, plastic			X				28
Relinquished by: (signature)	Date / Time		Received by: (signature)	Date / Time						Total # of containers	
<i>Heidi Cummings</i>	11/14/19 1600		<i>GSO</i>	11/14/19 1600						Chain of Custody seals <i>OK</i> Seals intact? <i>OK</i> Received good condition/cold	
Relinquished by: (signature)	Date / Time		Received by: (signature)	Date / Time						Turn around time: 5 day	
<i>GSO</i>	11-15-19 8:34		<i>Heidi Cummings</i>	11-15-19 8:34						Method 8081 report Chloroform and Technical Chloroform Please return H&K/NV5 Ice chests	25

Sample disposal instructions: Disposal @ \$2.00 each

Return to client \_\_\_\_\_ Pickup \_\_\_\_\_

Client: NV5  
Address: 48 Bellamine Court, Ste 40, Chico, CA 95928  
Phone: 530-894-2487 Fax: 530-894-2437  
Project Manager: Heidi Cummings, heidi.cummings@NV5.com

Date: 11/14/2019  
Project Name: Hamilton Union High School  
Collector: HJGCWB Client Project #: 70779.01.001.003  
Batch #: 7192981 EDF #: \_\_\_\_\_

Sample ID	Date Sampled	Time	Sample Type	Container Type	Arsenic EPA 6010	Lead EPA 6010	OCPs EPA 8081	Laboratory ID #	Comments/Preservative	Total # of
E7D-0	11/13/2019	1320	SOIL	8 oz jar	X	X		29		1
F7D-0	11/13/2019	1330	SOIL	8 oz jar				30		1
G7D-0	11/13/2019	1345	SOIL	8 oz jar				31		1
H7D-0	11/13/2019	1400	SOIL	8 oz jar			X	32		1
E8D-0	11/13/2019	1415	SOIL	8 oz jar				34		1
F8D-0-CL	11/13/2019	1425	SOIL	8 oz jar				35		1
F8D-0	11/13/2019	1435	SOIL	8 oz jar				36		1
F8D-0-CL	11/13/2019	1445	SOIL	8 oz jar				37		1
G8D-0	11/13/2019	1500	SOIL	8 oz jar				38		1
G8D-0-CL	11/13/2019	1510	SOIL	8 oz jar				39		1
H8D-0	11/13/2019	1525	SOIL	8 oz jar	X	X		40		1
H8D-0-CL	11/13/2019	1535	SOIL	8 oz jar			X	41		1
Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>11/14/19 1600</u>					Received by: (signature) <u>[Signature]</u> Date / Time <u>11/14/19 1600</u>					
Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>11/15/19 8:34</u>					Received by: (signature) <u>[Signature]</u> Date / Time <u>11/15/19 8:34</u>					
Relinquished by: (signature) <u>[Signature]</u> Date / Time _____					Received by: (signature) _____ Date / Time _____					
Sample disposal instructions: Disposal @ \$2.00 each _____					Return to client _____	Pickup _____				
Total # of containers: _____					Chain of Custody seals: _____					Seals intact: <u>2</u> / <u>2</u>
Received good condition/cold					Turn around time: <u>5 day</u>					Notes: Method 8081 report Chlordane and Technical Chlordane Please return H&K/NV5 ice chests

## SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: 7193981  
 Client Name: NV5 Project: HAMILTON UNION HIGH SCHOOL  
 Delivered by:  Client  SunStar Courier  GSO  FedEx  Other  
 If Courier, Received by: \_\_\_\_\_ Date/Time Courier Received: \_\_\_\_\_  
 Lab Received by: SUNNY Date/Time Lab Received: 11-15-19 / 8:34  
 Total number of coolers received: 1 Thermometer ID: SC-1 Calibration due: 6/27/20

Temperature: Cooler #1	1.3	°C +/- the CF (+ 1.2°C) =	2.5	°C corrected temperature
Temperature: Cooler #2		°C +/- the CF (+ 1.2°C) =		°C corrected temperature
Temperature: Cooler #3		°C +/- the CF (+ 1.2°C) =		°C corrected temperature
<b>Temperature criteria = ≤ 6°C (no frozen containers)</b>		Within criteria?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>If NO:</b>				
Samples received on ice?		<input type="checkbox"/> Yes	<input type="checkbox"/> No → Complete Non-Conformance Sheet	
If on ice, samples received same day collected?		<input type="checkbox"/> Yes → Acceptable	<input type="checkbox"/> No → Complete Non-Conformance Sheet	

Custody seals intact on cooler/sample  Yes  No\*  N/A  
 Sample containers intact  Yes  No\*  
 Sample labels match Chain of Custody IDs  Yes  No\*  
 Total number of containers received match COC  Yes  No\*  
 Proper containers received for analyses requested on COC  Yes  No\*  
 Proper preservative indicated on COC/containers for analyses requested  Yes  No\*  N/A  
 Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times  Yes  No\*

\* Complete Non-Conformance Receiving Sheet if checked      Cooler/Sample Review - Initials and date: SL 11-15-19

**Comments:** \_\_\_\_\_

**WORK ORDER**

**T193981**

**Client: NV5**  
**Project: Hamilton Union High School**

**Project Manager: Jeff Lee**  
**Project Number: 70779.01.001.003**

**Report To:**

NV5  
 Heidi Cummings  
 48 Bellarmine Ct, Suite 40  
 Chico, CA 95928

Date Due: 11/22/19 17:00 (5 day TAT)

Received By: Sunny Lounethone

Date Received: 11/15/19 08:34

Logged In By: Sunny Lounethone

Date Logged In: 11/15/19 11:57

Samples Received at: **2.5°C**  
 Custody Seals Yes Received On Ice Yes  
 Containers Intact Yes  
 COC/Labels Agree Yes  
 Preservation Confir No

Analysis	Due	TAT	Expires	Comments
<b>T193981-01 E1D-0 [Soil] Sampled 11/13/19 08:50 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-02 F1D-0 [Soil] Sampled 11/13/19 09:00 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-03 E2D-0 [Soil] Sampled 11/13/19 09:25 (GMT-08:00) Pacific Time (US &amp;</b> 6010 Individual Metals	11/22/19 15:00	5	05/11/20 09:25	As and Pb only
<b>T193981-04 F2D-0 [Soil] Sampled 11/13/19 09:15 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-05 EF1EF2C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b> 8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	COMPOSITE 4:1 (E1D-0, F1D-0, E2D-0, F2D-0)
<b>T193981-06 E3D-0 [Soil] Sampled 11/13/19 09:40 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-07 E3D-0-CL [Soil] Sampled 11/13/19 09:45 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				

**WORK ORDER**

**T193981**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193981-08 F3D-0 [Soil] Sampled 11/13/19 10:00 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 10:00	As and Pb only
<b>T193981-09 F3D-0-CL [Soil] Sampled 11/13/19 10:05 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193981-10 F3D-0-FR [Soil] Sampled 11/13/19 10:01 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 10:01	As and Pb only
<b>T193981-11 E4D-0 [Soil] Sampled 11/13/19 10:50 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193981-12 E4D-0-CL [Soil] Sampled 11/13/19 11:05 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193981-13 F4D-0 [Soil] Sampled 11/13/19 10:25 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193981-14 F4D-0-CL [Soil] Sampled 11/13/19 10:35 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193981-15 EF3EF4C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	COMPOSITE 4:1 (E3D-0, F3D-0, E4D-0, F4D-0)
<b>T193981-16 EF3EF4C-0-CL [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	COMPOSITE 4:1 (E3D-0-CL, F3D-0-CL, E4D-0-CL, F4D-0-CL)
<b>T193981-17 E5D-0 [Soil] Sampled 11/13/19 11:30 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 11:30	As and Pb only
<b>T193981-18 F5D-0 [Soil] Sampled 11/13/19 11:40 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				



**WORK ORDER**

**T193981**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193981-19 G5D-0 [Soil] Sampled 11/13/19 11:55 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-20 H5D-0 [Soil] Sampled 11/13/19 12:10 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-21 EFGH5C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp; 8081 Pesticides</b>	11/22/19 15:00	5	11/27/19 00:00	<b>COMPOSITE 4:1 (E5D-0, F5D-0, G5D-0, H5D-0)</b>
<b>T193981-22 E6D-0 [Soil] Sampled 11/13/19 12:30 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-23 F6D-0 [Soil] Sampled 11/13/19 12:40 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-24 G6D-0 [Soil] Sampled 11/13/19 12:55 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-25 H6D-0 [Soil] Sampled 11/13/19 13:10 (GMT-08:00) Pacific Time (US &amp; 6010 Individual Metals</b>	11/22/19 15:00	5	05/11/20 13:10	<b>As and Pb only</b>
<b>T193981-26 EFGH6C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp; 8081 Pesticides</b>	11/22/19 15:00	5	11/27/19 00:00	<b>COMPOSITE 4:1 (E6D-0, F6D-0, G6D-0, H6D-0)</b>
<b>T193981-27 EB-2 [Water] Sampled 11/13/19 15:00 (GMT-08:00) Pacific Time (US &amp; 6010 Title 22</b>	11/22/19 15:00	5	05/11/20 15:00	
<b>8081 Pesticides</b>	11/22/19 15:00	5	11/20/19 15:00	
<b>T193981-28 EB-3 [Water] Sampled 11/13/19 15:00 (GMT-08:00) Pacific Time (US &amp; 6010 Title 22</b>	11/22/19 15:00	5	05/11/20 15:00	
<b>8081 Pesticides</b>	11/22/19 15:00	5	11/20/19 15:00	

**WORK ORDER**

**T193981**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193981-29 E7D-0 [Soil] Sampled 11/13/19 13:20 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-30 F7D-0 [Soil] Sampled 11/13/19 13:30 (GMT-08:00) Pacific Time (US &amp; 6010 Individual Metals 11/22/19 15:00 5 05/11/20 13:30 As and Pb only</b>				
<b>T193981-31 G7D-0 [Soil] Sampled 11/13/19 13:45 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-32 H7D-0 [Soil] Sampled 11/13/19 14:00 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-33 EFGH7C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp; 8081 Pesticides 11/22/19 15:00 5 11/27/19 00:00 COMPOSITE 4:1 (E7D-0, F7D-0, G7D-0, H7D-0)</b>				
<b>T193981-34 E8D-0 [Soil] Sampled 11/13/19 14:15 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-35 E8D-0-CL [Soil] Sampled 11/13/19 14:25 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-36 F8D-0 [Soil] Sampled 11/13/19 14:35 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-37 F8D-0-CL [Soil] Sampled 11/13/19 14:45 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-38 G8D-0 [Soil] Sampled 11/13/19 15:00 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				
<b>T193981-39 G8D-0-CL [Soil] Sampled 11/13/19 15:10 (GMT-08:00) Pacific Time (US &amp; [NO ANALYSES]</b>				

**WORK ORDER**

**T193981**

<b>Client:</b> NV5	<b>Project Manager:</b> Jeff Lee
<b>Project:</b> Hamilton Union High School	<b>Project Number:</b> 70779.01.001.003

Analysis	Due	TAT	Expires	Comments
<b>T193981-40 H8D-0 [Soil] Sampled 11/13/19 15:25 (GMT-08:00) Pacific Time (US &amp;</b>				
6010 Individual Metals	11/22/19 15:00	5	05/11/20 15:25	As and Pb only
<b>T193981-41 H8D-0-CL [Soil] Sampled 11/13/19 15:35 (GMT-08:00) Pacific Time (US &amp;</b>				
[NO ANALYSES]				
<b>T193981-42 EFGH8C-0 [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	COMPOSITE 4:1 (E8D-0, F8D-0, G8D-0, H8D-0)
<b>T193981-43 EFGH8C-0-CL [Soil] Sampled 11/13/19 00:00 (GMT-08:00) Pacific Time (US &amp;</b>				
8081 Pesticides	11/22/19 15:00	5	11/27/19 00:00	COMPOSITE 4:1 (E8D-0-CL, F8D-0-CL, G8D-0-CL, H8D-0-CL)

**Analysis groups included in this work order**

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6010 Title 22

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subgroup 6010B T22                      7470/71 Hg

## APPENDIX C

### Data Quality Assessment

## DATA QUALITY ASSESSMENT

Quality assurance and quality control (QA/QC) measures were incorporated into the Preliminary Endangerment Assessment (PEA) to monitor field and laboratory procedures and make sure that data of a known quality were produced. The QA/QC measures included analysis of QA/QC samples and internal laboratory QA/QC procedures and data evaluation. In addition, field standard operating procedures were followed to ensure that sample integrity was maintained.

QA/QC samples included field replicates and co-located samples. Analytical results for the PEA QA/QC samples are presented in the laboratory reports contained in Appendix B. Field and laboratory replicate analyses are discussed below in the section on Accuracy and Precision.

Internal laboratory QA/QC procedures were implemented in accordance with the requirements of each analytical method and as specified in the United States Environmental Protection Agency (USEPA) document SW-846, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*. Internal laboratory QA/QC methods included method blanks, surrogates, matrix spike and matrix spike duplicates (MS/MSD), laboratory control samples (LCS) and LCS duplicates (LCSD), and instrument calibration checks, as specified by the analytical method.

Laboratory data sets, including QA/QC samples, were evaluated to make sure that data are of an acceptable quality for use in the PEA. The data evaluation was based upon data quality indicators including accuracy, precision, method detection and reporting limits (MDLs and RLs), completeness, representativeness and comparability. The evaluation was conducted in general accordance with guidelines set forth in the USEPA National Functional Guidelines.

Results of the data evaluation indicate that the data generated are of acceptable quality for use in the PEA and screening level human health risk assessment (HHRA). None of the data were unusable based on the data evaluation, except the original data for arsenic. A summary of the data evaluation is presented below.

## DATA REVIEW AND VALIDATION

Field personnel were responsible for following NV5's sampling and documentation procedures to facilitate the collection of defensible and justifiable data. Responsibilities for data review and validation are outlined below:

- Field data review and validation was performed by Craig Bourne, a qualified environmental professional, and was overseen by Heidi Cummings, the project manager.
- Laboratory data review and validation were performed by a chemist or laboratory analyst as described in the laboratory quality assurance programs, as summarized in the laboratory reports (Appendix B). Data failing to meet the laboratory acceptance criteria were flagged with a qualifier identifying the associated problem in the laboratory report.
- Secondary validation for field data and review of laboratory quality control reports was performed by the project manager.

## ACCURACY AND PRECISION

Accuracy and precision were evaluated by assessing laboratory hold times, internal laboratory QA/QC results and field duplicate analyses. Results are as follows:

- SunStar Work Order 193941f: Samples DD5D-0, DD6D-0, and DD7D-0 contained analytes above calibration limits and were rerun at a dilution. Reporting limits for OCPs in sample DD5D-0 were raised to account for dilution necessary due to high levels of interfering compounds and/or matrix effect. Surrogate recovery was outside of established control limits. The data was accepted based on valid recovery of surrogates in client samples and remaining QC including continuing calibration verification (CCV).
- SunStar Work Order 193979f: Surrogate recovery was outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
- SunStar Work Order 193981f: Surrogate recovery was outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
- SunStar Work Order 194029f: No qualifiers.

These flags do not signify a negative impact on data usability.

The relative percent difference was calculated to assess the variance between the normal field samples and their corresponding field replicate and/or co-located samples. A concentration equal to one half the reporting limit was used for those samples that were reported as not detected. Only normal and replicate or co-located samples with detections were evaluated. The relative percent difference was calculated using the following formula:

$$\text{Relative Percent Difference (RPD)} = \frac{(|x - y|)}{((x + y)/2)} \quad (1)$$

Where:

- x = concentration of normal sample
- y = concentration of QA/QC sample

Sample Name	Analyte	Result	Detection Limit	Reporting Limit	Units	Sample Type	Relative Percent Difference
<b>USEPA Method 6010B &amp; 6020</b>							
A7D-0	Arsenic	5.9	0.0025	0.25	mg/kg	NS	
A7D-0-CL	Arsenic	5.7	0.0025	0.25	mg/kg	CL	3.4
A7D-0	Lead	5.35	0.01	3	mg/kg	NS	
A7D-0-CL	Lead	5.35	0.01	3	mg/kg	CL	0.0
B3D-0	Arsenic	5.3	0.0025	0.25	mg/kg	NS	
B3D-0-FR	Arsenic	5.0	0.0025	0.25	mg/kg	FR	5.8
B3D-0	Lead	4.67	0.01	3	mg/kg	NS	
B3D-0-FR	Lead	4.28	0.01	3	mg/kg	FR	8.7
C1D-0	Arsenic	4.7	0.0025	0.25	mg/kg	NS	

Sample Name	Analyte	Result	Detection Limit	Reporting Limit	Units	Sample Type	Relative Percent Difference
USEPA Method 6010B & 6020 continued							
C1D-0-CL	Arsenic	4.8	0.0025	0.25	mg/kg	CL	2.1
C1D-0	Lead	4.33	0.01	3	mg/kg	NS	
C1D-0-CL	Lead	4.72	0.01	3	mg/kg	CL	8.6
D7D-0	Arsenic	6.4	0.0025	0.25	mg/kg	NS	
D7D-0-FR	Arsenic	5.2	0.0025	0.25	mg/kg	FR	20.7
D7D-0	Lead	5.75	0.01	3	mg/kg	NS	
D7D-0-FR	Lead	5.61	0.01	3	mg/kg	FR	2.5
F3D-0	Arsenic	5.5	0.0025	0.25	mg/kg	NS	
F3D-0-FR	Arsenic	5.4	0.0025	0.25	mg/kg	FR	1.8
F3D-0	Lead	5.46	0.01	3	mg/kg	NS	
F3D-0-FR	Lead	5.42	0.01	3	mg/kg	FR	0.7
HHS3D-2	Arsenic	4.7	0.0025	0.25	mg/kg	NS	
HHS3D-2-FR	Arsenic	5.2	0.0025	0.25	mg/kg	FR	10.1
HHS3D-2	Lead	4.07	0.01	3	mg/kg	NS	
HHS3D-2-FR	Lead	3.74	0.01	3	mg/kg	FR	8.5
HHS5D-2	Arsenic	4.7	0.0025	0.25	mg/kg	NS	
HHS5D-2-CL	Arsenic	4.6	0.0025	0.25	mg/kg	CL	2.2
HHS5D-2	Lead	3.72	0.01	3	mg/kg	NS	
HHS5D-2-CL	Lead	4.07	0.01	3	mg/kg	CL	9.0
DD2D-0	Arsenic	5.3	0.0025	0.25	mg/kg	NS	
DD2D-0-CL	Arsenic	4.8	0.0025	0.25	mg/kg	CL	9.9
DD2D-0	Barium	65	0.3	1	mg/kg	NS	
DD2D-0-CL	Barium	65	0.3	1	mg/kg	CL	0.0
DD2D-0	Cadmium	0.51J	0.1	2	mg/kg	NS	
DD2D-0-CL	Cadmium	0.48J	0.1	2	mg/kg	CL	6.1
DD2D-0	Chromium	40	0.1	2	mg/kg	NS	
DD2D-0-CL	Chromium	37	0.1	2	mg/kg	CL	7.8
DD2D-0	Cobalt	9.2	0.2	2	mg/kg	NS	
DD2D-0-CL	Cobalt	8.7	0.2	2	mg/kg	CL	5.6
DD2D-0	Copper	22	0.2	1	mg/kg	NS	
DD2D-0-CL	Copper	21	0.2	1	mg/kg	CL	4.7
DD2D-0	Lead	4.7	1	3	mg/kg	NS	
DD2D-0-CL	Lead	4.5	1	3	mg/kg	CL	4.3
DD2D-0	Nickel	56	0.3	2	mg/kg	NS	
DD2D-0-CL	Nickel	54	0.3	2	mg/kg	CL	3.6
DD2D-0	Vanadium	27	0.3	5	mg/kg	NS	
DD2D-0-CL	Vanadium	26	0.3	5	mg/kg	CL	3.8

Sample Name	Analyte	Result	Detection Limit	Reporting Limit	Units	Sample Type	Relative Percent Difference
USEPA Method 6010B & 6020 continued							
DD2D-0	Zinc	52	0.1	1	mg/kg	NS	
DD2D-0-CL	Zinc	52	0.1	1	mg/kg	CL	0.0
DD4D-0	Arsenic	5.8	0.0025	0.25	mg/kg	NS	
DD4D-0-FR	Arsenic	5.5	0.0025	0.25	mg/kg	FR	5.3
DD4D-0	Barium	65	0.3	1	mg/kg	NS	
DD4D-0-FR	Barium	64	0.3	1	mg/kg	FR	1.6
DD4D-0	Cadmium	0.50J	0.1	2	mg/kg	NS	
DD4D-0-FR	Cadmium	0.48J	0.1	2	mg/kg	FR	4.1
DD4D-0	Chromium	35	0.1	2	mg/kg	NS	
DD4D-0-FR	Chromium	35	0.1	2	mg/kg	FR	0.0
DD4D-0	Cobalt	9.1	0.2	2	mg/kg	NS	
DD4D-0-FR	Cobalt	8.8	0.2	2	mg/kg	FR	3.4
DD4D-0	Copper	21	0.2	1	mg/kg	NS	
DD4D-0-FR	Copper	21	0.2	1	mg/kg	FR	0.0
DD4D-0	Lead	5.2	1	3	mg/kg	NS	
DD4D-0-FR	Lead	5.5	1	3	mg/kg	FR	5.6
DD4D-0	Nickel	52	0.3	2	mg/kg	NS	
DD4D-0-FR	Nickel	51	0.3	2	mg/kg	FR	1.9
DD4D-0	Vanadium	26	0.3	5	mg/kg	NS	
DD4D-0-FR	Vanadium	25	0.3	5	mg/kg	FR	3.9
DD4D-0	Zinc	51	0.1	1	mg/kg	NS	
DD4D-0-FR	Zinc	56	0.1	1	mg/kg	FR	9.3
USEPA Method 8015B							
DD2D-0	DRO	2.9J	1.6	10	mg/kg	NS	
DD2D-0-CL	DRO	5.4J	1.6	10	mg/kg	CL	60.2
DD2D-0	MORO	17	4.2	10	mg/kg	NS	
DD2D-0-CL	MORO	25	4.2	10	mg/kg	CL	38.1
DD4D-0	DRO	5.6J	1.6	10	mg/kg	NS	
DD4D-0-FR	DRO	5.2J	1.6	10	mg/kg	FR	7.4
DD4D-0	MORO	30	4.2	10	mg/kg	NS	
DD4D-0-FR	MORO	33	4.2	10	mg/kg	FR	9.5
USEPA Method 8081A							
ABCD2C-0	4,4'-DDE	11	1.5	5	µg/kg	NS	
ABCD2C-0-FR	4,4'-DDE	8.7	1.5	5	µg/kg	FR	23.4
ABCD5C-0	4,4'-DDE	6.6	1.5	5	µg/kg	NS	
ABCD5C-0-CL	4,4'-DDE	7.0	1.5	5	µg/kg	CL	5.9
ABCD7C-0	4,4'-DDE	ND	1.5	5	µg/kg	NS	



Sample Name	Analyte	Result	Detection Limit	Reporting Limit	Units	Sample Type	Relative Percent Difference
USEPA Method 8081A (Concluded)							
ABCD7C-0-FR	4,4'-DDE	ND	1.5	5	µg/kg	FR	0.0
EF3EF4C-0	4,4'-DDE	8.2	1.5	5	µg/kg	NS	
EF3EF4C-0-CL	4,4'-DDE	11	1.5	5	µg/kg	CL	29.2
EFGH8C-0	4,4'-DDE	6.6	1.5	5	µg/kg	NS	
EFGH8C-0-CL	4,4'-DDE	5.3	1.5	5	µg/kg	CL	21.8
DD2D-0	4,4'-DDE	11	1.5	5	µg/kg	NS	
DD2D-0-CL	4,4'-DDE	12	1.5	5	µg/kg	CL	8.7
DD4D-0	4,4'-DDE	40	1.5	5	µg/kg	NS	
DD4D-0-FR	4,4'-DDE	36	1.5	5	µg/kg	FR	10.5
USEPA = United States Environmental Protection Agency mg/kg = milligram per kilogram ND = Not detected µg/kg = micrograms per kilogram J = estimated value; between method detection limit and reporting limit  <u>Sample Type:</u> NS = normal sample CL = co-located FR = field replicate							

High RPD values calculated for field replicate and co-located sample pairs are representative of the heterogeneous contaminant distribution in soil at the site.

Thus, the overall precision is generally considered acceptable, with the understanding that variability exists within small distances (co-located samples) and within small sample quantities (field replicate samples).

## EVALUATION OF BLANKS

Equipment blank analysis provides an indication of whether contamination was introduced into the PEA sample set. One equipment blank sample was collected during each day of soil sampling. On November 11, 2019, the equipment blank (EB-1) was analyzed for Title 22 Metals by USEPA Methods 6010B and 7470A, OCPs by USEPA Method 8081A and TPH by USEPA Method 8015B. No analytes were detected in the sample at concentrations greater than their respective MDLs. On November 12 and 13, 2019, the equipment blanks (EB-2 and EB-3) were analyzed for Title 22 Metals by USEPA Methods 6010B and 7470A and for OCPs by USEPA Method 8081A. No analytes were detected in the samples at concentrations greater than their respective MDLs. Based on the equipment blank results there is low potential for cross contamination due to insufficient equipment decontamination.

## SENSITIVITY

Laboratory analytical methods were selected so that the laboratory method detection limits were less than the applicable regulatory screening criteria (i.e. the DTSC-SLs and USEPA RSLs), and thus are acceptable for use in the PEA screening evaluation.

Total arsenic in soil was originally analyzed using EPA Method 6010B with a practical quantitation limit (PQL; also referred to as reporting limit, or RL) of 5 mg/kg. The PQL did not meet the project data quality objectives, and therefore the EPA 6010B data were rejected, and the analysis was repeated using EPA Method 6020 with a PQL of 0.25 mg/kg.

## COMPLETENESS

Completeness is an evaluation of the sampling results with respect to usable versus rejected data. No data was rejected based on the data evaluation. The data set completeness is therefore considered satisfactory for all analyses.

## REPRESENTATIVENESS AND COMPARABILITY

Representativeness expresses the degree to which sample data accurately and precisely represent the characteristics of a population, variations in parameters at a sampling point, or an environmental condition that they are intended to represent. NV5 and the contract laboratories addressed the representativeness of data by consistent application of established field and laboratory procedures.

Sample holding times were verified and chain-of-custody forms were checked for completeness. Temperature of samples was measured upon receipt by the laboratory, when applicable. Laboratory blank samples were evaluated for the presence of contaminants. No significant discrepancies were identified.

The comparability objective determines whether analytical conditions are sufficiently uniform for each analytical run to ensure that all reported data will be consistent. Comparability is addressed by using similar analytical methods from one investigation to the next.

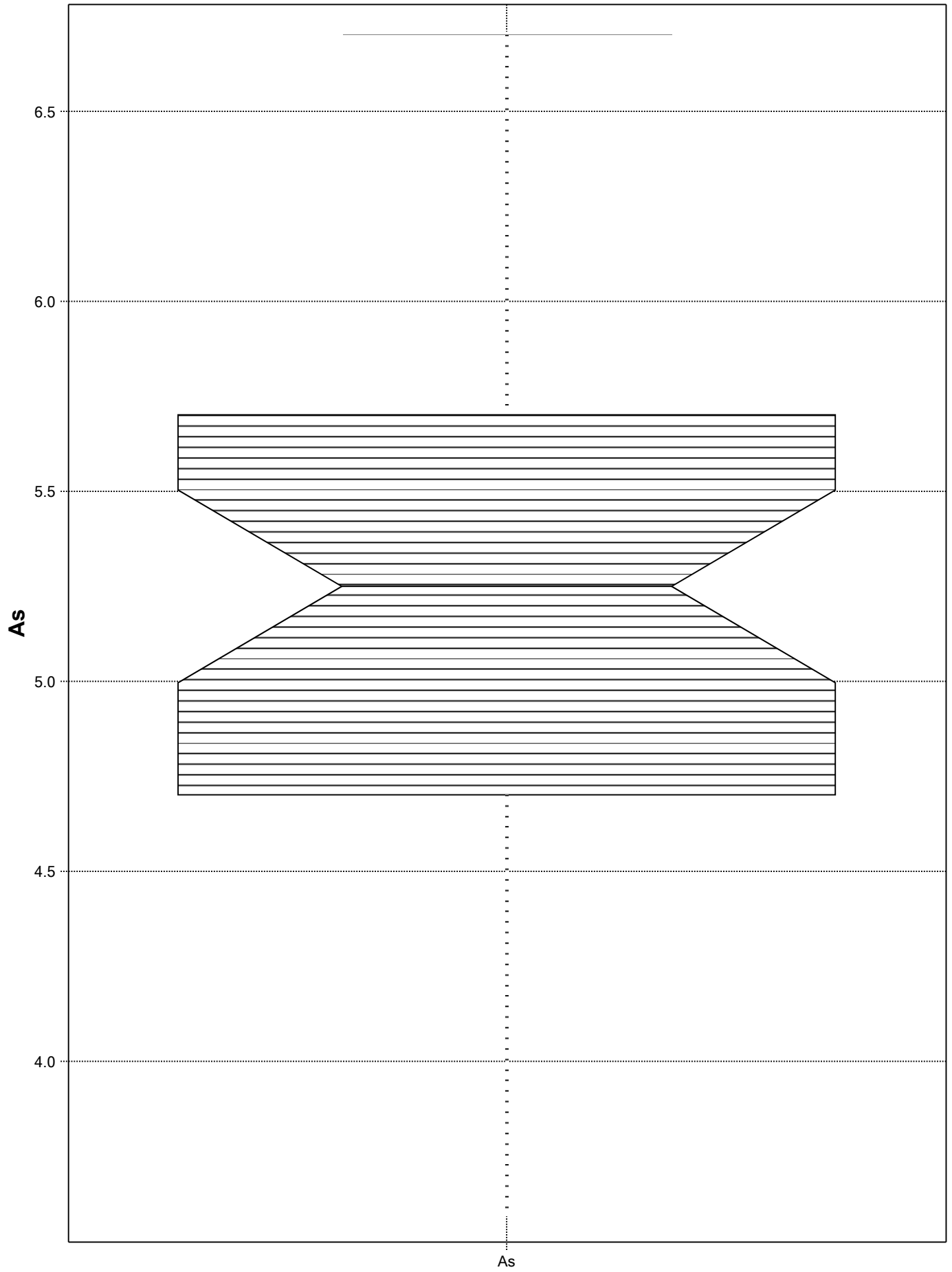
Representativeness and comparability for the samples are addressed by the correct implementation of procedures set forth in the DTSC approved Work Plan (NV5, 2019). The sampling and analysis were conducted in general accordance with the Work Plan.

## APPENDIX D

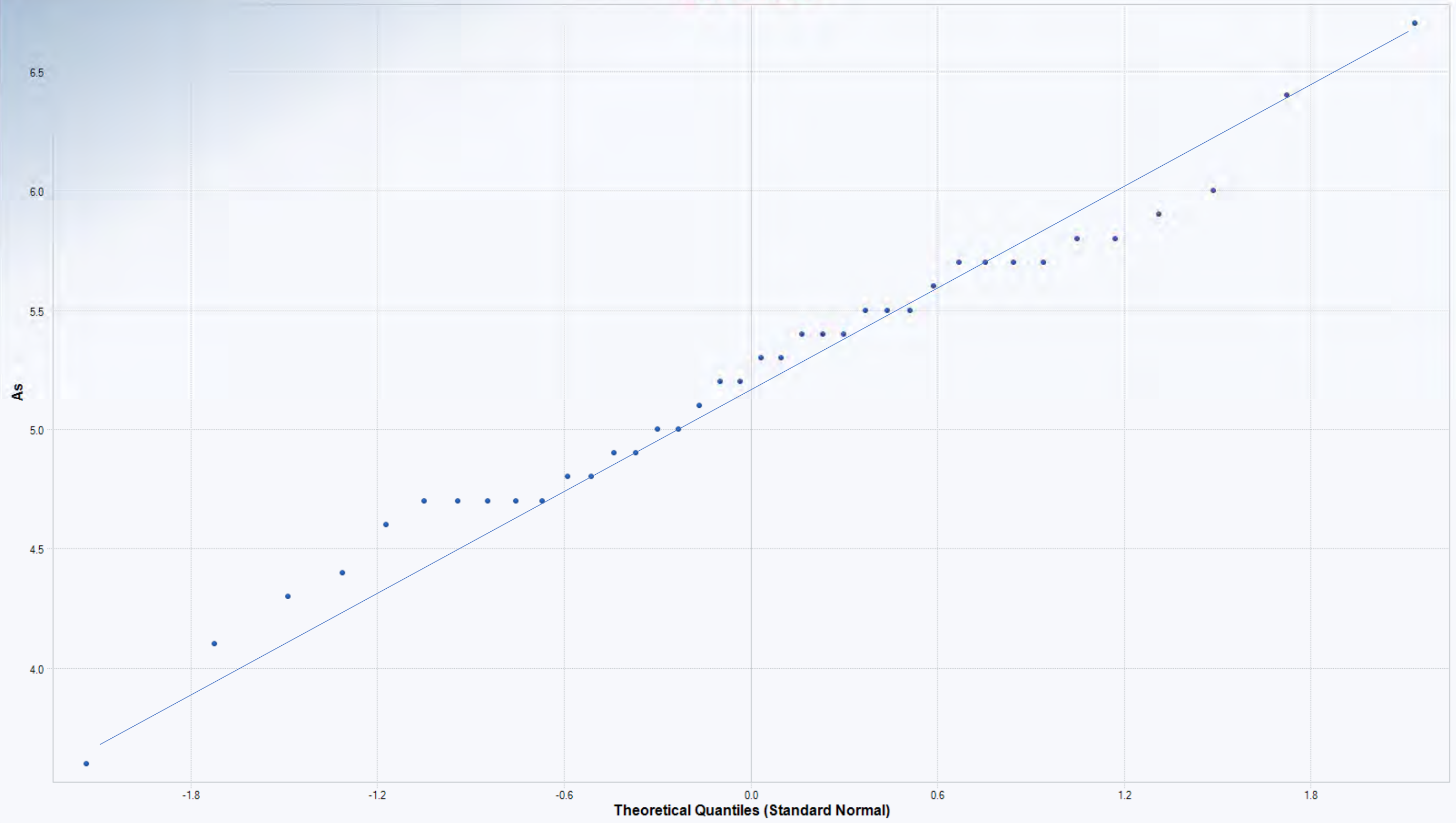
### Summary Statistics

	A
1	As
2	5.4
3	5.9
4	5.7
5	5.3
6	5
7	4.7
8	4.8
9	4.1
10	5.5
11	4.7
12	6.4
13	5.2
14	4.9
15	6
16	5.5
17	5.4
18	4.7
19	5.6
20	5.8
21	5
22	5.4
23	4.7
24	5.2
25	3.6
26	4.7
27	4.6
28	5.1
29	4.9
30	5.7
31	4.4
32	5.3
33	4.8
34	4.3
35	5.8
36	5.5
37	6.7
38	5.7
39	5.7

# Box Plot for As



Q-Q Plot for As



**As**  
N = 38  
Mean = 5.203  
Sd = 0.627  
Slope = 0.635  
Intercept = 5.203  
Correlation, R = 0.99

□ Best Fit Line

	A	B	C	D	E	F	G	H	I	J	K	L
1					<b>Outlier Tests for Selected Uncensored Variables</b>							
2	<b>User Selected Options</b>											
3	Date/Time of Computation			ProUCL 5.11/29/2020 7:43:35 PM								
4				From File	WorkSheet.xls							
5				Full Precision	OFF							
6												
7												
8	<b>Rosner's Outlier Test for As</b>											
9												
10												
11	<b>Mean</b>			<b>5.203</b>								
12	<b>Standard Deviation</b>			<b>0.627</b>								
13	<b>Number of data</b>			<b>38</b>								
14	<b>Number of suspected outliers</b>			<b>1</b>								
15												
16				Potential	Obs.	Test	Critical	Critical				
17	#	Mean	sd	outlier	Number	value	value (5%)	value (1%)				
18	1	5.203	0.618	3.6	24	2.592	3.01	3.36				
19												
20	For 5% Significance Level, there is no Potential Outlier											
21												
22	For 1% Significance Level, there is no Potential Outlier											
23												

	A	B	C	D	E	F	G	H	I	J	K	L
1				<b>Background Statistics for Uncensored Full Data Sets</b>								
2	<b>User Selected Options</b>											
3	Date/Time of Computation			ProUCL 5.11/29/2020 7:44:24 PM								
4	From File			WorkSheet.xls								
5	Full Precision			OFF								
6	Confidence Coefficient			95%								
7	Coverage			95%								
8	New or Future K Observations			1								
9	Number of Bootstrap Operations			2000								
10												
11	<b>As</b>											
12												
13	<b>General Statistics</b>											
14	Total Number of Observations				38		Number of Distinct Observations				21	
15	Minimum				3.6		First Quartile				4.725	
16	Second Largest				6.4		Median				5.25	
17	Maximum				6.7		Third Quartile				5.675	
18	Mean				5.203		SD				0.627	
19	Coefficient of Variation				0.12		Skewness				-0.0883	
20	Mean of logged Data				1.642		SD of logged Data				0.124	
21												
22	<b>Critical Values for Background Threshold Values (BTVs)</b>											
23	Tolerance Factor K (For UTL)				2.132		d2max (for USL)				2.846	
24												
25	<b>Normal GOF Test</b>											
26	Shapiro Wilk Test Statistic				0.987		<b>Shapiro Wilk GOF Test</b>					
27	5% Shapiro Wilk Critical Value				0.938		Data appear Normal at 5% Significance Level					
28	Lilliefors Test Statistic				0.0797		<b>Lilliefors GOF Test</b>					
29	5% Lilliefors Critical Value				0.142		Data appear Normal at 5% Significance Level					
30	<b>Data appear Normal at 5% Significance Level</b>											
31												
32	<b>Background Statistics Assuming Normal Distribution</b>											
33	95% UTL with 95% Coverage				6.539		90% Percentile (z)				6.006	
34	95% UPL (t)				6.274		95% Percentile (z)				6.233	
35	95% USL				6.986		99% Percentile (z)				6.66	
36												
37	<b>Gamma GOF Test</b>											
38	A-D Test Statistic				0.305		<b>Anderson-Darling Gamma GOF Test</b>					
39	5% A-D Critical Value				0.746		Detected data appear Gamma Distributed at 5% Significance Level					
40	K-S Test Statistic				0.0845		<b>Kolmogorov-Smirnov Gamma GOF Test</b>					
41	5% K-S Critical Value				0.143		Detected data appear Gamma Distributed at 5% Significance Level					
42	<b>Detected data appear Gamma Distributed at 5% Significance Level</b>											
43												
44	<b>Gamma Statistics</b>											
45	k hat (MLE)				68.81		k star (bias corrected MLE)				63.4	



	A	B	C	D	E	F	G	H	I	J	K	L
46	Theta hat (MLE)					0.0756	Theta star (bias corrected MLE)					0.0821
47	nu hat (MLE)					5230	nu star (bias corrected)					4818
48	MLE Mean (bias corrected)					5.203	MLE Sd (bias corrected)					0.653
49												
50	<b>Background Statistics Assuming Gamma Distribution</b>											
51	95% Wilson Hilferty (WH) Approx. Gamma UPL					6.338	90% Percentile					6.056
52	95% Hawkins Wixley (HW) Approx. Gamma UPL					6.347	95% Percentile					6.322
53	95% WH Approx. Gamma UTL with 95% Coverage					6.649	99% Percentile					6.842
54	95% HW Approx. Gamma UTL with 95% Coverage					6.666						
55	95% WH USL					7.198	95% HW USL					7.231
56												
57	<b>Lognormal GOF Test</b>											
58	Shapiro Wilk Test Statistic					0.976	<b>Shapiro Wilk Lognormal GOF Test</b>					
59	5% Shapiro Wilk Critical Value					0.938	Data appear Lognormal at 5% Significance Level					
60	Lilliefors Test Statistic					0.091	<b>Lilliefors Lognormal GOF Test</b>					
61	5% Lilliefors Critical Value					0.142	Data appear Lognormal at 5% Significance Level					
62	<b>Data appear Lognormal at 5% Significance Level</b>											
63												
64	<b>Background Statistics assuming Lognormal Distribution</b>											
65	95% UTL with 95% Coverage					6.721	90% Percentile (z)					6.051
66	95% UPL (t)					6.379	95% Percentile (z)					6.329
67	95% USL					7.341	99% Percentile (z)					6.885
68												
69	<b>Nonparametric Distribution Free Background Statistics</b>											
70	<b>Data appear Normal at 5% Significance Level</b>											
71												
72	<b>Nonparametric Upper Limits for Background Threshold Values</b>											
73	Order of Statistic, r					38	95% UTL with 95% Coverage					6.7
74	Approx, f used to compute achieved CC					2	Approximate Actual Confidence Coefficient achieved by UTL					0.858
75							Approximate Sample Size needed to achieve specified CC					59
76	95% Percentile Bootstrap UTL with 95% Coverage					6.7	95% BCA Bootstrap UTL with 95% Coverage					6.7
77	95% UPL					6.415	90% Percentile					5.83
78	90% Chebyshev UPL					7.107	95% Percentile					6.06
79	95% Chebyshev UPL					7.97	99% Percentile					6.589
80	95% USL					6.7						
81												
82	Note: The use of USL tends to yield a conservative estimate of BTV, especially when the sample size starts exceeding 20.											
83	Therefore, one may use USL to estimate a BTV only when the data set represents a background data set free of outliers											
84	and consists of observations collected from clean unimpacted locations.											
85	The use of USL tends to provide a balance between false positives and false negatives provided the data											
86	represents a background data set and when many onsite observations need to be compared with the BTV.											
87												

	A	B	C	D	E	F	G	H	I	J	K	L				
1	<b>UCL Statistics for Uncensored Full Data Sets</b>															
2																
3	User Selected Options															
4	Date/Time of Computation			ProUCL 5.11/29/2020 7:44:45 PM												
5	From File			WorkSheet.xls												
6	Full Precision			OFF												
7	Confidence Coefficient			95%												
8	Number of Bootstrap Operations			2000												
9																
10																
11	<b>As</b>															
12																
13	<b>General Statistics</b>															
14	Total Number of Observations				38				Number of Distinct Observations				21			
15									Number of Missing Observations				0			
16	Minimum				3.6				Mean				5.203			
17	Maximum				6.7				Median				5.25			
18	SD				0.627				Std. Error of Mean				0.102			
19	Coefficient of Variation				0.12				Skewness				-0.0883			
20																
21	<b>Normal GOF Test</b>															
22	Shapiro Wilk Test Statistic				0.987				<b>Shapiro Wilk GOF Test</b>							
23	5% Shapiro Wilk Critical Value				0.938				Data appear Normal at 5% Significance Level							
24	Lilliefors Test Statistic				0.0797				<b>Lilliefors GOF Test</b>							
25	5% Lilliefors Critical Value				0.142				Data appear Normal at 5% Significance Level							
26	<b>Data appear Normal at 5% Significance Level</b>															
27																
28	<b>Assuming Normal Distribution</b>															
29	<b>95% Normal UCL</b>						<b>95% UCLs (Adjusted for Skewness)</b>									
30	95% Student's-t UCL				5.374				95% Adjusted-CLT UCL (Chen-1995)				5.368			
31									95% Modified-t UCL (Johnson-1978)				5.374			
32																
33	<b>Gamma GOF Test</b>															
34	A-D Test Statistic				0.305				<b>Anderson-Darling Gamma GOF Test</b>							
35	5% A-D Critical Value				0.746				Detected data appear Gamma Distributed at 5% Significance Level							
36	K-S Test Statistic				0.0845				<b>Kolmogorov-Smirnov Gamma GOF Test</b>							
37	5% K-S Critical Value				0.143				Detected data appear Gamma Distributed at 5% Significance Level							
38	<b>Detected data appear Gamma Distributed at 5% Significance Level</b>															
39																
40	<b>Gamma Statistics</b>															
41	k hat (MLE)				68.81				k star (bias corrected MLE)				63.4			
42	Theta hat (MLE)				0.0756				Theta star (bias corrected MLE)				0.0821			
43	nu hat (MLE)				5230				nu star (bias corrected)				4818			
44	MLE Mean (bias corrected)				5.203				MLE Sd (bias corrected)				0.653			
45									Approximate Chi Square Value (0.05)				4658			

	A	B	C	D	E	F	G	H	I	J	K	L
46	Adjusted Level of Significance					0.0434	Adjusted Chi Square Value					4651
47												
48	<b>Assuming Gamma Distribution</b>											
49	95% Approximate Gamma UCL (use when $n \geq 50$ )					5.382	95% Adjusted Gamma UCL (use when $n < 50$ )					5.389
50												
51	<b>Lognormal GOF Test</b>											
52	Shapiro Wilk Test Statistic					0.976	<b>Shapiro Wilk Lognormal GOF Test</b>					
53	5% Shapiro Wilk Critical Value					0.938	Data appear Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic					0.091	<b>Lilliefors Lognormal GOF Test</b>					
55	5% Lilliefors Critical Value					0.142	Data appear Lognormal at 5% Significance Level					
56	<b>Data appear Lognormal at 5% Significance Level</b>											
57												
58	<b>Lognormal Statistics</b>											
59	Minimum of Logged Data					1.281	Mean of logged Data					1.642
60	Maximum of Logged Data					1.902	SD of logged Data					0.124
61												
62	<b>Assuming Lognormal Distribution</b>											
63	95% H-UCL					5.388	90% Chebyshev (MVUE) UCL					5.517
64	95% Chebyshev (MVUE) UCL					5.659	97.5% Chebyshev (MVUE) UCL					5.857
65	99% Chebyshev (MVUE) UCL					6.244						
66												
67	<b>Nonparametric Distribution Free UCL Statistics</b>											
68	<b>Data appear to follow a Discernible Distribution at 5% Significance Level</b>											
69												
70	<b>Nonparametric Distribution Free UCLs</b>											
71	95% CLT UCL					5.37	95% Jackknife UCL					5.374
72	95% Standard Bootstrap UCL					5.368	95% Bootstrap-t UCL					5.377
73	95% Hall's Bootstrap UCL					5.372	95% Percentile Bootstrap UCL					5.361
74	95% BCA Bootstrap UCL					5.374						
75	90% Chebyshev(Mean, Sd) UCL					5.508	95% Chebyshev(Mean, Sd) UCL					5.646
76	97.5% Chebyshev(Mean, Sd) UCL					5.837	99% Chebyshev(Mean, Sd) UCL					6.214
77												
78	<b>Suggested UCL to Use</b>											
79	95% Student's-t UCL					5.374						
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												
86	<b>Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be</b>											
87	<b>reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.</b>											
88												

## APPENDIX E

### Risk Assessment

**Table E1. Toxicity Values**

Hamilton Union High School Expansion  
Hamilton City, Glenn County, California

Analyte	CAS No.	RfDo (mg/kg-day)		RfDi (mg/kg-day)			SFo (mg/kg-day) <sup>-1</sup>		SFi (mg/kg-day) <sup>-1</sup>			ABS
		value	source	RfCi (mg/m <sup>3</sup> )	source	value	value	source	IUR (ug/m <sup>3</sup> ) <sup>-1</sup>	source	value	
Arsenic, inorganic	7440-38-2	3.5E-06	OEHHA	1.5E-05	OEHHA	3.8E-06	9.5E+00	OEHHA PHG	4.3E-03	IRIS	1.7E+01	0.03
Barium	7440-39-3	2.0E-01	IRIS	5.0E-04	HEAST	1.3E-04	--	--	--	--	--	0.01
Cadmium	7440-43-9	1.0E-03	IRIS	1.0E-05	ATSDR	2.5E-06	--	--	4.2E-03	OEHHA	1.7E+01	0.001
Chromium (III), insoluble salts	16065-83-1	1.5E+00	IRIS	--	--	--	--	--	--	--	--	0.01
Cobalt	7440-48-4	3.0E-04	PPRTV	6.0E-06	PPRTV	1.5E-06	--	--	9.0E-03	PPRTV	3.6E+01	0.01
Copper	7440-50-8	4.0E-02	HEAST	--	--	--	--	--	--	--	--	0.01
Lead and compounds	7439-92-1	Lead is evaluated using the LeadSpread 8 model (DTSC, 2011 Sept)										
Mercury, elemental	7439-97-6	1.6E-04	OEHHA	3.0E-05	OEHHA	7.5E-06	--	--	--	--	--	0.01
Nickel, soluble salts	7440-02-0	1.1E-02	OEHHA	1.4E-05	OEHHA	3.5E-06	--	--	2.6E-04	OEHHA	1.0E+00	0.01
Vanadium and compounds	7440-62-2	5.0E-03	RSL	1.0E-04	ATSDR	2.5E-05	--	--	--	--	--	0.01
Zinc and compounds	7440-66-6	3.0E-01	IRIS	--	--	--	--	--	--	--	--	0.01
4,4-DDE	72-55-9	3.0E-04	PPRTV	1.2E-03	R(PPRTV)	3.0E-04	3.4E-01	IRIS	9.7E-05	OEHHA	3.9E-01	0.05

**Notes:**

ABS = dermal absorption fraction (PEA Guidance Manual, Appendix A, Table 2)

ATSDR = Agency for Toxic Substances and Disease Registry

Conversions per Supplemental Guidance to RAGS: Region 4 Bulletins Human Health Risk Assessment (US EPA, November 1995), with updated body weight (DTSC, 2014)

HEAST = US EPA Office of Research and Development, Health Effects Assessment Summary Tables

IRIS = US EPA Integrated Risk Information System (<http://www.epa.gov/iris/>)

IUR = inhalation unit risk

OEHHA = CalEPA Office of Environmental Health Hazard Assessment

PPRTV = Provisional Peer Reviewed Toxicity Values, US EPA OSWER Office of Superfund Remediation Technology Innovation (OSRTI)

R = extrapolated from an oral toxicity value

RfCi = reference concentration for inhalation exposure

RfDi = reference dose for chronic inhalation exposure:  $RfDi [mg/kg-day] = RfCi [mg/m^3] * (20 m^3/day) * (80 kg)^{-1}$

RfDo = reference dose for chronic oral exposure

RSL = USEPA Region IX RSL user guide Section 5: Value is based on IRIS oral RfD for Vanadium Pentoxide, factoring out the molecular weight (MW) of the oxide ion.

SFi = cancer slope factor for inhalation exposure:  $SFi [(mg/kg-day)^{-1}] = IUR [(ug/m^3)^{-1}] * (10^3 ug/mg) * (80 kg) * (20m^3/day)^{-1}$ .

SFo = cancer slope factor for oral exposure

\* Appendix PPRTV Screen (see USEPA FAQ #27, <http://www.epa.gov/region9/superfund/prg/>)

**Table E2 - Summary of Risk/Hazard Calculations for Standard Exposure Scenario (Unrestricted Land Use), Entire Site, All Detected Constituents**

Hamilton Union High School Expansion  
Hamilton City, Glenn County, California

Analyte	EPC Source	RfDo (mg/kg-day)	RfDi (mg/kg-day)	Sfo (mg/kg-day) <sup>-1</sup>	Sfi (mg/kg-day) <sup>-1</sup>	ABS	Cs (mg/kg)	Ca (mg/m <sup>3</sup> )	Hazard <sub>soil</sub>	Hazard <sub>air</sub>	Hazard, soil + air	Risk <sub>soil</sub>	Risk <sub>air</sub>	Risk, soil + air
Arsenic	Max Detect	3.5E-06	3.8E-06	9.5E+00	1.7E+01	0.03	6.7	4.93E-09	1.68E+01	8.40E-04	1.68E+01	6.18E-05	1.04E-08	6.18E-05
Barium	Max Detect	2.0E-01	1.3E-04	--	--	0.01	200	1.47E-07	1.32E-02	7.52E-04	1.39E-02			0.00E+00
Cadmium	Max Detect	1.0E-03	2.5E-06	--	1.7E+01	0.00	0.57	4.19E-10	7.31E-03	1.07E-04	7.42E-03		8.68E-10	8.68E-10
Chromium	Max Detect	1.5E+00	--	--	--	0.01	41	3.01E-08	3.60E-04		3.60E-04			0.00E+00
Cobalt	Max Detect	3.0E-04	1.5E-06	--	3.6E+01	0.01	9.8	7.21E-09	4.30E-01	3.07E-03	4.33E-01		3.20E-08	3.20E-08
Copper	Max Detect	4.0E-02	--	--	--	0.01	26	1.91E-08	8.55E-03		8.55E-03			0.00E+00
Mercury	Max Detect	1.6E-04	7.5E-06	--	--	0.01	0.036	2.65E-11	2.96E-03	3.27E-02	3.56E-02			0.00E+00
Nickel	Max Detect	1.1E-02	3.5E-06	--	1.0E+00	0.01	59	4.34E-08	7.06E-02	7.92E-03	7.85E-02		5.56E-09	5.56E-09
Vanadium	Max Detect	5.0E-03	2.5E-05	--	--	0.01	30	2.21E-08	7.89E-02	5.64E-04	7.95E-02			0.00E+00
Zinc	Max Detect	3.0E-01	--	--	--	0.01	81	5.96E-08	3.55E-03		3.55E-03			0.00E+00
4,4-DDE	Max Detect	3.0E-04	3.0E-04	3.4E-01	3.9E-01	0.05	4.3E-05	3.16E-14	1.37E-06	6.74E-11	1.37E-06	1.52E-11	1.51E-15	1.52E-11
<b>TOTAL</b>									1.74E+01	4.59E-02	<b>1.7E+01</b>	6.18E-05	4.89E-08	<b>6.2E-05</b>

**Notes:**

1 Cadmium hazard evaluated per HHRA Note 3 (DTSC, 2016) considering 26-year adult exposure

ABS = dermal absorption fraction (PEA Guidance Manual, Appendix A, Table 2)

Ca [mg/m<sup>3</sup>] = air concentration = Cs [mg/kg] \* (PEF [m<sup>3</sup>/kg])<sup>-1</sup>

Cs [mg/kg] = soil concentration

ND = not detected

NL = not listed in reviewed toxicological data sources

RfDo = reference dose for chronic oral exposure

RfDi = reference dose for chronic inhalation exposure

Sfo = standard oral slope factor

Sfi = standard inhalation slope factor

UCL = upper confidence limit

Parameter	Value, child	Value, adult	Units	Reference
ATc, averaging time (carcinogen)	70	70	yr	HERO HHRA Note No. 1 (DTSC, 2014)
ATnc, averaging time (non-carcinogen)	6	20	yr	HERO HHRA Note No. 1 (DTSC, 2014)
EFs, exposure frequency (ingestion)	350	350	days/yr	HERO HHRA Note No. 1 (DTSC, 2014)
EFd, exposure frequency (dermal)	350	100	days/yr	PEA Guidance Manual
EFi, exposure frequency (inhalation)	350	350	days/yr	HERO HHRA Note No. 1 (DTSC, 2014)
ED, exposure duration	6	20	yr	HERO HHRA Note No. 1 (DTSC, 2014)
ET, exposure time	24	24	hr/day	HERO HHRA Note No. 3 (DTSC, 2016)
IRs, soil ingestion rate	200	100	mg/day	HERO HHRA Note No. 1 (DTSC, 2014)
IRa, inhalation rate	10	20	m <sup>3</sup> /day	HERO HHRA Note No. 1 (DTSC, 2014)
BW, body weight	15	80	kg	HERO HHRA Note No. 1 (DTSC, 2014)
SA, exposed skin surface area	2,900	6,032	cm <sup>2</sup>	HERO HHRA Note No. 1 (DTSC, 2014)
AF, adherence factor	0.2	0.07	mg/cm <sup>2</sup>	HERO HHRA Note No. 1 (DTSC, 2014)
PEF, particulate emission factor	1.360E+09	1.360E+09	m <sup>3</sup> /kg	HERO HHRA Note No. 1 (DTSC, 2014)

PEA Guidance Manual = Preliminary Endangerment Assessment Guidance Manual (DTSC, June 1999)

Human-Exposure-Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil (OEHHA, November 2004, revised January 2005)

HERO Human Health Risk Assessment Note No. 1, Recommended DTSC Default Exposure Factors for Use in Risk Assessment, DTSC, September 30, 2014.

Hazard Index excluding arsenic: 6.6E-01      Risk excluding Arsenic: 3.8E-08

Arsenic Hazard Quotient: 1.7E+01      Arsenic Risk: 6.2E-05

**LEAD RISK ASSESSMENT SPREADSHEET 8**  
**CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL**

**Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8**

<b>INPUT</b>	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	5.9
Respirable Dust (ug/m <sup>3</sup> )	1.5

<b>EXPOSURE PARAMETERS</b>		
	units	children
Days per week	days/wk	7
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm <sup>2</sup>	2900
Soil adherence	ug/cm <sup>2</sup>	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m <sup>3</sup> /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

**Click here for REFERENCES**

<b>OUTPUT</b>					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.0	0.1	0.1	0.1	0.1
BLOOD Pb, PICA CHILD	0.1	0.2	0.2	0.2	0.2

<b>PATHWAYS</b>						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	5.8E-5	0.00	1%		0.00	0%
Soil Ingestion	7.0E-3	0.04	99%	1.4E-2	0.08	100%
Inhalation	2.0E-6	0.00	0%		0.00	0%

## MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

**EDIT RED CELL**

Variable	Description of Variable	Units	
PbS	Soil lead concentration	ug/g or ppm	5.9
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4
$GSD_i$	Geometric standard deviation PbB	--	1.8
$PbB_0$	Baseline PbB	ug/dL	0.0
$IR_S$	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050
$AF_{S,D}$	Absorption fraction (same for soil and dust)	--	0.12
$EF_{S,D}$	Exposure frequency (same for soil and dust)	days/yr	250
$AT_{S,D}$	Averaging time (same for soil and dust)	days/yr	365
<b><math>PbB_{\text{adult}}</math></b>	<b>PbB of adult worker, geometric mean</b>	<b>ug/dL</b>	<b>0.0</b>
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.0
$PbB_t$	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	<b>1.0</b>
<b><math>P(PbB_{\text{fetal}} &gt; PbB_t)</math></b>	<b>Probability that fetal PbB &gt; <math>PbB_t</math>, assuming lognormal distribution</b>	<b>%</b>	<b>0.0%</b>

PRG90

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