

# Site Investigation Report of Findings

APN 525-171-009-000  
Loop Road, Hoopa, California

Prepared for:

Hoopa Valley Tribe Department of  
Natural Resources

August 2021

019227



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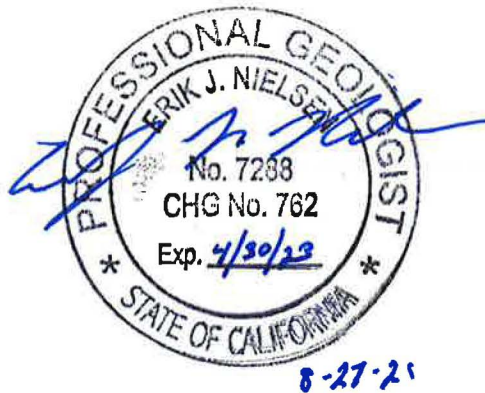
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August 2021

QA/QC: RMR <sup>RMR</sup>  
Reference: 019227



## Executive Summary

Phase II environmental site assessment (ESA) activities were conducted for a portion of the property located west of Highway 96 and east of Loop Road (site) in Hoopa, California. The property is further defined as Humboldt County Assessor's parcel number (APN) 525-171-009-000. Work was conducted at the site on March 25 and 26, 2021, in accordance with the sampling and analysis plan (SAP) reviewed by the United States Environmental Protection Agency (EPA) Region IX. The objective of this work was to characterize suspect asbestos containing materials (ACM) and evaluate potential asbestos impacts to soil resulting from historical dumping of construction materials at the site. SHN is submitting this report on behalf of the Hoopa Valley Tribe Department of Natural Resources.

Samples of soil and construction debris identified at the site were collected for the analysis of asbestos. Samples were obtained from the surface and at shallow depths from test pits completed over the project area. The construction debris samples were collected by a Certified Asbestos Consultant (#11-4713) from GHD. The soil results from the 15 test pits showed no detectable concentrations of asbestos at or above the reporting limit, which suggests that soil has not been impacted by asbestos in the project area. Several of the construction material samples collected by GHD showed positive results for asbestos. The majority of asbestos detections and observed ACM were located in the southeast quadrant of the project area and consisted of cementitious panels, roofing materials, and floor tiles. The area of ACM-impacted material was estimated using sample locations and results from GHD's construction material samples and field observations.

Based on site observations of debris piles and the depth materials were found that tested positive for asbestos in the project area, an estimated volume of 3,100 cubic yards of material may need to be sorted for removal of ACM debris prior to any site redevelopment activities in the project area. The estimated volume of material requiring excavation assumes approximately 2 feet below ground surface, with a buffer of 20 feet beyond sample points that tested positive for asbestos. Additionally, as stated in the limited asbestos survey report by GHD (2021), any material found in the project area that is suspected to be ACM or resembles what has been identified as ACM will need to be treated as ACM. There may be options to segregate materials from the estimated 3,100 cubic yards in order to reduce the volume of ACM required for offsite disposal.

GHD provided recommendations in Section 6 of its limited asbestos survey report for mitigation and management options of ACM in the project area based on the results of the Phase II ESA investigation.



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# Abbreviations and Acronyms

## Units of Measure

%	percent
<	"less than" the method reporting limit

## Additional Terms

ACM	asbestos containing materials
APN	Assessor's parcel number
ASTM	ASTM-International
BGS	below ground surface
CAC	Certified Asbestos Consultant
CARB	California Air Resources Board
CIH	Certified Industrial Hygienist
DUP	duplicate sample
EPA	U.S. Environmental Protection Agency
ESA	environmental site assessment
HCHWP	Humboldt County Hazardous Waste Program
HVFP	Hoopa Valley Tribal Fisheries Program
IDW	investigation derived waste
NESHAP	national emission standards for hazardous air pollutants
NR	no reference
PLM	polarized light microscopy
PPE	personal protective equipment
RACM	regulated asbestos containing material
SAP	sampling and analysis plan
TP-#	test pit-number



# 1.0 Introduction

This report presents the results of Phase II environmental site assessment (ESA) activities conducted on a portion of the property located west of Highway 96 and east of Loop Road (site) in Hoopa, California (Figure 1). The property is further defined as Humboldt County Assessor's parcel number (APN) 525-171-009-000. The purpose of the investigation was to characterize potential asbestos containing materials (ACM) and evaluate potential asbestos impacts to soil resulting from historical dumping of construction materials at the site. Soil and building materials characterization data from this investigation will be used to evaluate remediation options for the site. SHN and GHD completed site investigation activities and prepared this report on behalf of the Hoopa Valley Tribe Department of Natural Resources

## 1.1 Background

### 1.1.1 Site and Sampling Area Description

The investigation area is a portion of an approximately 15-acre parcel located in tribal lands within Hoopa, California. The location of the proposed Phase II ESA activities is less than two acres. The site is generally vacant and vegetated with grasses and some mature trees. A reported wastewater infrastructure in the northern portion of the site is surrounded by an existing chain link fence. A project location and site map are included as Figures 1 and 2, respectively.

### 1.1.2 Site History

According to the Phase I ESA completed by the Bureau of Indian Affairs, Pacific Region (BIA-PR, 2019), the lower reaches of Supply Creek were subject to channelization to protect areas slated for future development. Channelization of Supply Creek included the construction of a berm along the south-southeastern bank of the creek. The Hoopa Valley Tribal Fisheries Program (HVFP) initiated efforts to improve stream conditions in support of salmonids production because negative impacts were observed due to the previous channelization of Supply Creek.

A primary component of the HVFP improvement efforts included the realignment of a road located along the south-southwestern property line of the site. Debris piles were encountered during the initial clearing of the roadbed. The debris piles reportedly included old tiles and other materials that prompted notification to the Humboldt County Hazardous Waste Program (HCHWP). HCHWP collected samples of the uncovered debris pile materials for submittal to TEM Laboratories in Berkeley, California for asbestos analysis. Laboratory analysis indicated the materials contained Chrysotile asbestos. On October 15, 2018, the HVFP recommended to the Hoopa Valley Tribal Council that the following actions be completed with respect to the suspect ACM material at the site:

1. Restrict access to the site.
2. Remove uncovered tiles.
3. Complete an assessment of the extent of suspect ACM and asbestos soil impacts at the site.

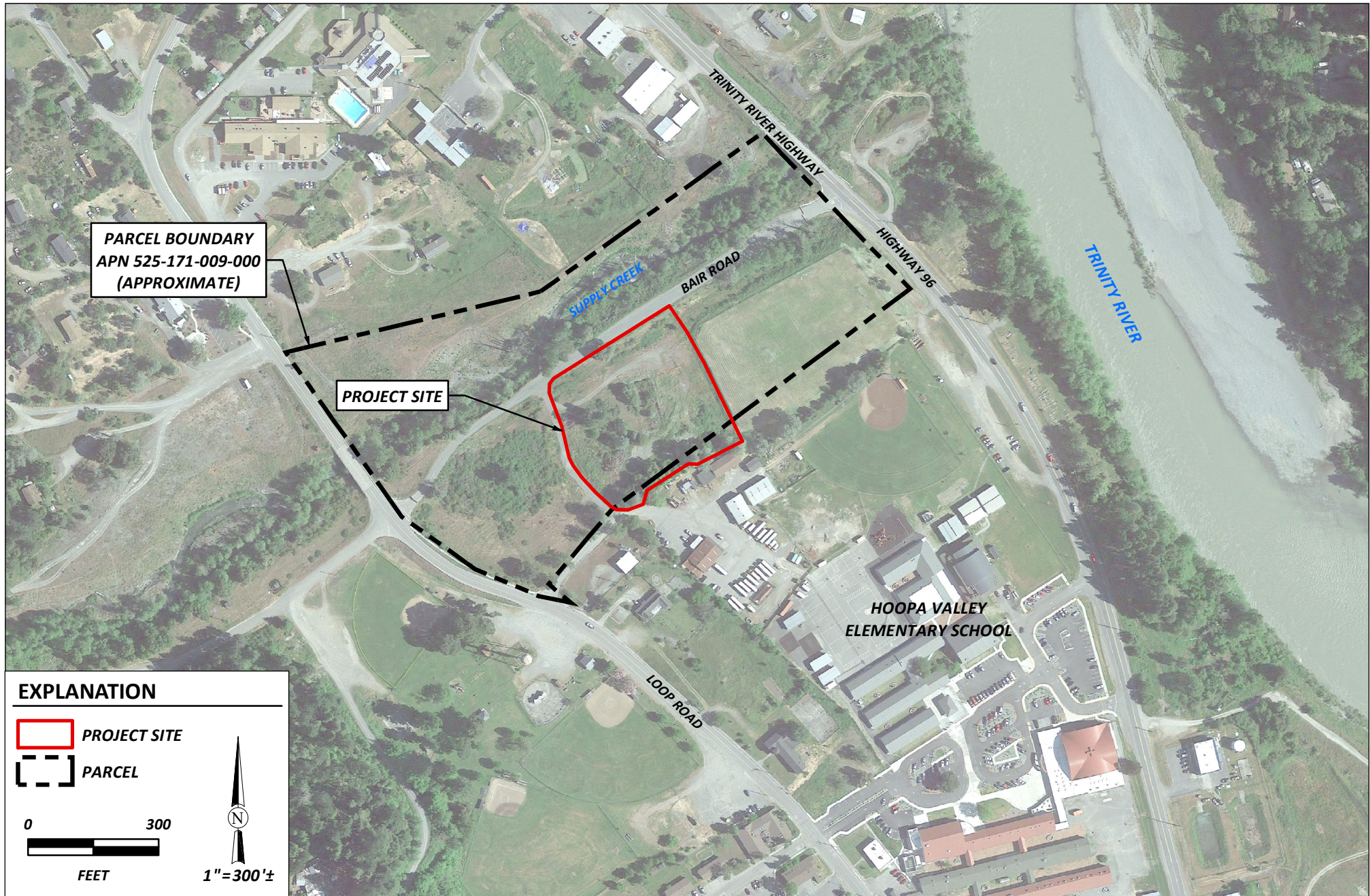
On April 17, 2019, the site property owner filed a technical assistance request with the BIA-PR for the preparation of the Phase I ESA in conformance with the ASTM International (ASTM) 1527-13 standard to initiate the process of Phase II ESA activities, which would determine the extent of the suspect ACM and potential soil impacts.











APN - ASSESSOR PARCEL NUMBER  
PARCEL DATA SOURCE: HUMBOLDT COUNTY GIS, 2020  
IMAGE SOURCE: GOOGLE EARTH, DATED 4/30/2019



Hoopa Valley Tribe  
Supply Creek Report of Findings  
Hoopa, California

August 2021

Figure2\_SiteMap

Site Map  
APN 525-171-009-000  
SHN 019227

Figure 2



## 1.2 Objective

The objective of this project is to evaluate the presence or absence of asbestos in site soil and construction debris to assist in an evaluation of risks to human health and the environment and identifying potential redevelopment options.

## 1.3 Scope of Work

The scope of work was developed to provide information needed to meet the objectives of this investigation and include:

- Project implementation, permitting, and Underground Service Alert notification
- Field program
  - Complete 15 test pits for sample collection to evaluate soil quality due to the presence of suspect ACM at the site.
  - Collect 38 bulk material samples from debris at the surface and from test pits if suspected ACM material was observed.
  - Collect 21 soil samples from underlying soils within each test pit.
  - Submit the samples for laboratory analysis.
  - Select 10 of the construction materials samples for point-count analysis.
  - Survey each sample location.
- Prepare and submit this report of findings that includes the results of the field investigation, data analysis, and provides recommendations for future work.

Work was performed in general accordance with the site investigation sampling and analysis plan (SAP) by SHN (2021),

## 2.0 Site Investigation Activities

Field activities to complete the site investigation occurred on March 25 and 26, 2021.

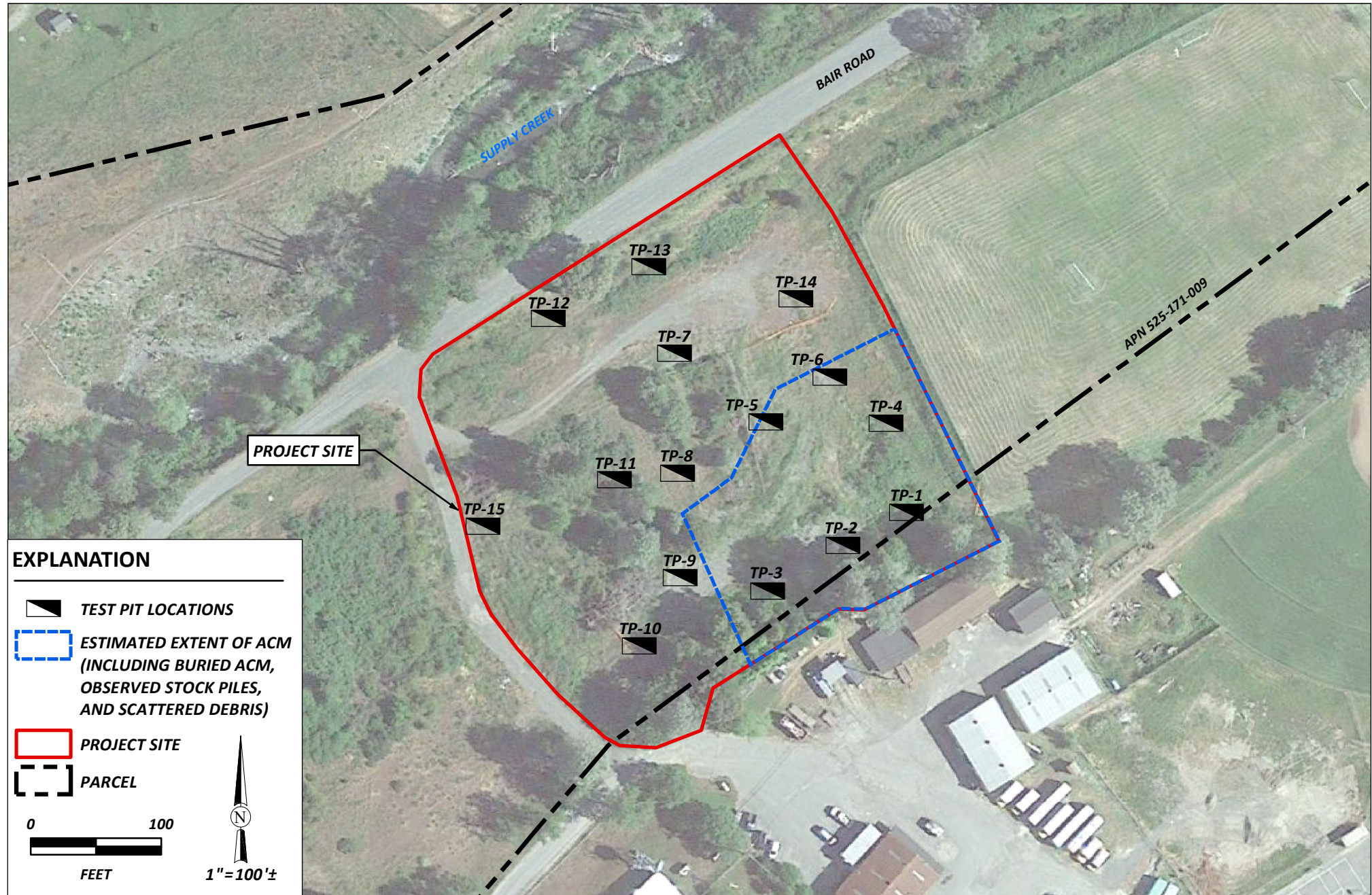
### 2.1 Soil Sample Collection

Fifteen test pits were completed with a rubber-tired backhoe, operated by the Hoopa Valley Tribe, to observe and collect soil samples up to 5 feet below ground surface (BGS). The test pits were dug approximately 4 feet across and 8 feet long. Soil samples were collected from each test pit using a stainless-steel trowel. The soil sample intervals were selected based on observed ACM. Where no ACM was observed a confirmation soil sample was collected from an interval from the surface to 3 feet BGS. Two soil samples were collected from test pits where GHD observed suspected ACM. Soil samples were collected over the entire interval above and below the suspected ACM in order to show there was no impact to soil due to the presence of subsurface ACM. Test pit locations are presented in Figure 3. It should be noted that some of the proposed locations for test pits in the SAP were relocated based on site conditions.

Each soil sample was labeled with the depth range from which soil was composited. A total of 21 soil samples were collected in addition to one duplicate soil sample that was collected from TP-14 in the







APN - ASSESOR PARCEL NUMBER  
PARCEL DATA SOURCE: HUMBOLDT COUNTY GIS, 2020  
IMAGE SOURCE: GOOGLE EARTH, DATED 4/30/2019



Hoop Valley Tribe  
Supply Creek Report of Findings  
Hoopa, California

Test Pit Locations and Estimated Extent of ACM  
APN 525-171-009-000  
SHN 019227

August 2021

Figure3\_TestPitLocations

Figure 3

3-foot to 5-foot depth interval. Soil samples were collected in clean laboratory-supplied containers and submitted for the analysis listed in "Section 2.3: Laboratory Analysis" below. Test pit field notes and logs are included in Appendix 1. Photo logs showing test pits and surface materials are also included in Appendix 1.

## 2.2 Construction Materials Sample Collection

The rationale for sampling of construction materials was to assess the quantity of materials to be disposed of during remediation activities. Construction materials sample collection was performed by a GHD Certified Asbestos Consultant (CAC) (#11-4713), using the methodology lined out in Section 3.2 of the limited asbestos survey report (GHD, 2021), Appendix 2.

A total of 38 construction materials samples were collected, 25 bulk material samples from the surface, and 13 bulk samples from within the test pits where suspected ACM material was observed. The test pits that had suspected ACM included TP-1, TP-2, TP-3, TP-4, TP-10, and TP-14. Construction materials samples were collected in new heavy-duty plastic resealable bags and submitted for the analysis listed in "Section 2.3: Laboratory Analysis" below. Construction material sample locations are included in the limited asbestos survey report Figure 1 (GHD, 2021), Appendix 2 of this report.

## 2.3 Laboratory Analysis

Soil samples collected from test pits were analyzed using Asbestos- California Air Resources Board (CARB) Method 435 (400 point count), and construction materials samples were analyzed using polarized light microscopy (PLM) U.S. Environmental Protection Agency (EPA) Method 600/R-93/116.

Soil samples were submitted to Eurofins EM Lab P&K (Eurofins) located in South San Francisco, California, an accredited State of California laboratory. Surface construction materials samples were submitted by GHD to EMSL Analytical, Inc., an accredited laboratory located in Depew, New York. EMSL's accreditations and certifications are included in Appendix G of the limited asbestos survey report (GHD, 2021), presented in Appendix 2.

## 2.4 Equipment Decontamination Procedures

All sampling equipment was cleaned and decontaminated in accordance with the SAP (SHN, 2021).

The backhoe bucket was cleaned prior to use on site and decontaminated between each test pit by removal of residual material. Small equipment that required onsite cleaning was cleaned using a triple wash system, comprised of a Liquinox® solution wash, followed by two distilled water rinses.

Decontamination of sampling equipment was conducted consistently to ensure the quality of samples collected. Equipment that came in contact with potentially contaminated materials was decontaminated. Decontamination occurred prior to and after each use of non-dedicated equipment.

Equipment was decontaminated in a pre-designated area at the site on plastic sheeting. Cleaned small equipment was stored in plastic bags. Sampling equipment stored more than a few hours was covered.





## 2.5 Investigation Derived Materials Handling

In the process of collecting environmental samples, the field team generated different types of potentially contaminated investigation derived waste (IDW) that include the following:

- Used personal protective equipment (PPE)
- Disposable sampling equipment
- Decontamination fluids

The EPA's "National Contingency Plan" requires that management of IDW generated during sampling comply with applicable or relevant and appropriate requirements to the extent practicable.

Management of IDW followed the "Office of Emergency and Remedial Response Directive 9345.3-02" (May 1991), which provides guidance for the management of IDW.

- Used PPE and disposable equipment were double bagged and placed in a municipal refuse dumpster. These wastes are not considered hazardous and can be sent to a municipal landfill. PPE and disposable equipment to be disposed of that can still be reused was rendered inoperable before disposal in the refuse dumpster.
- A limited amount of decontamination fluids that was generated during the sampling event was temporarily stored onsite in a 5-gallon bucket. Prior to transfer of liquids to a 55-gallon drum, the bucket was inadvertently tipped over in the work area. No decontamination fluids remained as part of the field investigation requiring offsite disposal.

## 3.0 Results of the Site Investigation

This section presents the results of the soil and construction materials samples collected and observations of sample characteristics during the site investigation. Observations of subsurface characteristics are included in test pit logs in Appendix 1. The complete laboratory analytical report for soil is included in Appendix 3. Construction materials samples and results were collected and interpreted, respectively, by a GHD Certified CAC. Characteristic descriptions, and laboratory analytical reports for the construction materials samples can be found in Appendices C and D, respectively, of the GHD limited asbestos survey report (GHD, 2021), included in Appendix 2.

### 3.1 Soil Analytical Results

Laboratory analytical results from soil samples collected during the March 2021 site investigation activities are presented in Table 1. The laboratory analytical report in Appendix 3 provides a complete set of results for asbestos in soil. There was no detectable concentration of asbestos in soil samples collected from the 15 test pits.



**Table 1. Asbestos in Soil, March 2021**  
**APN 525-171-009-000, Hoopa, California**  
**(%)<sup>a</sup>**

<b>Sample Location and Depth</b>	<b>Asbestos<sup>b</sup></b>
TP-1, 0'-3' <sup>c</sup>	<0.25 <sup>d</sup>
TP-1, 3'-5'	<0.25
TP-2, 0'-1.5'	<0.25
TP-2, 1.5'-2.7'	<0.25
TP-3, 0'-3'	<0.25
TP-3, 3'-3.5'	<0.25
TP-4, 0'-2'	<0.25
TP-4, 2'-4'	<0.25
TP-5, 0'-1'	<0.25
TP-6, 0'-2'	<0.25
TP-7, 0'-1'	<0.25
TP-8, 0'-2'	<0.25
TP-9, 0'-3'	<0.25
P-10, 0'-3'	<0.25
TP-10, 3'-5'	<0.25
TP-11, 0'-3'	<0.25
TP-12, 0'-3'	<0.25
TP-13, 0'-3'	<0.25
TP-14, 0'-3'	<0.25
TP-14, 3'-5'	<0.25
TP-15, 0'-3'	<0.25
DUP <sup>e</sup> (TP-14, 0'-3')	<0.25

<sup>a</sup> %: percent

<sup>b</sup> Asbestos analyzed in accordance with CARB Method 435 (400 point count).

<sup>c</sup> Depth interval. Indicates distance over which a composite soil sample was collected.

<sup>d</sup> <: less than the method reporting limit

<sup>e</sup> DUP: duplicate sample

## 3.2 Construction materials Analytical Results

Construction material analytical results are included in Appendix C of the GHD limited asbestos survey report (GHD, 2021), Appendix 2. Of the six test pits that GHD collected suspected ACM material from, four test pits showed positive results for asbestos (TP-1, -2, -3, and -4). Of the surface samples GHD collected, 11225912-ACM-SURF-1 through -4, -6, -7, -9, -13 through -17, and -23 showed positive results for asbestos.

## 3.3 Site Geology

Subsurface soils encountered during site investigation activities consisted primarily of fill material comprised of angular rock, rounded gravels with sand and fines to a depth range of approximately 2 to 4 feet BGS. Beneath this upper fill zone, native soils consisting of sand, gravel, silt, and clay were encountered across the site.



### 3.4 Quality Control and Data Validation

Laboratory reports submitted by Eurofins to SHN (Appendix 3) were validated by SHN staff. All Samples were received in acceptable condition and no quality assurance problem was noted in the report comments. One quality assurance sample duplicate was collected from TP-14 3'-5' for asbestos using the CARB 435 method. Asbestos was not detected at or above the reporting limit for both the duplicate and the original sample. No quality assurance issue was identified by the Eurofins laboratory analytical report.

## 4.0 Discussion of Results

The results for asbestos from soil samples collected in test pits were all non-detect, which suggests that soil has not been impacted by asbestos in the project area. However, several of the construction materials samples collected by GHD showed positive results for asbestos. See Section 4 of the attached GHD report, Appendix 2, for discussion and interpretation of construction materials sample results.

Most of the asbestos detections and observed ACM were located in the southeast quadrant of the project area and consisted of cementitious panels, roofing shingles, and floor tiles. A line depicting the estimated extent of the ACM-impacted area is included in Figure 3. The ACM-impacted area was estimated using field observations, and results from the GHD report, and sample locations depicted in Figure 1 of the limited asbestos survey report, Appendix 2. The area outlined in Figure 3 includes an approximate 20-foot buffer from the determined edge of ACM-impacted material.

Based on site observations of debris piles and the depth materials were found that tested positive for asbestos in the project area, an estimated volume of 3,100 cubic yards may need to be excavated and processed for segregation prior to any demolition or redevelopment activities in the project area. Calculations completed by SHN to determine the volume of material potentially impacted by ACM are provided in Appendix 1. GHD found ACM scattered across the surface and at a maximum depth of 2 feet BGS. The estimated volume for removal assumes approximately 2 feet of soil will need to be excavated in the estimated extent of ACM-impacted material depicted in Figure 3 to confirm all ACM is removed. Additionally, as stated in the limited asbestos survey report by GHD (Appendix 2), any material found in the project area that is suspected to be ACM or resembles what GHD has identified as ACM will need to be treated as ACM. There may be options to segregate materials from the estimated 3,100 cubic yards in order to reduce the volume required for disposal offsite.

## 5.0 Recommendations

GHD has provided recommendations for mitigation of ACM in the project area based on the results of the Phase II ESA investigation. Section 6 of the attached GHD report in Appendix 2 cites conclusions and recommendations on how to properly manage ACM at the project site:

- "Material containing greater than 1% asbestos is defined by USEPA as either ACM or RACM."
- "Demolition work, as defined by NESHAP, will require removal of all RACM from a facility prior to commencement of demolition operations"
- "If suspect ACM is discovered at the project site, beyond the material listed in Table 4.1, then such material shall be assumed to contain greater than 1% asbestos, unless appropriately sampled, analyzed and determined not to contain asbestos."





Recommendations include covering and wetting where necessary any exposed ACM around the site, as well as development of an asbestos-removal and dust-mitigation plan by a Certified Asbestos Consultant (CAC), or a Certified Industrial Hygienist (CIH). "The asbestos removal plan should include discussion of abatement regulations, air monitoring, decontamination procedures, project oversight, and clearance procedures" (GHD 2021).

## 6.0 References Cited

- Bureau of Indian Affairs, Pacific Region Division of Environmental, Cultural Resource Management and Safety. (May 2019). "Phase I Environmental Site Assessment." NR:BIA-PR-DECRMS.
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- National Geographic. (2013). ). Topographic Map of APN 525-171-009-000, Loop Road, Hoopa, California. Accessed at: <http://maps.nationalgeographic.com/maps>
- SHN. (January 2021). "Sampling and Analysis Plan APN 525-171-009-000 Loop Road, Hoopa, California." Eureka, CA:SHN.
- U.S. Environmental Protection Agency, Office of Emergency and Remedial Response. (May 1991). "Directive 9345.3-02: Management of Investigation-Derived Wastes During Site Inspections." Washington, D.C.:EPA OERR.



Field Notes

1



Daily Field Report		Job No. 019227	
		Page 1	of 1
Project Name Supply Creek ESA II	Client/Owner Hoopa Valley Tribe	Weather 40° F	
General Location of Work Hoopa Ca	Project Engineer	Date 3/25/21	Day of Week Thursday
Type of Work Phase II- Asbestos sampling	Supervisor Anna Gower	Technician R. Klakken	
0800	On site at the phase II site, adjacent to Bair Rd between Loop Rd and Hwy 96.		
	The back-hoe operator (Martin Swenson) is on site with the equipment.		
0826	Walking into the fenced area, near the center of the site. A pile of tiles, treated wood and broken concrete is piled in a jumble in the SE corner.		
0850	Hold the tailgate meeting. Martin Swenson, Gary Coldgrave, and Scott Harris (GHD) are in attendance.		
0910	There are several berms or rows of debris in the SE corner of the site. The Backhoe operator will clear some of the vegetation in that section before starting.		
0920	The naming convention will be ACM-TP-n-1 or NOA-TP-1-0'- x'.		
	The samples from inside the fenced area will be called "surface".		
0950	After the vegetation removal, ACM is visible over the surface in the SE corner of the site.		
1015	Called the PM to discuss the exposed ACM.		
	Sampling will proceed per the SAP. Plastic will be brought in to cover the exposed material on the surface. Caution tape will be erected around the area with suspected ACM.		
	A water truck was not brought to the site. More garden hose will be needed to wet the surface as the pits are dug. Work will be paused long enough to go to Willow Creek to buy more water hose.		
1126	Set up and will start with TP-1 in the SE corner of the site.		
1250	TP-1 and TP-2 (SE corner and along the east side) is covered with a thick layer (~1-2 feet) of tiles. The tiles are roughly 6" square and appear to resemble roofing tiles.		
1309	TP-3 (East-central) The tiles are ~2 feet thick and over lay the native.		
1345	TP-4; hit a section of 4" steel pile at ~3' BGS. The pipe was already broken.		
1405	Two vehicles have stopped, and the occupants have approached and have asked if we are "digging up that asbestos?"		
	One states he once worked at the school while the asbestos was being removed. He believed it was in the 60's. He stated the trucks of ACM were brought out to this area and dumped into a trench or gully. The same person states this area was borrowed from to raise the level of the soccer field.		
1605	TP-8; A 3" PVC pipe, buried ~1' BGS was broken by the back how while excavating. The pipe runs east-west. The pipe appears to enter the fenced area. Some clear liquid ran out of one end of the pipe but stopped after only a few gallons. There is no odor or color to the liquid. It is presumed to be water.		
1630	The plan was to cover the exposed area by the end of the day, but no one has arrived with the plastic. There are children playing in playground at the school next door to this site.		
	Plastic will be purchased from the Ace Hardware in Willow Creek to cover the exposed soil.		
1730	A single roll of 6 mil 20' x 100' was purchased and put over most of the exposed area. More plastic will be brought out tomorrow to cover the rest.		
1830	Leaving the Supply Creek site.		
		Copy given to:	Reported By: Rogin Klakken - SHN

[illegible]



## Test Pit Log

CLIENT <u>Hoopa Valley Tribe</u>		PROJECT NAME <u>Supply Creek Phase II</u>	
PROJECT NUMBER <u>019227</u>		PROJECT LOCATION <u>Hoopa Valley</u>	
DATE STARTED <u>3/25/21</u>	COMPLETED <u>3/25/21</u>	GROUND ELEVATION <u>239.37 ft</u>	TEST PIT SIZE <u>4 x 12 ft</u>
EXCAVATION CONTRACTOR    _____		GROUNDWATER DEPTH <u>--</u>	
EXCAVATION METHOD <u>Backhoe</u>		TEST PIT DEPTH <u>5.3 ft</u>	
LOGGED BY <u>R. Klakken</u>	CHECKED BY    _____	CASING DEPTH <u>--</u>	
NOTES		SCREEN INTERVAL <u>--</u>	

[illegible]

Bottom of test pit at 5.3 feet.

234.1



GENERAL BH TP WELL COPY - CTTEST\_TEMPLATE\_PROJECT\_CREATION.GDT - 5/8/21 21:30 - \\NEUREKA\PROJECTS\2019\019227-SUPPLY-CREEK-PHASE-II-ESADATA\20210325\_PHASE II TEST PIT LOGS.GPJ



# Test Pit Log

CLIENT	Hoopla Valley Tribe	PROJECT NAME	Supply Creek Phase II
PROJECT NUMBER	019227	PROJECT LOCATION	Hoopla Valley
DATE STARTED	3/25/21	COMPLETED	3/25/21
EXCAVATION CONTRACTOR		GROUND ELEVATION	239.08 ft
EXCAVATION METHOD	Backhoe	TEST PIT SIZE	4 x 12 ft
LOGGED BY	R. Klakken	GROUNDWATER DEPTH	--
CHECKED BY		TEST PIT DEPTH	5.7 ft
NOTES		CASING DEPTH	--
		SCREEN INTERVAL	--

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
	GB	GW		(GW) WELL GRADED GRAVEL WITH SAND, gravel (0.5 - 3 inch), sub rounded to rounded, 25% coarse sand, Lt gray, dry, with trace of fines, some trace of construction material
				0.7
		CL-ML		(CL-ML) CLAYEY SILT, soft, medium plasticity, brown, moist, with few small gravel (0.5 inch), rounded
	GB			
				2.0
2.5		SP		(SP) POORLY GRADED SAND, coarse sand with 15% small cobbles, rounded, loose, gray, moist
5.0				
				5.7
				233.4

Bottom of test pit at 5.7 feet.



## Test Pit Log

**CLIENT** Hoopa Valley Tribe

**PROJECT NAME** Supply Creek Phase II

PROJECT NUMBER 019227

**PROJECT LOCATION** Hoopa Valley

DATE STARTED 3/25/21

**COMPLETED** 3/25/21

**GROUND ELEVATION** 245.12 ft

**TEST PIT SIZE** 4 x 12 ft

EXCAVATION CONTRACTOR

GROUNDWATER DEPTH --

EXCAVATION METHOD Backhoe

**TEST PIT DEPTH** 5.3 ft

LOGGED BY R. Klakken

**CHECKED BY**

CASING DEPTH \_\_\_\_\_

## NOTES

SCREEN INTERVAL     --

[illegible]





Bottom of test pit at 5.3 feet.

239.8



# Test Pit Log

CLIENT		Hoopa Valley Tribe		PROJECT NAME		Supply Creek Phase II	
PROJECT NUMBER		019227		PROJECT LOCATION		Hoopa Valley	
DATE STARTED		3/25/21		COMPLETED		3/25/21	
EXCAVATION CONTRACTOR				GROUND ELEVATION		241.02 ft	
EXCAVATION METHOD		Backhoe		TEST PIT SIZE		4 x 12 ft	
LOGGED BY		R. Klakken		GROUNDWATER DEPTH		--	
CHECKED BY				TEST PIT DEPTH		4.7 ft	
NOTES				CASING DEPTH		--	
				SCREEN INTERVAL		--	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0	 GB	SM		(SM) SILTY SAND WITH GRAVEL, fine to medium sand, 25% gravel ( 0.5 - 1.5 inch), sub rounded to rounded, with trace of non plastic fines, brown, moist, mixed with construction material
0.4				
2.5	 GB	SW-SM		(SW-SM) WELL GRADED SAND WITH SILT AND GRAVEL, 35% gravel (0.5 - 2.0 inch), sub rounded to rounded, non plastic, with few cobbles (3 - 6 inch), sub rounded to rounded, brown, moist
4.7				

Bottom of test pit at 4.7 feet.

236.3

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# Test Pit Log

CLIENT	Hoopla Valley Tribe	PROJECT NAME	Supply Creek Phase II
PROJECT NUMBER	019227	PROJECT LOCATION	Hoopla Valley
DATE STARTED	3/25/21	COMPLETED	3/25/21
EXCAVATION CONTRACTOR		GROUND ELEVATION	236.58 ft
EXCAVATION METHOD	Backhoe	TEST PIT SIZE	4 x 12 ft
LOGGED BY	R. Klakken	GROUNDWATER DEPTH	--
CHECKED BY		TEST PIT DEPTH	5.4 ft
NOTES		CASING DEPTH	--
		SCREEN INTERVAL	--

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0	GB				(GW) WELL GRADED GRAVEL WITH SAND, gravel (0.5" - 4"), sub rounded to rounded, fine to coarse sand, with few cobbles (6 - 18 inch) sub rounded to rounded, loose, greenish gray, moist, (serpentine)
2.5		Cobbles are increasing in size and percent with depth.	GW		
5.0					
5.4					

Bottom of test pit at 5.4 feet.

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# Test Pit Log

CLIENT	Hoopla Valley Tribe	PROJECT NAME	Supply Creek Phase II
PROJECT NUMBER	019227	PROJECT LOCATION	Hoopla Valley
DATE STARTED	3/25/21	COMPLETED	3/25/21
EXCAVATION CONTRACTOR		GROUND ELEVATION	235.73 ft
EXCAVATION METHOD	Backhoe	TEST PIT SIZE	4 x 12 ft
LOGGED BY	R. Klakken	GROUNDWATER DEPTH	--
CHECKED BY		TEST PIT DEPTH	4.5 ft
NOTES		CASING DEPTH	--
		SCREEN INTERVAL	--

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0	GB			(SW) WELL GRADED SAND WITH GRAVEL, gravel (0.5 - 4 inch), sub rounded to rounded, with trace cobbles (8" - 12"), rounded, trace non plastic fines, greenish gray, moist
2.5		SW		
4.5				

Bottom of test pit at 4.5 feet.

231.2



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# Test Pit Log

CLIENT	Hoopla Valley Tribe	PROJECT NAME	Supply Creek Phase II
PROJECT NUMBER	019227	PROJECT LOCATION	Hoopla Valley
DATE STARTED	3/25/21	COMPLETED	3/25/21
EXCAVATION CONTRACTOR		GROUND ELEVATION	240.13 ft
EXCAVATION METHOD	Backhoe	TEST PIT SIZE	4 x 12 ft
LOGGED BY	R. Klakken	GROUNDWATER DEPTH	--
CHECKED BY		TEST PIT DEPTH	5.2 ft
NOTES		CASING DEPTH	--
		SCREEN INTERVAL	--

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0	GB			(SW) WELL GRADED SAND WITH GRAVEL, 40% gravel (0.5 - 2.5 inch), sub angular to sub rounded, loose, greenish gray, moist
2.5		SW		
5.0				
5.2				

Bottom of test pit at 5.2 feet.

234.9



# Test Pit Log

**CLIENT** Hoopa Valley Tribe

**PROJECT NAME** Supply Creek Phase II

PROJECT NUMBER 019227

**PROJECT LOCATION** Hoop Valley

DATE STARTED 3/25/21

**COMPLETED** 3/25/21

**GROUND ELEVATION** 238.23 ft

**TEST PIT SIZE** 4 x 12 ft

**EXCAVATION CONTRACTOR**

GROUNDWATER DEPTH --

**EXCAVATION METHOD** Backhoe

**TEST PIT DEPTH** 4.5 ft

LOGGED BY R. Klakken

**CHECKED BY**

CASING DEPTH --

## NOTES

SCREEN INTERVAL --

[illegible]

Bottom of test pit at 4.5 feet.

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# Test Pit Log

CLIENT	Hoopla Valley Tribe	PROJECT NAME	Supply Creek Phase II
PROJECT NUMBER	019227	PROJECT LOCATION	Hoopla Valley
DATE STARTED	3/26/21	COMPLETED	3/26/21
EXCAVATION CONTRACTOR		GROUND ELEVATION	245.97 ft
EXCAVATION METHOD	Backhoe	TEST PIT SIZE	4 x 12 ft
LOGGED BY	R. Klakken	GROUNDWATER DEPTH	--
CHECKED BY		TEST PIT DEPTH	5.2 ft
NOTES		CASING DEPTH	--
		SCREEN INTERVAL	--

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0	GB			(ML) SANDY SILT WITH GRAVEL, non plastic, fine to coarse sand, 15% gravel (0.5 - 3.0 inch), rounded, dark brown, moist
2.5		ML		
5.0				
5.2				




Bottom of test pit at 5.2 feet. 240.8

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Test Pit Log

CLIENT	Hoopla Valley Tribe	PROJECT NAME	Supply Creek Phase II
PROJECT NUMBER	019227	PROJECT LOCATION	Hoopla Valley
DATE STARTED	3/26/21	COMPLETED	3/26/21
EXCAVATION CONTRACTOR		GROUND ELEVATION	242.36 ft
EXCAVATION METHOD	Backhoe	TEST PIT SIZE	4 x 12 ft
LOGGED BY	R. Klakken	GROUNDWATER DEPTH	--
CHECKED BY		TEST PIT DEPTH	5.6 ft
NOTES		CASING DEPTH	--
		SCREEN INTERVAL	--

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0	 GB	SW		(SW) WELL GRADED SAND WITH GRAVEL, 25% gravel (0.5 - 3.0 inch) sub rounded to rounded, with trace of fines, non plastic, gray, dry
2.5				
	 GB			
5.0				
5.6				



Bottom of test pit at 5.6 feet. 236.8

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Test Pit Log

CLIENT	Hoopla Valley Tribe	PROJECT NAME	Supply Creek Phase II
PROJECT NUMBER	019227	PROJECT LOCATION	Hoopla Valley
DATE STARTED	3/26/21	COMPLETED	3/26/21
EXCAVATION CONTRACTOR		GROUND ELEVATION	241.97 ft
EXCAVATION METHOD	Backhoe	TEST PIT SIZE	4 x 12 ft
LOGGED BY	R. Klakken	GROUNDWATER DEPTH	--
CHECKED BY		TEST PIT DEPTH	5.9 ft
NOTES		CASING DEPTH	--
		SCREEN INTERVAL	--

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0	 GB			(SW) WELL GRADED SAND WITH GRAVEL, 25% gravel (0.25 - 3.5 inch), sub rounded to rounded, with trace cobbles (8 - 12 inch), sub rounded to rounded, with trace of fines, non plastic, gray, dry
2.5		SW		
5.0				
5.9				

Bottom of test pit at 5.9 feet. 236.1

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# Test Pit Log

CLIENT	Hoopla Valley Tribe	PROJECT NAME	Supply Creek Phase II
PROJECT NUMBER	019227	PROJECT LOCATION	Hoopla Valley
DATE STARTED	3/26/21	COMPLETED	3/26/21
EXCAVATION CONTRACTOR		GROUND ELEVATION	243.87 ft
EXCAVATION METHOD	Backhoe	TEST PIT SIZE	4 x 12 ft
LOGGED BY	R. Klakken	GROUNDWATER DEPTH	--
CHECKED BY		TEST PIT DEPTH	4.9 ft
NOTES		CASING DEPTH	--
		SCREEN INTERVAL	--

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0	GB		SW-SM		(SW-SM) WELL GRADED SAND WITH SILT AND GRAVEL, non plastic fines, 25% gravel ( 1.0 - 3.0 inch), sub rounded to rounded, greenish gray, dry
1.0					242.9
2.5		Cobbles are getting larger and more numerous with depth	SW		(SW) WELL GRADED SAND WITH GRAVEL, 30 gravel (1.0 - 3.0 inch), sub rounded to rounded, trace of cobbles (1.5 - 3.5 ft), greenish gray, dry
4.9					239.0



Bottom of test pit at 4.9 feet.

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Test Pit Log

CLIENT	Hoopla Valley Tribe	PROJECT NAME	Supply Creek Phase II
PROJECT NUMBER	019227	PROJECT LOCATION	Hoopla Valley
DATE STARTED	3/26/21	COMPLETED	3/26/21
EXCAVATION CONTRACTOR		GROUND ELEVATION	239.8 ft
EXCAVATION METHOD	Backhoe	TEST PIT SIZE	4 x 12 ft
LOGGED BY	R. Klakken	GROUNDWATER DEPTH	--
CHECKED BY		TEST PIT DEPTH	5.0 ft
NOTES		CASING DEPTH	--
		SCREEN INTERVAL	--

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0	 GB			(SW) WELL GRADED SAND WITH GRAVEL, 25% gravel (0.5 - 3 inch), sub rounded to rounded, loose, with trace of fines, greenish gray, dry
2.5		SW		
5.0				

Bottom of test pit at 5.0 feet. 234.8

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Test Pit Log

CLIENT	Hoopla Valley Tribe	PROJECT NAME	Supply Creek Phase II
PROJECT NUMBER	019227	PROJECT LOCATION	Hoopla Valley
DATE STARTED	3/26/21	COMPLETED	3/26/21
EXCAVATION CONTRACTOR		GROUND ELEVATION	238.92 ft
EXCAVATION METHOD	Backhoe	TEST PIT SIZE	4 x 12 ft
LOGGED BY	R. Klakken	GROUNDWATER DEPTH	--
CHECKED BY		TEST PIT DEPTH	5.2 ft
NOTES		CASING DEPTH	--
		SCREEN INTERVAL	--

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
	GB			(SM) SILTY SAND WITH GRAVEL, non plastic fines, fine to coarse sand, 35% gravel (0.5 - 3 inch), rounded, olive gray, moist, trace of organic material
2.5		SM		
	GB			
5.0				
5.2				

Bottom of test pit at 5.2 feet. 233.7



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Test Pit Log

CLIENT Hoopla Valley Tribe

PROJECT NAME Supply Creek Phase II

PROJECT NUMBER 019227

PROJECT LOCATION Hoopla Valley

DATE STARTED 3/26/21 COMPLETED 3/26/21

GROUND ELEVATION 240.75 ft TEST PIT SIZE 4 x 12 ft

EXCAVATION CONTRACTOR \_\_\_\_\_

GROUNDWATER DEPTH --

EXCAVATION METHOD Backhoe


TEST PIT DEPTH 5.2 ft

LOGGED BY R. Klakken CHECKED BY \_\_\_\_\_

CASING DEPTH --

NOTES \_\_\_\_\_

SCREEN INTERVAL --

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0	 GB			(SM) SILTY SAND WITH GRAVEL, non plastic fines, gravel (0.5 - 4 inch) sub rounded to rounded, with trace of cobbles and boulders (12 - 24 inch) rounded, brown, dry
2.5		SM		
5.0				
5.2				

Bottom of test pit at 5.2 feet. 235.6



# Approximate Area of ACM Impacts

Write a description for your map.

## Legend

-  ~20
-  Feature 1
-  Feature 2
-  Feature 3





Areas, Lengths, and volumes used in final volume estimation					
		Units		Units	Assumptions
estimated ACM impacted area assumed for mitigation	3,395	sy	30,619	ft <sup>2</sup>	Area estimated on Google Earth using GHD Fig 1 sample locations and ACM detections. A conservative area was estimated by adding an additional <b>20 foot</b> area outside of the perimeter of observed ACM detections.
estimated area of large stock pile in center of ACM impacted area	175	sy	1,579	ft <sup>2</sup>	Area estimated on Google Earth
Estimated depth of stockpile	0.33	yd	1	ft	Based on onsite observations
estimated length of berm on south east edge of project site	63	yd	188	ft	Assumed based on field observation
estimated rise and run of berm on south east edge of project site	5	yd	15	ft	Assumed 45 degree slope and 15 foot rise based on field observation
Used <b>depth of 2 ft</b> (the depth to which ACM material was identified in construction material samples)	0.67	yd	2	ft	From GHD construction material sample results and SHN confirmation soil sample results
Scattered debris volume estimate to be equivalent to the stock pile in the south east quadrant of the project area					Assumed conservative estimate to be equivalent to stock pile volume

Volume Calc from estimated volumes				
	volume	units	volume	units
ACM impacted area volume	2,261	yd <sup>3</sup>	61,238	ft <sup>3</sup>
stock pile volume	58	yd <sup>3</sup>	1,579	ft <sup>3</sup>
berm (assumed triangular prism) volume	781	yd <sup>3</sup>	21,150	ft <sup>3</sup>
<b>Total volume</b>	<b>3,101</b>	<b>yd<sup>3</sup></b>	<b>83,967</b>	<b>ft<sup>3</sup></b>



**GHD Limited  
Asbestos Survey  
Report**

**2**



# Limited Asbestos Survey Report

**Hoopla Loop Road Vacant Parcel**

SHN

August 20, 2021

➔ **The Power of Commitment**



**GHD 380**


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Eureka, California 95501, United States

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<b>Project name</b>	SHN HOOPA LOOP ROAD ACM SAMPLING
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**Document status**

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# Executive summary

On March 25 and 26, 2021, GHD Inc. (GHD) conducted a limited asbestos assessment survey (the survey) at an approximately two-acre portion of a vacant parcel (Project Site) identified by Assessor's Parcel Number (APN) 525-171-009-000 and located east of Loop Road and west of Highway 96 in Hoopa, CA. The survey was conducted by GHD under contract with SHN, a consultant working on behalf of the Hoopa Valley Tribe, Department of Natural Resources (the Tribe) in association with the work described in the SHN Sample Analysis Plan (SAP) produced in November 2020 by SHN. The SHN SAP was written in support of the planned SHN vacant parcel remediation work to be completed at the Project Site in association with the Hoopa Valley Tribe Supply Creek Phase II Environmental Site Assessment Project (the Project). It is understood that the Tribe is working with the USEPA on an abatement strategy for the Project Site to be implemented during the Summer of 2021.

The survey described by this report included bulk sampling of suspect Asbestos Containing Materials (ACM) present on the ground surface (at grade) and within test pits (below grade) located throughout the Project Site. Specifically, the survey evaluated suspect ACM representative of the materials to be impacted by the Project scope as defined by SHN. The survey scope was limited as this assessment excluded portions of APN 525-171-009-000 located outside the work boundary depicted on the SAP Figure 2 Site Map (SHN, November 2020).

As described Table 4.1 located in Section 4, five (5) homogeneous asbestos materials were identified at the Project Site as a result of this survey. The ACM identified at the Project Site consists of scattered debris, buried waste, and construction materials amalgamated into debris piles. GHD understands that the Tribe is working with the USEPA to implement an abatement plan to remediate the ACM at the Project Site.

The Project Site and location of bulk samples collected for the survey are depicted on Figure 1 – Project Site Sample Locations (Figure 1) located in Appendix A. Photographs of the Project Site, as well as select ACM identified therein, are located in Appendix B. A tabulated summary of the polarized light microscopy (PLM) asbestos analytical data associated with the survey is provided in Table C1.1 PLM Data Summary Table, located in Appendix C. The laboratory analytical reports associated with this survey are located in Appendix D (PLM Analytical Data). A summary of the governmental regulations applicable to asbestos materials, including Title 8 California Code of Regulations Section 1529 (8CCR1529), is provided in Appendix E.

This report is a revision (Revision 2) of the previous report version dated August 12, 2021 (Revision 1). Revision 2 shall supersede and replace Revision 1. This report is subject to, and must be read in conjunction with the limitations, assumptions, and qualifications contained throughout the report.

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Appendix D	Laboratory Analytical Data
Appendix E	Asbestos Regulations Summary
Appendix F	Personnel Certifications
Appendix G	Laboratory Certifications

# 1. Introduction

GHD Inc. (GHD) is pleased to provide SHN with the following Limited Asbestos Survey Report (herein “report”) detailing the findings of the asbestos assessment survey conducted on March 25 and 26, 2021 (herein “survey”) at the northeast portion of the Loop Road parcel designated by Assessor’s Parcel Number (APN) 525-171-009-000 (herein “Project Site”) located in Hoopa, California. The survey was conducted by GHD under contract with SHN, a consultant working on behalf of the Hoopa Valley Tribe Department of Natural Resources (the Tribe) in association with the planned remediation work to be conducted at the project site as part of the Hoopa Valley Tribe Supply Creek Phase II Environmental Site Assessment Project (the Project).

This report is a revision (Revision 2) of the previous report version dated August 12, 2021 (Revision 1). Revision 2 shall replace Revision 1, with the findings and recommendations provided in this report (Revision 2) superseding those contained in all previous report versions. The following subsections provide pertinent contextual information regarding the survey, the Project, and the Project Site.

## 1.1 Purpose of this report

The survey described by this report was performed at the request of, and on behalf of SHN. GHD performed the survey to evaluate specific areas and building materials within the Project Site for the presence of asbestos. The purpose of the report is to transmit to SHN the findings and conclusions resultant from the survey.

## 1.2 Project details

### 1.2.1 Client

The survey was conducted by GHD under contract with SHN (prime consultant) on behalf of the Tribe, the owner of the Project Site. SHN shall herein be defined as the client for this report. The project-specific client information is as follows:

- SHN
  - 812 W. Wabash Avenue
  - Eureka, California 95501
    - Client Representative: Erik Nielsen, Environmental Services Principal
    - Office: (707) 441-8855
    - Email: enielsen@shn-engr.com

### 1.2.2 Project Site

The parcel encompassing the Project Site is identified by Assessor’s Parcel Number (APN) 525-171-009-000. The Project Site is situated on a portion of the property located as follows:

- APN 525-171-009-000, Loop Road. Hoopa, CA 95546

The Project Site includes an approximately two-acre portion of a vacant parcel located northeast of Loop Road and southwest of Highway 96 in Hoopa, CA. The Project Site generally consists of the center-east portion of APN 525-171-009-000, east of Briar Road and Supply Creek, as described to GHD by SHN and shown on the SAP Site Map (Figure 2) produced by SHN and dated November 2020.

The Project Site is shown on Figure 1 Project Site Sample Location Map located in Appendix A, and generally consists of the following site features:

1. Center-east portion of APN 525-171-009-000 from Briar Road to Hoopa Elementary School property boundary, including debris piles, eastern vegetated slope, and open grass areas

### 1.2.3 Project understanding

A Phase I Environmental Site Assessment of the Project Site was conducted by the Bureau of Indian Affairs, Pacific Region (BIA-PR) in May 2019. The BIA-PR Phase I identified tile fragments throughout the two-acre site that were suspected to contain asbestos (Chrysotile) fibers. At the request of the Tribe Department of Natural Resources, SHN produced a Sampling and Analysis Plan (SAP) outlining a sampling strategy to further characterize the Project Site with respect to naturally occurring asbestos and suspect Asbestos Containing Materials (ACM). SHN, on behalf of the Tribe, subcontracted with GHD to conduct ACM sampling and reporting at the Project Site in support of the work described by Section 3.2 of the SAP.

### 1.2.4 Project Site existing conditions

The Project Site generally consists of previously developed, currently vacant land vegetated by grasses, shrubs, and trees. A fenced area, located near the center of the Project Site, encloses remanent septic infrastructure, thus was excluded from the test pitting work. Debris piles are located throughout the Project Site. The eastern portion of the Project Site consists of a heavily vegetated slope terminating in a chain-link fence separating the Project Site from the Hoopa Valley Elementary School maintenance yard.

This report includes the following information about the specific structure(s) and building features inspected in association with this survey, which shall further define the Project Site:

1. A plan-view diagram, Figure 1 located in Appendix A, generally depicts the Project Site and the approximate location bulk samples collected during the survey. The extent and distribution of sample points shown on Figure 1 shall define the Project Site.
2. Photographs depicting the Project Site are located in Appendix B.
3. Descriptions of the specific sampled building materials are listed in the data tables located in Section 4, in the asbestos bulk sampling data summary table located in Appendix C, as well as the laboratory analytical reports located in Appendix D.

## 1.3 Scope and limitations

The services undertaken by GHD in connection with preparing this report were limited as defined herein and are subject to the scope, limitations, and assumptions set out in this report and associated contracting documents. This report has been prepared by GHD for SHN and may only be used and relied on by SHN for the purpose agreed between GHD and SHN as set out in this report. GHD otherwise disclaims responsibility to any person other than SHN arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. The report's findings are based on conditions that existed on the date(s) of GHD's site visit(s) and should not be relied upon to precisely represent conditions at any other time. Conclusions about site conditions under no circumstances comprise a warranty that conditions in all areas within the site are of the same quality as those sampled. Recognize, too, that hazardous materials and/or contamination might exist in forms not indicated by the limited assessment described herein.

The survey scope of work associated with this report was limited to the Project Site areas shown on Figure 1 and the suspect hazardous materials described herein. The survey was limited to the safely accessible areas of the Project Site listed in Section 1.2.2 and shown on Figure 1.

Some areas and components associated with the Project Site were not sampled for the survey, as such areas/materials are not to be impacted by the Project scope. Areas not in survey/Project scope and/or not specifically defined in this report are excluded from the definition of the Project Site. The areas and materials excluded from the scope of this limited survey included the following (areas and/or components not surveyed):

1. Area within the chain-link fence located near the center of the parcel identified by SHN as containing remnant septic infrastructure
2. Suspect materials located within permit-required confined spaces, or otherwise inaccessible including material buried underground (other than material within test pits excavated while GHD was onsite)
3. Roadways, staging areas, parking areas, soil and/or naturally occurring aggregate
4. Areas not specifically defined herein and shown on Figure 1

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 1.4 of this report). GHD disclaims liability arising from any of the assumptions being incorrect. GHD has prepared this report on the basis of information provided by SHN and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

## 1.4 Assumptions

GHD's scope of work for this survey included collection of suspect ACM from the ground surface (at grade) and below the ground surface (below grade) from within test pits excavated by SHN at the Project Site in general accordance with the SAP. Specifically, GHD's work included sampling of suspect ACM encountered by SHN during their work outlined in Section 3.2 of the SAP. GHD did not perform any excavation in association with this survey. Subsurface samples of ACM collected by GHD for this survey were limited to the test pit floors, sidewalls, and/or soil stockpiles associated with the test pits completed by SHN working with the Tribe. The depth of ACM below grade at locations where test pits were not completed is unknown.

GHD understands that the client and the project site owner intend to comply with Cal/OSHA regulations regarding asbestos during the project. As such, this report contains regulatory references to Cal/OSHA standards.

It is understood that the Tribe is working with the USEPA on an ACM abatement strategy for the Project Site to be implemented during the Summer of 2021. Soil within the areas where ACM was found is understood to be impacted by ACM and thus is presumed to be included within the scope of abatement work planned for the Project Site.

Samples of soil or naturally occurring materials were not collected by GHD for this survey. Based on California Department of Conservation Division of Mines and Geology data<sup>1</sup>, rock and/or soils associated with Naturally Occurring Asbestos (NOA) are present in proximity to the Project Site. Regulations governing NOA, including those enforced by the California Air Resources Board (CARB), may apply to the Project subject to the site-specific occurrence and/or disturbance of NOA. The existence of NOA can only be defined by a Professional Geologist via CARB 435 methodology. GHD understands that a NOA assessment for the Project Site is to be made by SHN.

## 2. Survey regulatory setting

This section provides a regulatory context for the survey and generally summarizes the asbestos regulatory setting applicable to the Project Site. Further information is provided in Appendix E.

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<sup>1</sup> State of California Department of Conservation Division of Mines and Geology, A General Location guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos (August 2000), accessed on April 14, 2021 via: [https://ww3.arb.ca.gov/toxics/asbestos/ofr\\_2000-019.pdf](https://ww3.arb.ca.gov/toxics/asbestos/ofr_2000-019.pdf)



The USEPA enforces asbestos regulations authorized under the Clean Air Act and specify work practices to be followed at facilities to mitigate asbestos air pollution. To mitigate airborne asbestos fiber release, a survey must be conducted at facilities prior to renovation and/or demolition work to identify and sample suspect asbestos materials<sup>2</sup> in compliance with the USEPA National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations, per Title 40 Code of Federal Regulations (CFR) Section 61, Subparts A and M. The project-specific NESHAP requirements are outlined in Section 5. Materials reported to contain greater than one percent (1%) asbestos by weight are regulated by the USEPA as either Asbestos Containing Material (ACM) or Regulated Asbestos Containing Material (RACM) based each material's distinctive physical characteristics. Materials containing less than 1% asbestos are not subject to USEPA asbestos regulations.

Asbestos is a known human carcinogen, thus worker exposure to asbestos is regulated by Cal/OSHA. Employee protection protocols per Title 8 California Code of Regulations (CCR) Sections 1529 (8CCR1529) apply to disturbance of material containing asbestos in any detectable concentration. Per Cal/OSHA, material containing greater than 1% asbestos is defined as Asbestos Containing Material (ACM), while Asbestos Containing Construction Material (ACCM) refers to material containing greater than 0.1% asbestos. Cal/OSHA requires that specific types of suspect asbestos materials located in buildings constructed no later than 1980 must be presumed to contain asbestos, unless sampled and proven to be otherwise. Presumed Asbestos Containing Material (PACM) includes thermal system insulation (TSI)<sup>3</sup> and surfacing materials<sup>4</sup>. Work conducted by an employee impacting ACM or ACCM is regulated by Cal/OSHA according to the specific material(s) to be disturbed and the size of the job. Materials reported to be nondetect via PLM laboratory analysis are not subject to regulation by Cal/OSHA as ACM or ACCM.

### 3. Survey description

The survey was conducted at the Project Site by GHD on March 25 and 26, 2021. The survey scope of work included bulk sampling of suspect asbestos containing material (ACM) at the Project Site in and around test pits excavated by SHN and the Tribe in accordance with the SAP.

The survey was conducted to support SHN in assisting the Tribe with compliance with United States Environmental Protection Agency (USEPA) and California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) regulations governing asbestos, as applicable to the planned Project.

For this survey, the following number of bulk samples were collected from the Project Site and submitted under chain of custody to EMSL Laboratories (EMSL), located in San Leandro, California, for analysis via the referenced methodology:

1. A total of 38 samples were collected from the Project Site, including the following:
  - a. 25 bulk material samples were collected from the ground at surface level (sample numbers: 11225912-ACM-SURF-1 to 11225912-ACM-SURF-25)
  - b. 13 bulk samples were collected from below the ground surface within test pits excavated in association with the SAP (sample numbers: 11225912-ACM-TP1-1 to 11225912-ACM-TP14-2)
2. Bulk samples were analyzed for asbestos content via polarized light microscopy (PLM) methodology following USEPA method 600/R-93-116.

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<sup>2</sup> Suspect asbestos material includes, but is not limited to, the following materials: mastics, caulking, base cove, Thermal System Insulation applied to pipes, boilers, or other components to prevent heat loss or gain; Surfacing Materials, including spray or troweled-on surface coatings and acoustic/decorative textures; cementitious products, including cement paneling/piping; roofing products, including associated mastics, felts, or coatings; resilient flooring; gaskets and lagging; drywall; joint compound; plasters; vibration cloths, or expansion joints.

<sup>3</sup> Thermal System Insulation is ACM applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat loss or gain.

<sup>4</sup> Surfacing material is material that is sprayed, troweled-on or otherwise applied to surfaces (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes).

## 3.1 Key project personnel

The survey was completed at the Project Site by Scott Harris, a GHD Certified Asbestos Consultant (CAC) (#11-4713). This report was produced for SHN by GHD. The report was authored by Mr. Harris and was reviewed by Misha Schwarz, a GHD senior scientist. Copies of the certifications for key GHD staff performing survey and reporting work are included in Appendix F.

## 3.2 Survey methodology

The following protocol generally describes the sampling methodology for the survey. Copies of the professional certifications for key GHD personnel, including survey field staff, are included in Appendix F. The following list summarizes the sampling procedures utilized:

1. Suspect asbestos materials were visually identified at the Project Site.
  - a. Suspect ACM was categorized into homogeneous materials/areas. Note: for the purpose of this report, “homogeneous” defines visually similar materials that are uniform in texture, color, and date of installation/application.
2. A sampling scheme was developed based on the location and quantity of homogeneous materials.
  - a. Representative suspect ACM was identified and selected for sampling in general accordance with NESHAP sampling guidelines.
3. Samples of suspect ACM were collected where observed within test pit excavations. Test pit excavations were dug using a backhoe loader operated by the Tribe. The location and depth of test pits were directed by SHN.
4. Bulk samples were collected using appropriate sampling tools. Samples were placed in leak-tight containers and labeled with a unique numerical identifier (sample number).
5. Decontamination of sampling tools was employed to prevent the spread of secondary contamination to subsequent bulk samples.
6. Friability, defined as the susceptibility of a dry material to be crumbled, pulverized or reduced to a powder using hand pressure, was determined for each sampled suspect ACM. Multiple samples were taken of some homogeneous suspect ACM distributed throughout the Project Site, in general accordance with regulatory and industry standards.
7. The general location of each bulk sample was recorded using a mobile Global Positioning System device. The sample number, collection location and a description of the physical attributes of each bulk sample were recorded on a digital chain of custody form. Signed hardcopies of the custody forms accompanied the sample set(s) to the analyzing laboratory.
8. Bulk samples were submitted under chain of custody via overnight shipment to EMSL for analysis of asbestos content via PLM analysis. Copies of the EMSL accreditations and certifications are located in Appendix G.

## 4. Findings for asbestos

Of the suspect ACMs collected during the survey, five (5) homogeneous materials were reported by the analyzing laboratory to contain asbestos fibers via PLM analysis. The asbestos materials identified during the survey at the Project Site are described in Table 4.1 Asbestos Laboratory Data and Quantification Summary which begins on page 7. Table 4.1 lists the physical description, approximate location, and reported asbestos content for the identified asbestos material. In addition, the applicable Cal/OSHA asbestos work class, the Cal/OSHA or USEPA asbestos material category, and the anticipated waste designation for each material type are listed in Table 4.1. The location

descriptions noted in Table 4.1 and in associated project documents reference project north, an azimuth description established in the field and aligning with the northeast Project Site property boundary (approximately 45 degrees east of true north). Project north is shown on Figure 1 (Appendix A).

Materials that are homogeneous to (i.e., alike and may be represented by) those listed in Table 4.1 shall be presumed to contain asbestos. As applicable, suspect ACM not sampled is classified in Table 4.1 as Presumed Asbestos Containing Material (PACM) in accordance with Cal/OSHA protocols. Materials that do not contain asbestos fibers above the laboratory detection limit are noted on the laboratory analytical reports as nondetect (ND), or no asbestos detected (NAD). Materials reported to be ND or NAD are not listed in Table 4.1.

Quantity estimates for the asbestos material identified at the Project Site are provided in Table 4.1. The quantities include the total observed distribution of the material, cumulatively estimated for the Project Site, and do not define any partial quantities potentially disturbed during Project work impacting only discrete location(s) or limited amount(s) of material. The actual quantity of asbestos to be impacted in association with the Project is undefined, as the amount of asbestos disturbance is dependent on developing Project needs, abatement scoping, and contractor means/methods. Quantities shall be confirmed with bidding contractor(s) prior to bid submittal.

A summary table, Table C1.1, listing all survey bulk sampling PLM data, including the ND/NAD data, is provided in Appendix C. The PLM analytical reports associated with this survey are included in Appendix D.

**Table 4.1 Asbestos Laboratory Data Summary**

Sample Number(s)	Material Description	Material Location <sup>1</sup>	Asbestos %/Type	Asbestos Material Category <sup>2</sup>	Cal/OSHA Work Class <sup>3</sup>	Projected Waste Designation <sup>4</sup>
11225912-ACM-SURF-1, 2, 4, 6, 13, 16, 23	Cementitious Panel [Light grey]	Northeast portion of Project Site – Debris piles, scattered debris at grade, east slope under vegetation, and buried material up to 2 feet below ground surface	4% to 10% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-TP1-1, 2	Cementitious Panel [Grey]	Test Pit 1 - Below grade up to 2 feet below ground surface	5% to 10% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-SURF-3, 7, 9	Roofing Shingle [Black, Grey]	Northeast portion of Project Site – Debris piles, scattered debris at grade, east slope under vegetation, and buried material up to 2 feet below ground surface	2% to 5% CH	Category I Nonfriable ACM	Class II	RACM
11225912-ACM-TP2-1, 2	Cementitious Panel [Grey]	Test Pit 2 - Below grade, up to 1.5 feet below ground surface	8% to 10% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-TP3-1, 2	Vinyl Floor Tile [Grey, Light Brown]	Test Pit 3 - Below grade, 0.5 feet below ground surface	5% CH	Category I Nonfriable ACM	Class II	RACM
11225912-ACM-TP3-3	Cementitious Panel [Grey]	Test Pit 3 - Below grade, 0.5 feet below ground surface	7% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-TP4-1	Cementitious Panel [Grey]	Test Pit 4 - Below grade, 0.5 feet below ground surface	9% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-SURF-14	Tar Paper [Black]	East Slope – Throughout slope at grade under vegetation (depth of potentially buried material unknown at this location)	8% CH	Category I Nonfriable ACM	Class II	RACM



**Table 4.1 Asbestos Laboratory Data Summary**

Sample Number(s)	Material Description	Material Location <sup>1</sup>	Asbestos %/Type	Asbestos Material Category <sup>2</sup>	Cal/OSHA Work Class <sup>3</sup>	Projected Waste Designation <sup>4</sup>
11225912-ACM-SURF-15, 17	Vinyl Floor Tile [Light Grey]	Northeast portion of Project Site – Debris piles, scattered debris at grade, east slope under vegetation, and buried material up to 2 feet below ground surface	8% CH to 10% CH/CR	Category I Nonfriable ACM	Class II	RACM
<b>Acronyms:</b> <ul style="list-style-type: none"><li>ACM = Asbestos Containing Material (&gt;1% asbestos)</li><li>ACCM = Asbestos Containing Construction Material (&gt;0.1% asbestos)</li><li>Cal/OSHA = California Department of Industrial Relations, Division of Occupational Safety and Health</li><li>CH = Chrysotile (serpentine form of asbestos)</li><li>CR = Crocidolite (amphibole form of asbestos)</li><li>NA = Not applicable</li></ul>			<ul style="list-style-type: none"><li>ND = Nondetect, or No Asbestos Detected</li><li>RACM = Regulated Asbestos Containing Material</li><li>RCRA = Resource Conservation and Recovery Act</li><li>TP = Test Pit</li><li>USEPA = United States Environmental Protection Agency</li><li>&lt; = Symbol meaning “less than”</li><li>&gt; = Symbol meaning “greater than”</li></ul>			
<b>Annotations:</b> <ul style="list-style-type: none"><li><sup>1</sup> = The location descriptions noted herein and in associated project documents reference project north, an azimuth description aligning with the northeast Project Site property boundary.</li><li><sup>2</sup> = USEPA regulates material containing &gt;1% asbestos, classified into two broad categories: friable (RACM and Category I and II that may become friable) and nonfriable (Category I and II ACM).</li><li><sup>3</sup> = Cal/OSHA regulates material containing <u>ANY</u> quantity of asbestos. Cal/OSHA regulates material containing &gt;0.1% asbestos as ACCM and &gt;1% asbestos as ACM. Cal/OSHA differentiates asbestos removal operations into five classes (Class I to IV, plus unclassified work). Class I through IV operations include tasks impacting material containing &gt;1% asbestos (ACM). Unclassified work includes tasks impacting material containing &lt;1% asbestos. <u>Work impacting asbestos in any quantity is subject to Cal/OSHA requirements.</u><ul style="list-style-type: none"><li>It is recommended that unclassified work be conducted per Class II work protocols.</li><li>It is recommended that interior work, regardless of work classification, be conducted within sealed negative pressure containments.</li></ul></li><li><sup>4</sup> = RACM is a California hazardous waste (non-RCRA hazardous waste). USEPA Category I and II nonfriable ACM that remains nonfriable during removal is characterized as non-hazardous asbestos-containing waste. The non-hazardous waste designation presumes that nonfriable material will not become friable due to contractor removal practices. If nonfriable ACM is rendered friable (e.g., via the use of mechanical removal means, fire damage, etc.), then such material shall be classified as RACM and disposed of as a California hazardous waste.</li></ul>						
<b>Notes:</b> <ul style="list-style-type: none"><li>Work impacting material homogeneous (alike) to that noted in this table shall be understood to impact asbestos, regardless of location.</li><li>See Appendix E for further information on the asbestos regulatory environment, including USEPA material categories and Cal/OSHA work classes.</li></ul>						

## 5. Regulatory jurisdiction and notification

The survey was conducted by GHD to assist SHN with compliance with the USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) asbestos requirements in association with the Project. The USEPA local authority with responsibility for implementing the NESHAP regulations throughout the Project Site region is the North Coast Unified Air Quality Management District (NCUAQMD). Contact information for the NCUAQMD is provided below:

- North Coast Unified Air Quality Management District
  - 707 L Street, Eureka, California 95501
  - Phone: (707) 443-3093
  - Web: <http://www.ncuaqmd.org/>

Work meeting the NESHAP definition of a demolition and/or work impacting RACM in quantities above specific size thresholds necessitates the submittal of a NESHAP Notification form and associated fee to the USEPA and CARB (addresses above). The RACM quantity thresholds necessitating NESHAP notification to NCUAQMD are greater than, or equal to the following:

1. 160 square feet, 260 linear feet (for pipe insulation), or 35 cubic feet (for debris or waste)

The NESHAP regulations stipulate that the Project owner shall notify the NCUAQMD at least 10 business days prior to the commencement of a renovation project, or commencement of work that impacts RACM in excess of the above-noted quantities. A NESHAP notification is required by the NCUAQMD if a project includes one or more of the following elements:

1. The impactation of RACM in excess of the NCUAQMD notification thresholds
2. Work that meets the NESHAP definition of a “demolition,” which is defined as the unweighting or removal of any load-bearing structural member(s)
  - a) Note: a NESHAP notification is required for all demolition projects and is not dependent on the presence or absence of asbestos (ACM or RACM)

In addition to the NESHAP regulations enforced by the NCUAQMD, work at the Project Site shall be conducted in accordance with applicable employee protection regulations enforced by Cal/OSHA, including 8CCR1529, 5203 341.6-341.14 and the California Health and Safety Code. As required by 8CCR1529(r) and 5203, written notification must be made to the nearest Cal/OSHA District Enforcement Office with jurisdiction over the Project Site for Asbestos-Related Work. Cal/OSHA notification shall be made at least 24 hours prior to the start of hazardous material-related work and is required if the planned project scope includes the following element:

1. The impactation of ACM and/or ACCM in excess of 100 square feet

The following table, Table 5.1 Pre-Work Regulatory Notifications (Table 5.1), summarizes the Cal/OSHA and NESHAP notifications anticipated in association with the Project. Further discussion of USEPA and Cal/OSHA regulations is provided in Appendix E.

**Table 5.1 Project Notifications**

Agency	Notification Type	Anticipated Notification Requirement	Submittal Timeline
NCUAQMD	NESHAP Demolition/ Renovation Notification	<input checked="" type="checkbox"/> Required <sup>1</sup>	>10 Business Days Prior to Work Start
		<input type="checkbox"/> Not anticipated	
Cal/OSHA	Temporary Worksite Notification	<input checked="" type="checkbox"/> Required <sup>2</sup>	>24 Hours Prior to Work Start
		<input type="checkbox"/> Not anticipated	

Notes:

- Cal/OSHA = California Department of Industrial Relations, Division of Occupational Safety and Health
- NESHAP = National Emissions Standards for Hazardous Air Pollutants
- NCUAQMD = USEPA-delegated authority with jurisdiction over the Project Site
- USEPA = United States Environmental Protection Agency
- <sup>1</sup> = Assumption: Removal/unweighting of structural members (demolition work) and/or disturbance of RACM in excess of NCUAQMD notification thresholds is expected to occur during this project
- <sup>2</sup> = Assumption: asbestos-related work in excess of 100 square feet is expected to occur
- ≥ = Signifying “greater than, or equal to”

## 6. Conclusion

As described in Table 4.1 located in Section 4, five (5) homogeneous materials sampled for this survey were reported by the analyzing laboratory to contain asbestos fibers. The ACM identified at the Project Site consists of scattered debris, buried debris, and construction waste amalgamated into debris piles. Soil impacted with ACM debris should be presumed to contain asbestos, thus soil at the Project Site associated with cementitious panels, roofing material, floor tile, or other known and/or suspect ACM should be properly removed and disposed of with the asbestos waste stream. It is understood that the Tribe is working with the USEPA on an abatement strategy for the Project Site to be implemented in 2021.

The asbestos materials identified in Table 4.1 are subject to applicable governmental asbestos regulations, including those summarized in Appendix E. Work to remove the identified ACM from the Project Site shall be conducted by a licensed abatement contractor in accordance with Cal/OSHA Class II work protocols as stipulated in 8CCR1529. Agency notifications, as summarized in Table 5.1 in Section 5, must be submitted by the contractor or the Project Site owner prior to the commencement of any abatement work at the Project Site.

The findings in this report are based on information obtained from the specific sample points noted on Figure 1 (Appendix A) and described by the laboratory analytical reports (Appendix D). Site conditions at other parts of the Project Site may be different from the conditions found at the specific sample points. This report should not be used to evaluate the potential disturbance of suspect hazardous materials in association with area(s), site feature(s), and/or projects beyond the scope of the survey.

If suspect ACM is discovered at the Project Site, beyond the material listed in Table 4.1, then such material shall be assumed to contain greater than 1% asbestos, unless appropriately sampled, analyzed and determined not to contain

asbestos. If supplementary suspect asbestos material is discovered during site work, then work in that area shall stop, the material wetted, and access to the area restricted until an appropriate asbestos characterization can be made.

Material containing greater than 1% asbestos is defined by USEPA as either ACM or RACM, and by Cal/OSHA as ACM. Materials containing less than 1% asbestos via 400-point count methodology are not regulated by USEPA as ACM or RACM; however, material containing any amount of asbestos, even less than 1%, is regulated by Cal/OSHA. Demolition work, as defined by NESHAP, will require removal of all RACM from a facility prior to commencement of demolition operations.

Material containing any amount of asbestos is regulated by Cal/OSHA per 8CCR1529. Cal/OSHA requires material containing greater than 1% asbestos (ACM) to be removed using Class II work protocols, except for ACM surfacing material and Thermal System Insulation, which must be removed using Class I work protocols. Class I work must be conducted within sealed, negatively pressurized containments equipped with a three-stage decontamination chamber which includes a shower. Work impacting material containing less than 1% asbestos is considered an “unclassified” operation by Cal/OSHA. While not required by regulation, it is recommended that work impacting material containing less than 1% asbestos (unclassified work) be performed using Class II work protocols, at a minimum, as outlined in 8CCR1529.

## 6.1 Recommendations

It is recommended that ACM debris exposed at the soil surface be wetted and covered to mitigate potential for airborne fiber release until such time as the ACM and associated soil can be properly removed from the Project Site. While onsite, GHD observed a layer of 6 mil plastic sheeting ground covering applied to the area associated with ACM surface debris. Additional ground coverings are recommended to further ameliorate potential wind erosion of ACM debris and ACM-impacted soil located at the Project Site.

Ground covering(s) should contain material at the soil surface that is homogeneous with the ACM sampled during the survey (see photographs of identified ACM in Appendix B). Additional ground coverings to temporarily mitigate wind erosion until ACM and impacted soil abatement is complete may include one or more of the following:

1. 6 mil plastic sheeting, appropriately weighted to prevent fly-away
2. Jute mesh erosion control mat, weighted, watered, and seeded
3. Bridging encapsulant spray-applied to exposed ACM debris and associated ACM-impacted soil

It is recommended that any coverings overlaid on the ACM be regularly inspected to assess the integrity of the covering(s). Degradation of plastic sheeting may be expected due to weather exposure, thus subsequent applications of plastic sheeting (if used) should be directly overlaid on existing in situ plastic sheeting. Plastic sheeting should be weighted using sandbags, or other suitable materials, to prevent damage and/or fly-away due to wind.

It is recommended that an asbestos removal plan and a dust mitigation plan be developed by a qualified individual (Certified Asbestos Consultant [CAC], or a Certified Industrial Hygienist [CIH]) to be implemented by the abatement contractor in association with the planned asbestos abatement at the Project Site. The asbestos removal plan should include discussion of abatement regulations, air monitoring, decontamination procedures, project oversight, and clearance procedures.

It is recommended that all materials containing asbestos be removed by a licensed abatement contractor adhering to Class II asbestos work protocols prior to the commencement of other construction work at the Project Site. It is recommended ACM and ACM-impacted soil excavated from the Project Site be disposed of as RACM, a California hazardous waste, at an appropriate treatment, storage, and disposal (TSD) facility.

It is recommended that this report be provided to contractors and/or personnel who conduct work at the Project Site. It is recommended that SHN maintain copies of this report for as long as the known hazardous materials remain at the Project Site, plus an additional period of 30 years.

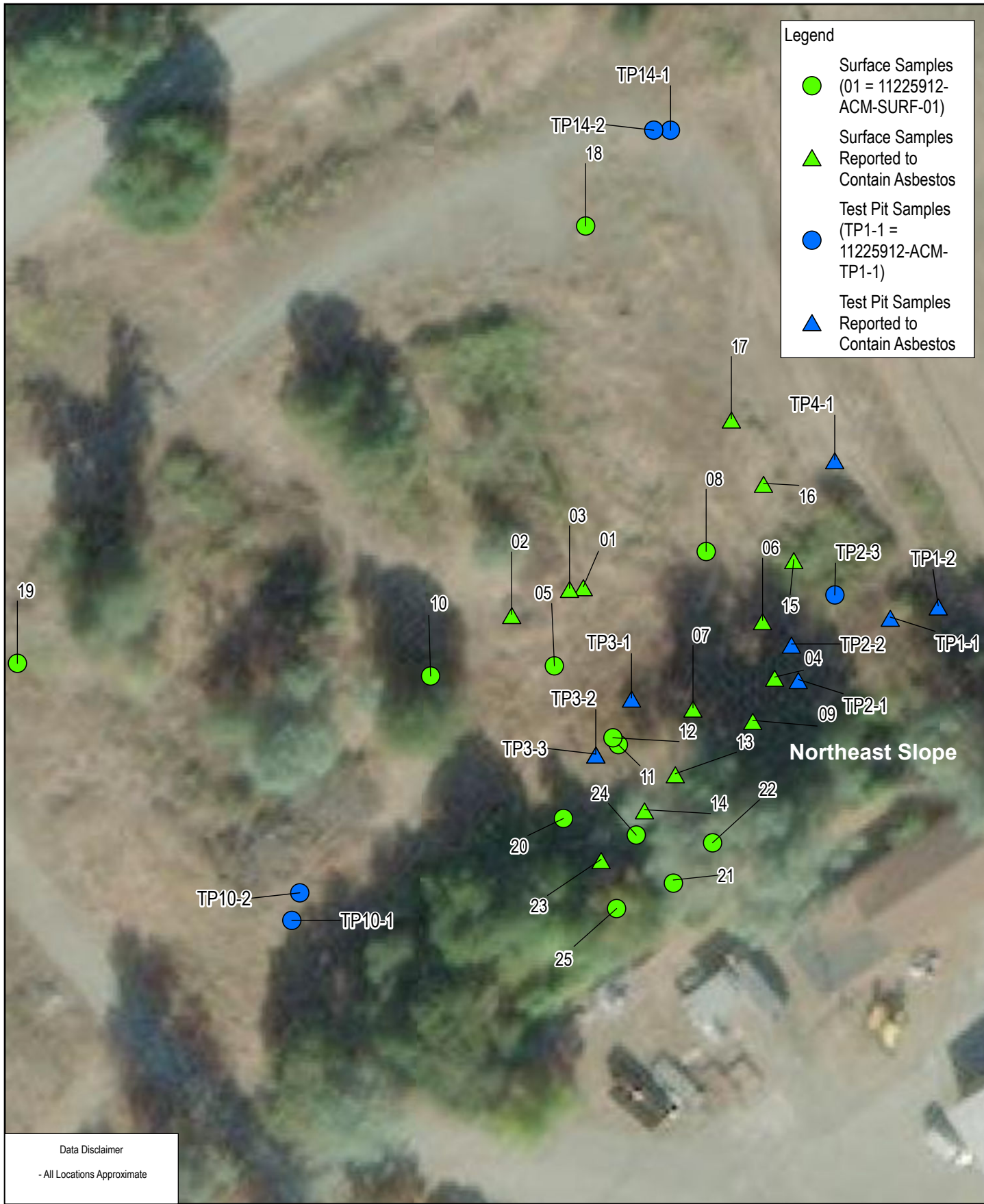
# Appendices

# Appendix A

## Figures

Figure(s) Depicting Survey Sample Locations





# **Appendix B**

## **Photographs**



# Site Photographs

The photographs presented in the following section generally depict the Project Site, including some of the materials sampled for the survey. Note azimuth descriptions herein refer to project north (northeast property boundary).



Photograph 1 – Northeast debris pile – Cementitious panel debris reported to contain asbestos.



Photograph 2 – Northeast debris pile – Roofing debris (typical) (ACM).





Photograph 3 – Test Pit 1 – Cementitious panel debris (typical) below grade (ACM).



Photograph 4 – East slope – Cementitious panel and vinyl floor tile debris (typical) (ACM).





Photograph 5 – Test Pit 10 – Bituminous piping reported to be nondetect (not asbestos).



Photograph 6 – Debris pile at center fenced area containing ACM.



Photograph 7 – Northeast portion of Project Site with areas of covered ACM debris

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# Appendix C

## Analytical Data Summary Table

**Table C1.1 Laboratory Analytical Data Summary**

<b>Sample Number(s)</b>	<b>Material Description</b>	<b>Material Location<sup>1</sup></b>	<b>Asbestos %/Type</b>	<b>Asbestos Material Category<sup>2</sup></b>	<b>Cal/OSHA Work Class<sup>3</sup></b>	<b>Projected Waste Designation<sup>4</sup></b>
11225912-ACM-SURF-1	Cementitious Panel [Light grey]	Center Fenced Area - Exterior at Grade NE Debris Pile NE	10% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-SURF-2	Cementitious Panel [Light grey]	Center Debris Pile - Exterior at Grade NE Debris Pile NE	10% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-SURF-3	Roofing Shingle [Black, Grey]	Center Fenced Area - Exterior at Grade NE Debris Pile NE	3% to 5% CH	Category I Nonfriable ACM	Class II	RACM
11225912-ACM-SURF-4	Cementitious Panel [Light grey]	NE Debris Pile - Exterior at Grade NE Center	4% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-SURF-5	Roofing Shingle [Black, Brown]	NE Debris Pile - Exterior at Grade Center NE Corner	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
11225912-ACM-SURF-6	Cementitious Panel [Light grey]	NE Debris Pile - Exterior at Grade Center NE Center	8% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-SURF-7	Roofing Shingle [Black, Grey]	NE Debris Pile - Exterior at Grade - NE Center	2% CH	Category I Nonfriable ACM	Class II	RACM
11225912-ACM-TP1-1	Cementitious Panel [Grey]	TP1 - Exterior Below Grade - 8" BGS NE Corner	5% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-TP1-2	Cementitious Panel [Grey]	TP1 - Exterior Below Grade - 4" BGS NE	10% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-TP2-1	Cementitious Panel [Grey]	TP2 - Exterior Below Grade - 2" BGS NE Center	8% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-TP2-2	Cementitious Panel [Grey]	TP2 - Exterior Below Grade - 2" BGS NE Center	10% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-TP2-3	Roofing Shingle [Black, White Granular]	TP2 - Exterior Below Grade - 1" BGS NE Center	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste

**Table C1.1 Laboratory Analytical Data Summary**

<b>Sample Number(s)</b>	<b>Material Description</b>	<b>Material Location<sup>1</sup></b>	<b>Asbestos %/Type</b>	<b>Asbestos Material Category<sup>2</sup></b>	<b>Cal/OSHA Work Class<sup>3</sup></b>	<b>Projected Waste Designation<sup>4</sup></b>
11225912-ACM-TP3-1	Vinyl Floor Tile [Grey, Light Brown]	TP3 - Exterior Below Grade - 4" BGS E Center	5% CH	Category I Nonfriable ACM	Class II	RACM
11225912-ACM-TP3-2	Vinyl Floor Tile [Grey, Brown]	TP3 - Exterior Below Grade – 3" BGS E Center	5% CH	Category I Nonfriable ACM	Class II	RACM
11225912-ACM-TP3-3	Cementitious Panel [Grey]	TP3 - Exterior Below Grade - 4" BGS E Center	7% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-TP4-1	Cementitious Panel [Grey]	TP4 - Exterior Below Grade – 4" BGS N Center	9% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-SURF-8	Brick [Red, Orange] (No Mortar)	NE of Fenced Area - Exterior at Grade - Center	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
11225912-ACM-SURF-9	Roofing Shingle [Black, Grey]	NE Slope - Exterior at Grade - Under Ivy at Toe of Slope NE	5% CH	Category I Nonfriable ACM	Class II	RACM
11225912-ACM-SURF-10	Concrete [Light Grey Granular]	Center S of Fenced Area - Exterior at Grade – Remnant Post Footing	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
11225912-ACM-SURF-11	30" Concrete Pipe [Light Grey]	East Debris Pile - Exterior at Grade - Remnant Pipe at E Center	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
11225912-ACM-SURF-12	Concrete [Light Grey]	East Debris Pile - Exterior at Grade - Remnant Pole/Post Footing at E Center	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
11225912-ACM-SURF-13	Cementitious Panel [Light Grey]	East Slope - Center South - Exterior at Grade - Under Ivy at E Center	10% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-SURF-14	Tar Paper [Black]	East Slope - Center - Exterior at Grade - Under Ivy at E Center	8% CH	Category I Nonfriable ACM	Class II	RACM
11225912-ACM-TP10-1	Ceramic Fragment [White]	TP10 - Exterior Below Grade - 16" BGS SE Corner	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste

**Table C1.1 Laboratory Analytical Data Summary**

<b>Sample Number(s)</b>	<b>Material Description</b>	<b>Material Location<sup>1</sup></b>	<b>Asbestos %/Type</b>	<b>Asbestos Material Category<sup>2</sup></b>	<b>Cal/OSHA Work Class<sup>3</sup></b>	<b>Projected Waste Designation<sup>4</sup></b>
11225912-ACM-TP10-2	Wood-Like Debris [Light Tan]	TP10 - Exterior Below Grade - 18" BGS SE	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
<b>11225912-ACM-SURF-15</b>	<b>VFT [Light Grey]</b>	<b>North Center (Northernmost Corner) - Exterior at Grade - South of Soccer Field Center</b>	<b>8% CH 2% CR</b>	<b>Category I Nonfriable ACM</b>	<b>Class II</b>	<b>RACM</b>
<b>11225912-ACM-SURF-16</b>	<b>Cementitious Panel [Light Grey]</b>	<b>Center North of Fenced Area - Exterior at Grade - N Center</b>	<b>4% CH</b>	<b>Category II Nonfriable ACM</b>	<b>Class II</b>	<b>RACM</b>
11225912-ACM-TP14-1	Bituminous Fiber Pipe [Black, Perforated]	TP14 - Exterior Below Grade – 24" BGS NW Corner	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
11225912-ACM-TP14-2	Bituminous Fiber Pipe [Black, Perforated]	TP14 - Exterior Below Grade – Collected from TP14 Soil Stockpile NW Corner	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
<b>11225912-ACM-SURF-17</b>	<b>VFT [Light Grey]</b>	<b>Open Field - North of Fenced Area - Exterior at Grade - N Center</b>	<b>8% CH</b>	<b>Category I Nonfriable ACM</b>	<b>Class II</b>	<b>RACM</b>
11225912-ACM-SURF-18	CMU [Grey, Course] + Mortar [Light Grey]	NW at T-Bar Fence - Exterior at Grade - NW Portion of Site, SE of TP14	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
11225912-ACM-SURF-19	Roofing Shingle [Black]	SW Corner at Wood Debris Pile - Exterior at Grade - SW Corner	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
11225912-ACM-SURF-20	Asphalt [Black, Hard]	E Slope at Base - Exterior at Grade - Debris Pile SE of TP3 Under Ivy E Center	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
11225912-ACM-SURF-21	Asphalt [Black, Hard, Granular]	East Slope at Mid-Slope - Exterior at Grade - Under Ivy E Center	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
11225912-ACM-SURF-22	Roofing Shingle [Black, White Granular]	East Slope at Fence - Exterior at Grade - Under Ivy NE Center	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste

**Table C1.1 Laboratory Analytical Data Summary**

Sample Number(s)	Material Description	Material Location <sup>1</sup>	Asbestos %/Type	Asbestos Material Category <sup>2</sup>	Cal/OSHA Work Class <sup>3</sup>	Projected Waste Designation <sup>4</sup>
11225912-ACM-SURF-23	Cementitious Panel [Light Grey, Green]	East Slope at Fence Line - Exterior at Grade - Top of Slope Under Ivy NE Center	10% CH	Category II Nonfriable ACM	Class II	RACM
11225912-ACM-SURF-24	Seam Tape [Dark Beige]	East Slope at Fence Line - Exterior at Grade - Under Ivy NE Center	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
11225912-ACM-SURF-25	Concrete [Grey, Granular]	East Slope at Fence Line - Exterior at Grade - Under Ivy - N Center	ND	Not ACM, ACCM, or RACM	NA	Not Asbestos Waste
<b>Acronyms:</b> <ul style="list-style-type: none"><li>ACM = Asbestos Containing Material (&gt;1% asbestos)</li><li>ACCM = Asbestos Containing Construction Material (&gt;0.1% asbestos)</li><li>Cal/OSHA = California Department of Industrial Relations, Division of Occupational Safety and Health</li><li>CH = Chrysotile (serpentine form of asbestos)</li><li>CMU = Concrete masonry unit</li><li>CR = Crocidolite (amphibole form of asbestos)</li><li>NA = Not applicable</li><li>ND = Nondetect, or no asbestos detected</li></ul>			<ul style="list-style-type: none"><li>N, S, E, W, NE, SW, etc. = Azimuth directions (north, northeast, etc.)</li><li>RCRA = Resource Conservation and Recovery Act</li><li>SURF = Surface sample (collected from ground surface)</li><li>TP = Test pit (number suffix notes test pit number)</li><li>TSI = Thermal System Insulation</li><li>USEPA = United States Environmental Protection Agency</li><li>VFT = Vinyl Floor Tile</li><li>&lt; = Symbol meaning “less than”</li><li>&gt; = Symbol meaning “greater than”</li></ul>			
<b>Notes:</b> <ul style="list-style-type: none"><li><b>Bold text</b> denotes samples reported to contain asbestos.</li></ul>						
<b>Annotations:</b> <ul style="list-style-type: none"><li><sup>1</sup> = The location descriptions noted herein and in associated project documents reference project north, an azimuth description aligning with the northeast Project Site property boundary.</li><li><sup>2</sup> = USEPA regulates material containing &gt;1% asbestos, classified into two broad categories: friable (RACM and Category I and II that may become friable) and nonfriable (Category I and II ACM).</li><li><sup>3</sup> = Cal/OSHA regulates material containing <u>ANY</u> quantity of asbestos. Cal/OSHA regulates material containing &gt;0.1% asbestos as ACCM and &gt;1% asbestos as ACM. Cal/OSHA differentiates asbestos removal operations into five classes (Class I to IV, plus unclassified work). Class I through IV operations include tasks impacting material containing &gt;1% asbestos (ACM). Unclassified work includes tasks impacting material containing &lt;1% asbestos. <u>Work impacting asbestos in any quantity is subject to Cal/OSHA requirements.</u><ul style="list-style-type: none"><li>It is recommended that unclassified work be conducted per Class II work protocols.</li><li>It is recommended that interior work, regardless of work classification, be conducted within sealed negative pressure containments.</li></ul></li><li><sup>4</sup> = RACM is a California hazardous waste (non-RCRA hazardous waste). USEPA Category I and II nonfriable ACM that remains nonfriable during removal is characterized as non-hazardous asbestos-containing waste. The non-hazardous waste designation presumes that nonfriable material will not become friable due to contractor removal practices. If nonfriable ACM is rendered friable (e.g., via the use of mechanical removal means, fire damage, etc.), then such material shall be classified as RACM and disposed of as a California hazardous waste.</li></ul>						

# **Appendix D**

**Laboratory Analytical Data**





# EMSL Analytical, Inc.

490 Rowley Road Depew, NY 14043

Tel/Fax: (716) 651-0030 / (716) 651-0394

<http://www.EMSL.com> / [buffalolab@emsl.com](mailto:buffalolab@emsl.com)

EMSL Order: 142101015

Customer ID: WKC50

Customer PO: 38005320

Project ID: PO 38005320

Attention: Scott Harris  
GHD  
718 Third Street  
Eureka, CA 95501

Phone: (707) 599-6974

Fax: (707) 444-8330

Received Date: 04/02/2021 9:00 AM

Analysis Date: 04/05/2021

Collected Date: 03/25/2021

Project: 38005320 - 11225912.01 - Vacant Lot, Loop Road, Hoopa, CA (PO 38005320)

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos % Type
			% Fibrous	% Non-Fibrous	
11225912-ACM-SURF-1 142101015-0001	Center Fenced Area - Exterior at Grade NE Debris Pile NE - Cementitious Panel [Light Grey]	Gray Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
11225912-ACM-SURF-2 142101015-0002	Center Debris Pile - Exterior at Grade NE Debris Pile NE - Cementitious Panel [Light Grey]	Gray Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
11225912-ACM-SURF-3 -Black 142101015-0003	Center Fenced Area - Exterior at Grade NE Debris Pile NE - Roofing Shingle [Black, Grey]	Black Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
11225912-ACM-SURF-3 -Grey 142101015-0003A	Center Fenced Area - Exterior at Grade NE Debris Pile NE - Roofing Shingle [Black, Grey]	Gray Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
11225912-ACM-SURF-4 142101015-0004	NE Debris Pile - Exterior at Grade NE Center - Cementitious Panel [Light Grey]	Gray Fibrous Homogeneous	4% Cellulose	92% Non-fibrous (Other)	4% Chrysotile
11225912-ACM-SURF-5 142101015-0005	NE Debris Pile - Exterior at Grade Center NE Corner - Roofing Shingle [Black, Brown]	Brown/Black Fibrous Homogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
11225912-ACM-SURF-6 142101015-0006	NE Debris Pile - Exterior at Grade Center NE Center - Cementitious Panel [Light Grey]	Gray Fibrous Homogeneous		92% Non-fibrous (Other)	8% Chrysotile
11225912-ACM-SURF-7 142101015-0007	NE Debris Pile - Exterior at Grade - NE Center - Roofing Shingle [Black, Grey]	Black Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
11225912-ACM-TP1-1 142101015-0008	TP1 - Exterior Below Grade - 8" BGS NE Corner - Cementitious Panel [Grey]	Gray Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
11225912-ACM-TP1-2 142101015-0009	TP1 - Exterior Below Grade - 4" BGS NE - Cementitious Panel [Grey]	Gray Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
11225912-ACM-TP2-1 142101015-0010	TP2 - Exterior Below Grade - 2" BGS NE Center - Cementitious Panel [Grey]	Gray Fibrous Homogeneous		92% Non-fibrous (Other)	8% Chrysotile

Initial report from: 04/05/2021 14:37:12



# EMSL Analytical, Inc.

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EMSL Order: 142101015

Customer ID: WKC50

Customer PO: 38005320

Project ID: PO 38005320

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
11225912-ACM-TP2-2 142101015-0011	TP2 - Exterior Below Grade - 2" BGS NE Center - Cementitious Panel [Grey]	Gray Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
11225912 -ACM-TP2-3 142101015-0012	TP2 - Exterior Below Grade - 1" BGS NE Center - Roofing Shingle [Black, White Granular]	Black Fibrous Homogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
11225912-ACM-TP3-1 142101015-0013	TP3 - Exterior Below Grade - 4" BGS E Center - VFT [Grey, Light Brown]	Brown/Gray Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
11225912-ACM-TP3-2 142101015-0014	TP3 - Exterior Below Grade - 3" BGS E Center - VFT [Grey, Brown]	Brown/Gray Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
11225912-ACM-TP3-3 142101015-0015	TP3 - Exterior Below Grade - 4" BGS E Center - Cementitious Panel [Grey]	Brown/Gray Fibrous Homogeneous		93% Non-fibrous (Other)	7% Chrysotile
11225912-ACM-TP4-1 142101015-0016	TP4 - Exterior Below Grade - 4" BGS N Center - Cementitious Panel [Grey]	Gray/Black Fibrous Homogeneous		91% Non-fibrous (Other)	9% Chrysotile
11225912-ACM-SURF-8 142101015-0017	NE of Fenced Area - Exterior at Grade - Center - Brick [Red, Orange] (No Mortar)	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11225912-ACM-SURF-9 142101015-0018	NE Slope - Exterior at Grade - Under Ivy at Toe of Slope NE - Roofing Shingle [Black, Grey]	Black Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
11225912-ACM-SURF-10 142101015-0019	Center S of Fenced Area - Exterior at Grade - Remnant Post Footing - Concrete [Light Grey Granular]	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Shauna LaValley (20)

*Rhonda McGee*

Rhonda McGee, Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Depew, NY NVLAP Lab Code 200056-0

Initial report from: 04/05/2021 14:37:12





142101015  
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**CONTACT NAME(S):**  
 Scott Harris, Mat t Tolley, Alex Crowe

**SAMPLING DATE(S):** 03/25/2021

**CONTACT EMAIL(S):**  
 scott.harris@ghd.com, mat thew.tolley@ghd.com, alex.crowe@ghd.com

**PROJECT NUMBER:** 11225912.01  
**PO#:** 38005320

**SITE:** Vacant Lot, Loop Road, Hoopa, CA

**ANALYSIS METHOD:** PLM (Please provide a result for all layers of material present)

**TURNAROUND TIME:** 72-Hour

## BULK SAMPLE COLLECTION CHAIN OF CUSTODY

### PO# 38005320

SAMPLE NUMBER	SAMPLE DESCRIPTION	LOCAT ION	MAT ERIAL TYPE	FRIABILITY
11225912-ACM-SURF-1	Cementitious Panel [Light grey]	Center Fenced Area - Exterior at Grade NE Debris Pile NE	MM	NF
11225912-ACM-SURF-2	Cementitious Panel [Light Grey]	Center Debris Pile - Exterior at Grade NE Debris Pile NE	MM	NF
11225912-ACM-SURF-3	Roofing Shingle [Black, Grey]	Center Fenced Area - Exterior at Grade NE Debris Pile NE	MM	NF
11225912-ACM-SURF-4	Cementitious Panel [light Grey]	NE Debris Pile - Exterior at Grade NE Center	MM	NF
11225912-ACM-SURF-5	Roofing Shingle [Black, Brown]	NE Debris Pile - Exterior at Grade Center NE Corner	MM	NF
11225912-ACM-SURF-6	Cementitious Panel [Light Grey]	NE Debris Pile - Exterior at Grade Center NE Center	MM	NF
11225912-ACM-SURF-7	Roofing Shingle [Black, Grey]	NE Debris Pile - Exterior at Grade - NE Center	MM	NF
11225912-ACM-TP1-1	Cementitious Panel [Grey]	TP1 - Exterior Below Grade - 8" BGS NE Corner	MM	NF
11225912-ACM-TP1-2	Cementitious Panel [Grey]	TP1 - Exterior Below Grade - 4" BGS NE	MM	NF
11225912-ACM-TP2-1	Cementitious Panel [Grey]	TP2 - Exterior Below Grade - 2" BGS NE Center	MM	NF
11225912-ACM-TP2-2	Cementitious Panel [Grey]	TP2 - Exterior Below Grade - 2" BGS NE Center	MM	NF

NOTES: Material Type: Thermal System Insulation = TSI, Surfacing Material = SM, Miscellaneous Material = MM; Friability: Friable = F, Non-Friable = NF (may become F, if damaged)

**Relinquished By:** *[Signature]*  
**Date/Time:** 4/1/21 To FedEx 1000

**Received By:** *[Signature]*  
**Date/Time:** 4-2-21 9:00 am

**Relinquished By:** *[Signature]*  
**Date/Time:**

**Received By:**  
**Date/Time:**

**RECEIVED**  
**APR 05 2021**

**BY:** *[Signature]*

*Fedex*  
*9:30 am*



11225912-ACM-TP2-3	Roofing Shingle [Black, White Granular]	TP2 - Exterior Below Grade - 1" BGS NE Center	MM	NF
11225912-ACM-TP3-1	VFT [Grey, Light Brown]	TP3 - Exterior Below Grade - 4" BGS E Center	MM	NF
11225912-ACM-TP3-2	VFT [Grey, Brown]	TP3 - Exterior Below Grade - 3" BGS E Center	MM	NF
11225912-ACM-TP3-3	Cementitious Panel [Grey]	TP3 - Exterior Below Grade - 4" BGS E Center	MM	NF
11225912-ACM-TP4-1	Cementitious Panel [Grey]	TP4 - Exterior Below Grade - 4" BGS N Center	MM	NF
11225912-ACM-SURF-8	Brick [Red, Orange] (No Mortar)	NE of Fenced Area - Exterior at Grade - Center	MM	NF
11225912-ACM-SURF-9	Roofing Shingle [Black, Grey]	NE Slope - Exterior at Grade - Under Ivy at Toe of Slope NE	MM	NF
11225912-ACM-SURF-10	Concrete [Light Grey Granular]	Center S of Fenced Area - Exterior at Grade - Remnant Post Footing	MM	NF

142101015

RECEIVED  
APR 05 2021

BY: MLM 9:30am  
Fed-X

NOTES: Material Type: Thermal System Insulation = TSI, Surfacing Material = SM, Miscellaneous Material = MM; Friability: Friable = F, Non-Friable = NF (may become F, if damaged)

Relinquished By: [Signature]  
Date/Time: 4/1/21 TO FEDEX 1000

Received By: ML FA  
Date/Time: 4-2-21 9:00am

Relinquished By:  
Date/Time:

Received By:  
Date/Time:



# EMSL Analytical, Inc.

490 Rowley Road Depew, NY 14043

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EMSL Order: 142101016

Customer ID: WKC50

Customer PO: 38005320

Project ID: PO 38005320

Attention: Scott Harris  
GHD  
718 Third Street  
Eureka, CA 95501

Phone: (707) 599-6974

Fax: (707) 444-8330

Received Date: 04/02/2021 9:00 AM

Analysis Date: 04/06/2021

Collected Date: 03/26/2021

Project: 38005320 - 11225912.01 - Vacant Lot, Loop Road, Hoopa, CA (PO 38005320)

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos % Type
			% Fibrous	% Non-Fibrous	
11225912-ACM-SURF-1 1  142101016-0001	East Debris Pile - Exterior at Grade - Remnant Pipe at E Center - 30" Concrete Pipe [Light Grey]	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11225912-ACM-SURF-1 2  142101016-0002	East Debris Pile - Exterior at Grade - Remnant Pole/Post Footing at E Center - Concrete [Light Grey]	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11225912-ACM-SURF-1 3  142101016-0003	East Slope - Center South - Exterior at Grade - Under Ivy at E Center - Cementitious Panel [Light Grey]	Gray Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
11225912-ACM-SURF-1 4  142101016-0004	East Slope - Center - Exterior at Grade - Under Ivy at E Center - Tar Paper [Black]	Black Fibrous Homogeneous		92% Non-fibrous (Other)	8% Chrysotile
11225912-ACM-TP10-1  142101016-0005	TP10 - Exterior Below Grade - 16" BGS SE Corner - Ceramic Fragment [White]	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11225912-ACM-TP10-2  142101016-0006	TP10 - Exterior Below Grade - 18" BGS SE - Wood-Like Debris [Light Tan]	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11225912-ACM-SURF-1 5  142101016-0007	North Center (Northernmost Corner) - Exterior at Grade - South of Soccer Field - VFT [Light Grey]	Gray Fibrous Homogeneous		90% Non-fibrous (Other)	8% Chrysotile 2% Crocidolite
11225912-ACM-SURF-1 6  142101016-0008	Center North of Fenced Area - Exterior at Grade - N Center - Cementitious Panel [Light Grey]	Gray Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
11225912-ACM-TP14-1  142101016-0009	TP14 - Exterior Below Grade - 24" BGS NW Corner - Bituminous Fiber Pipe [Black, Perforated]	Black Fibrous Homogeneous	25% Cellulose	75% Non-fibrous (Other)	None Detected
11225912-ACM-TP14-2  142101016-0010	TP14 - Exterior Below Grade - Collected from TP14 Soil Stockpile NW Corner - Bituminous Fiber Pipe [Black, Perforated]	Black Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected

Initial report from: 04/06/2021 11:12:58



# EMSL Analytical, Inc.

490 Rowley Road Depew, NY 14043

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EMSL Order: 142101016

Customer ID: WKC50

Customer PO: 38005320

Project ID: PO 38005320

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
11225912-ACM-SURF-1 7  142101016-0011	Open Field - North of Fenced Area - Exterior at Grade - N Center - VFT [Light Grey]	Tan Fibrous Homogeneous		92% Non-fibrous (Other)	8% Chrysotile
11225912-ACM-SURF-1 8-CMU  142101016-0012	NW at T-Bar Fence - Exterior at Grade - NW Portion of Site, SE of TP14 - CMU [Grey, Course] & Mortar [Light Grey]	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11225912-ACM-SURF-1 8-Mortar  142101016-0012A	NW at T-Bar Fence - Exterior at Grade - NW Portion of Site, SE of TP14 - CMU [Grey, Course] & Mortar [Light Grey]	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11225912-ACM-SURF-1 9  142101016-0013	SW Corner at Wood Debris Pile - Exterior at Grade - SW Corner - Roofing Shingle [Black]	Black Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
11225912-ACM-SURF-2 0  142101016-0014	E Slope at Base - Exterior at Grade - Debris Pile SE of TP3 Under Ivy E Center - Asphalt [Black, Hard]	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11225912-ACM-SURF-2 1  142101016-0015	East Slope at Mid-Slope - Exterior at Grade - Under Ivy E Center - Asphalt [Black, Hard, Granular]	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11225912-ACM-SURF-2 2  142101016-0016	East Slope at Fence - Exterior at Grade - Under Ivy NE Center - Roofing Shingle [Black, White Granular]	Black Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
11225912-ACM-SURF-2 3  142101016-0017	East Slope at Fence Line - Exterior at Grade - Top of Slope Under Ivy NE Center - Cementitious Panel [Light Grey, Green]	Gray Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
11225912-ACM-SURF-2 4  142101016-0018	East Slope at Fence Line - Exterior at Grade - Under Ivy NE Center - Seam Tape [Dark Beige]	Brown Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (Other)	None Detected
11225912-ACM-SURF-2 5  142101016-0019	East Slope at Fence Line - Exterior at Grade - Under Ivy - N Center - Concrete [Grey, Granular]	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 04/06/2021 11:12:58





## EMSL Analytical, Inc.

490 Rowley Road Depew, NY 14043

Tel/Fax: (716) 651-0030 / (716) 651-0394

<http://www.EMSL.com> / [buffalolab@emsl.com](mailto:buffalolab@emsl.com)

**EMSL Order:** 142101016

**Customer ID:** WKC50

**Customer PO:** 38005320

**Project ID:** PO 38005320

Analyst(s)

*Margo Burgio (20)*

Rhonda McGee, Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Depew, NY NVLAP Lab Code 200056-0

Initial report from: 04/06/2021 11:12:58

ROWID: T002965

OrderID: 142101016

 <p> <b>718 Third Street</b>  <b>Eureka, California 95501</b>  <b>Tel: 707.443.8326</b>  <b>Fax: 707.444.8330</b>  <b>eureka@ghd.com</b>  <b>www.ghd.com</b> </p>	<b>CONTACT NAME(S):</b> Scott Harris, Matt Tolley, Alex Crowe		<b>SAMPLING DATE(S):</b> 03/26/2021
	<b>CONTACT EMAIL(S):</b> scott.harris@ghd.com, matthew.tolley@ghd.com, alexander.crowe@ghd.com		
	<b>PROJECT NUMBER:</b> 11225912.01 <b>PO NUMBER:</b> 38005320		<b>SITE:</b> Vacant Lot, Loop Road, Hoopa, CA
	<b>ANALYSIS METHOD:</b> PLM (Please provide a result for all layers of material present)		<b>TURNAROUND TIME:</b> 72-Hour

**BULK SAMPLE COLLECTION CHAIN OF CUSTODY**  
**PO# 38005320**

SAMPLE NUMBER	SAMPLE DESCRIPTION	LOCATION	MATERIAL TYPE	FRIABILITY
11225912-ACM-SURF-11	30" Concrete Pipe [Light Grey]	East Debris Pile - Exterior at Grade - Remnant Pipe at E Center	MM	NF
11225912-ACM-SURF-12	Concrete [Light Grey]	East Debris Pile - Exterior at Grade - Remnant Pole/Post Footing at E Center	MM	NF
11225912-ACM-SURF-13	Cementitious Panel [Light Grey]	East Slope - Center South - Exterior at Grade - Under Ivy at E Center	MM	NF
11225912-ACM-SURF-14	Tar Paper [Black]	East Slope - Center - Exterior at Grade - Under Ivy at E Center	MM	NF
11225912-ACM-TP10-1	Ceramic Fragment [White]	TP10 - Exterior Below Grade - 16" BGS SE Corner	MM	NF
11225912-ACM-TP10-2	Wood-Like Debris [Light Tan]	TP10 - Exterior Below Grade - 18" BGS SE	MM	NF
11225912-ACM-SURF-15	VFT [Light Grey]	North Center (Northernmost Corner) - Exterior at Grade - South of Soccer Field	MM	NF
11225912-ACM-SURF-16	Cementitious Panel [Light Grey]	Center North of Fenced Area - Exterior at Grade - N Center	MM	NF
11225912-ACM-TP14-1	Bituminous Fiber Pipe [Black, Perforated]	TP14 - Exterior Below Grade - 24" BGS NW Corner	MM	NF
11225912-ACM-TP14-2	Bituminous Fiber Pipe [Black, Perforated]	TP14 - Exterior Below Grade - Collected from TP14 Soil Stockpile NW Corner	MM	NF
11225912-ACM-SURF-17	VFT [Light Grey]	Open Field - North of Fenced Area - Exterior at Grade - N Center	MM	NF

NOTES: Material Type: Thermal System Insulation = TSI, Surfacing Material = SM, Miscellaneous Material = MM; Friability: Friable = F, Non-Friable = NF (may become F, if damaged)	
<b>Relinquished By:</b> <b>Date/Time:</b> <i>[Signature]</i> 4/1/21	<b>Received By:</b> <b>Date/Time:</b> <i>[Signature]</i> 4-2-21 9:00am
<b>Relinquished By:</b> <b>Date/Time:</b>	<b>Received By:</b> <b>Date/Time:</b>

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**APR 05 2021**

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142101016  
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CONTACT NAME(S):  
Scott Harris, Matt Tolley, Alex Crowe

SAMPLING DATE(S): 03/26/2021

CONTACT EMAIL(S):  
scott.harris@ghd.com, matthew.tolley@ghd.com, alexander.crowe@ghd.com

PROJECT NUMBER: 11225912.01  
PO NUMBER: 38005320

SITE: Vacant Lot, Loop Road, Hoopa, CA

ANALYSIS METHOD: PLM (Please provide a result for all layers of material present)

TURNAROUND TIME: **72-Hour**

**BULK SAMPLE COLLECTION CHAIN OF CUSTODY**  
**PO# 38005320**

SAMPLE NUMBER	SAMPLE DESCRIPTION	LOCATION	MATERIAL TYPE	FRIABILITY
11225912-ACM-SURF-18	CMU [Grey, Course] + Mortar [Light Grey]	NW at T-Bar Fence - Exterior at Grade - NW Portion of Site, SE of TP14	MM	NF
11225912-ACM-SURF-19	Roofing Shingle [Black]	SW Corner at Wood Debris Pile - Exterior at Grade - SW Corner	MM	NF
11225912-ACM-SURF-20	Asphalt [Black, Hard]	E Slope at Base - Exterior at Grade - Debris Pile SE of TP3 Under Ivy E Center	MM	NF
11225912-ACM-SURF-21	Asphalt [Black, Hard, Granular]	East Slope at Mid-Slope - Exterior at Grade - Under Ivy E Center	MM	NF
11225912-ACM-SURF-22	Roofing Shingle [Black, White Granular]	East Slope at Fence - Exterior at Grade - Under Ivy NE Center	MM	NF
11225912-ACM-SURF-23	Cementitious Panel [Light Grey, Green]	East Slope at Fence Line - Exterior at Grade - Top of Slope Under Ivy NE Center	MM	NF
11225912-ACM-SURF-24	Seam Tape [Dark Beige]	East Slope at Fence Line - Exterior at Grade - Under Ivy NE Center	MM	NF
11225912-ACM-SURF-25	Concrete [Grey, Granular]	East Slope at Fence Line - Exterior at Grade - Under Ivy - N Center	MM	NF

NOTES: Material Type: Thermal System Insulation = TSI, Surfacing Material = SM, Miscellaneous Material = MM; Friability: Friable = F, Non-Friable = NF (may become F, if damaged)

Relinquished By: *[Signature]*  
Date/Time: 4/1/21 TO FEDEX 1000

Received By: *[Signature]*  
Date/Time: 4-2-21 9:00am

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Date/Time:

Received By:  
Date/Time:

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**APR 05 2021**

BY: *[Signature]*

9:30am  
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Page 2 of 2

# **Appendix E**

## **Asbestos Regulations Summary**

# Appendix E Asbestos Regulations

This appendix section provides a summary of governmental regulations applicable to asbestos in construction work and is applicable to the impact of the asbestos building materials present at the Project Site.

## E1.1 Code of Federal Regulations

The following is a summary list of United States governmental regulations concerning asbestos:

1. 29 Code of Federal Regulations (CFR) 1926.1101, Asbestos (including all mandatory appendices)
2. 40 CFR 61, Subpart A and Subpart M USEPA National Emissions Standards for Hazardous Air Pollutants (NESHAP)
3. 40 CFR Parts 261, 265, and 268, Hazardous Waste Management
4. 40 CFR Part 763, Asbestos Emergency Hazard Emergency Response Act (AHERA)
5. 49 CFR Parts 172, 173, 178, 179, Hazardous Material Transportation

## E1.2 California Code of Regulations

The following is a summary list of State of California governmental regulations concerning asbestos:

1. 8 CCR Division 1, Chapter 4, Construction Safety Orders
2. 8 CCR Article 2.5, Registration of Asbestos Work, Sections 341.6–341.14
3. 8 CCR Section 1529, Asbestos
4. 8 CCR Section 5144, Respiratory Protection
5. 22 CCR Division 4.5, Environmental Health Standards for Management of Hazardous Waste
6. California Environmental Protection Agency (Cal/EPA), California Air Resource Board (CARB), Final Regulation Order, Section 93105, Asbestos Airborne Toxic Control Measures for Construction, Grading, Quarrying, and Surface Mining Operations

## E1.3 Definitions

For the purpose of this report, the following definitions will apply to the discussion of hazardous materials contained herein.

1. Abatement – Hazardous materials related construction undertaken for the purpose of eliminating or reducing existing recognized hazardous materials related hazards as adapted from 29 CFR Part 1903 Inspections, Citation and Proposed Penalties, Standard 1903.19 Abatement Verification (29 CFR 1903.19), Subsection (b)(1).
2. Asbestos Containing Material (ACM) – A material determined to contain greater than one percent (1%) asbestos by weight as defined by the Title 8 California Code of Regulations (CCR), Subchapter 4, Construction Safety Orders, Article 4. Dusts, Fumes, Mists, Vapors, and Gases, Section 1529 (8CCR1529), Subsection (b).
3. Asbestos Containing Construction Material (ACCM) – A construction material determined to contain detectable levels of asbestos fibers in concentrations of greater than 0.1 percent asbestos by weight as defined by Chapter 3.2 of the California Occupational Safety and Health Regulations, Subchapter 2,

Regulations of the Division of Occupational Safety and Health, Article 2.5. Registration--Asbestos-Related Work, Section 341.6(c).

4. Containment – Protective physical barriers and associated means and methods used to contain airborne contaminant dust within the abatement work area and prevent contamination of surfaces and grounds below and adjacent to areas where a hazardous material is being disturbed.
5. Hazardous Material – Substance with properties that can cause injury or illness to humans or adversely impact living organisms in the environment under certain conditions. Hazardous materials include both organic and inorganic chemicals and chemical compounds. Includes any substance on the list of hazardous substances prepared by the Director, California Department of Industrial Relations, pursuant to Labor Code Section 6382 and also known as the Director's List. For the project, hazardous materials include, but are not limited to: asbestos, lead and universal waste.
6. Hazardous Waste – Waste material that is listed or meets the criteria for hazardous waste as set forth in CCR, Title 22, Division 4.5 and Article 9. at minimum, with regard to asbestos, the following shall be considered to be hazardous wastes with respect to this section:
  - a. Nonfriable Asbestos Containing Material (Category I and II) rendered friable during renovation or renovation
  - b. Regulated Asbestos Containing Material

### **E1.3.1 Nonfriable Asbestos Containing Material**

Friability is a qualitative measure of a material's affinity for producing airborne asbestos fibers (dust). A material that, when dry, can be crumbled, pulverized or reduced to powder using hand pressure is classified as friable according to USEPA regulations. Nonfriable materials are those that do not meet the above definition of friable.

Nonfriable materials are classified by the USEPA into the following categories:

1. Category I Nonfriable – Any asbestos containing gasket, packing, resilient floor covering, or asphalt roofing product that contains greater than 1% asbestos as determined by PLM, that, when dry cannot be crumbled, pulverized, or reduced to a powder using hand pressure.
2. Category II Nonfriable – Any material, excluding Category I nonfriable ACM, that contains greater than 1% asbestos as determined by PLM, that, when dry cannot be crumbled, pulverized, or reduced to a powder using hand pressure.

Category I Nonfriable ACM may be left in place during renovation work. Certain Category II Nonfriable ACM may be left in place during renovation or renovation; however, Category II ACM that may become friable (e.g., damaged, brittle and/or cementitious materials) must be removed prior to renovation or renovation. Category I ACM and some Category II ACM may be left in situ during renovation; however, Cal/OSHA will regulate such renovation activities as Class II work, as defined herein.

Note: Cal/OSHA employee protection protocols, including those summarized herein, apply to any disturbance of asbestos material, regardless of the USEPA material category (Category I, Category II, RACM), concentration of asbestos, or quantity of material. As such worker protection protocols per 8CCR1529 apply to work disturbing any asbestos.

If a nonfriable material is impacted with mechanical means (power tools, abrasive mechanical means, etc.) such material shall no longer be classified as nonfriable and shall instead be classified as RACM. A nonfriable material that has been significantly damaged may also be classified as friable, if the damaged material can be reduced to powder or crumbled using hand pressure.



### **E1.3.2 Regulated Asbestos Containing Material**

A material is regulated by the USEPA as RACM if it conforms to one or more of the following:

1. It is a friable ACM
2. It is a Category I or II ACM that has become friable
3. It is a Category I ACM that will be subject to mechanical impaction
4. It is a Category II ACM that has a high probability of becoming friable during the course of renovation or demolition activities that are expected to impact the material

While the USEPA does not regulate material determined by PLM laboratory analysis using point count 400 methodology to contain less than 1% asbestos, some Cal/OSHA regulations apply to material determined to contain any detectable amount of asbestos.

Pursuant to NESHAP regulations, nonfriable materials are not classified as RACM if removed essentially intact using hand methods and not made “friable” during removal. The use of mechanical means to remove or impact nonfriable ACM will render that material friable, thus mechanically impacted materials shall be considered RACM and subject to handling and disposal requirements governing RACM.

Asbestos containing material that meets the USEPA definition of RACM, if present in quantities greater than the local Air Quality Management District (AQMD) quantity thresholds noted in Section 5, must be removed from the Project Site prior to renovation. Additionally, Category I and Category II ACM that is associated with a fire-damaged structure must be classified as RACM, per USEPA regulation. Materials identified in this report as USEPA RACM will require disposal as a non-Resource Conservation and Recovery Act (RCRA) California hazardous asbestos waste, if disposed of in California.

Abatement of RACM that is Thermal System Insulation (TSI) or surfacing material requires Class I abatement methods as defined by the Occupational Safety and Health Administration (OSHA) and Cal/OSHA. RACM that is not TSI or surfacing material requires Class II abatement methods as defined by OSHA and Cal/OSHA. Class I and Class II abatement methods are described below.

## **E1.4 Cal/OSHA Work Classes**

Cal/OSHA regulates material containing asbestos at any detectable level, thus worker protection, material handling, material labelling, and material disposal protocols per California Code of Regulations (CCR), Title 8, Section 1529 (8CCR1529) apply to impaction of any material determined to contain asbestos above the laboratory detection limit. Impaction of material determined to contain asbestos in concentrations of less than 1% by weight (ACCM and <0.1%) is categorized by Cal/OSHA as unclassified work.

Cal/OSHA regulates worker exposure to airborne asbestos by instituting work practice, notification, training, and personal protective equipment requirements for employers and employees. In an effort to mitigate worker exposure to airborne asbestos fibers, Cal/OSHA mandates specific material containerization and work practices when workers impact materials containing asbestos at any detectable level. Cal/OSHA categorizes asbestos related work into four work classes as described below and defined in 8CCR1529.

### **E1.4.1 Class I Work**

Class I asbestos work consists of activities involving the removal of asbestos-containing TSI, asbestos-containing surfacing material, or PACM. TSI includes pipe, pipe fitting, duct, boiler, and flue asbestos-containing insulation. Surfacing material includes sprayed-on or troweled-on asbestos-containing fire proofing, acoustical plaster or decorative plaster. PACM is TSI or surfacing material installed prior to 1981. PACM is presumed to contain asbestos and must be handled according to Class I work protocols unless sampled and determined by PLM analysis to contain no detectable asbestos fibers. Class I abatement work is subject to OSHA and Cal/OSHA regulations. Class I work must be conducted within a regulated negative-pressure containment equipped with a three-stage decontamination

chamber that includes an operable shower. Class I work must be performed by properly trained and protected workers using appropriate means and methods as described by 8CCR1529.

#### **E1.4.2 Class II Work**

Class II asbestos work means activities involving the impactation and removal of ACM, which is not TSI or surfacing material, and results in more than one bag of waste materials. This includes but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics. Class II work must be conducted within a regulated area containment and must be performed by properly trained and protected workers using appropriate means and methods as described by 8CCR1529.

#### **E1.4.3 Class III Work**

Class III asbestos work means activities involving the repair and maintenance operations, where ACM, including TSI, surfacing ACM and/or PACM, is likely to be disturbed. Class III asbestos removal operations are limited to work that generates no more waste than that which can fit into one 60 inch by 60-inch (60" x 60") waste bag. Class III work must be conducted within a regulated area containment by properly trained and protected workers using appropriate means and methods described by 8CCR1529.

#### **E1.4.4 Class IV Work**

Class IV asbestos work means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II, and III activities. Class IV work must be conducted by properly trained and protected workers using appropriate means and methods described by 8CCR1529.

### **E1.5 Asbestos Containing Construction Material**

Materials reported by laboratory analysis to contain detectable concentrations of asbestos fibers of less than 1% by weight are not regulated by the USEPA as ACM or RACM and are not governed by NESHAP regulations. While not regulated by the USEPA, materials containing less than 1% asbestos by weight are regulated by Cal/OSHA as ACCM and are subject to Cal/OSHA employee protection, waste labeling, and handling protocols. Employees impacting materials containing detectable levels of asbestos fibers, but in concentrations less than 1% asbestos by weight, must adhere to work practices and methods of compliance as mandated by Cal/OSHA and described in 8CCR1529.

### **E1.6 Exposure Limits for Asbestos**

Employers must monitor the air their workers are breathing to determine the airborne concentration of asbestos fibers present in the work environment during the various shifts and while performing various tasks. Phase contrast microscopy (PCM) sampling cassettes and low-volume air pumps are worn by employees during their work shift, typically for a period of eight hours. The PCM cassettes are analyzed by a laboratory and an exposure is determined, measured in asbestos fibers per cubic centimeter of air (fibers/cc), extrapolated across the eight-hour work shift. The eight-hour exposure is known as a time-weighted average (TWA).

The Contractor should conduct representative breathing zone personal air monitoring of its employees, including a minimum of 25 percent of the crew, once each shift and repeated daily or until a negative exposure assessment (NEA), as derived in accordance with 8CCR1529 (f)(2)(C), can be established. A NEA is documented proof that a given activity will not expose employees to asbestos in concentrations above the PELs noted in Table E.1. A NEA may be established by maintaining initial air monitoring from the beginning of a project that is representative of work employees will be performing during the entire project showing exposure below the PEL or Short-Term Exposure Limit (STEL).

The exposure limits noted in Table F1.8 Cal/OSHA Airborne Exposure Limits for Asbestos (Table F1.8) must be adhered to for employee protection to establish appropriate protective measures and controls when impacting material containing asbestos.

**Table E.1 Cal/OSHA Airborne Exposure Limits for Asbestos**

Air Contaminant	Excursion Limit (Short Term Exposure Limit)	Permissible Exposure Limit (PEL) (8 hr TWA)
Asbestos	1.0 fibers/cc over 30 minutes	0.1 fibers/cc over an 8-hour TWA
<b>Notes:</b> <ul style="list-style-type: none"> <li>Permissible Exposure Limit (PEL): Employer must ensure no employee is exposed above this level based on an 8-hour TWA. When employee exposure levels meet or exceed the PEL, administrative, engineering and work practice controls must be implemented. Respiratory protection and other protective measures are required pending feasible engineering controls. Additional training, monitoring, and medical surveillance requirements apply to respirator usage and for exposure levels exceeding PEL.</li> <li>Short Term Exposure Limit (STEL): Short term exposure is measured over 30 minutes during periods of maximum expected exposure operations and is also known as the Excursion Limit</li> </ul>		

Workers should wear personal air sampling devices for the full duration of their shift (eight hours). At least one sample should be collected representing each position/job classification in each work area of the Project Site. If exposures are determined to be above the PEL or STEL, appropriate worker protections should be instituted per 8CCR1529. Exposure monitoring should document the source of asbestos emissions.

Until an employee exposure assessment is completed, and it has been determined and documented that the employee is not exposed above the PEL, the Contractor should treat the employee as if the employee were exposed above the PEL and should implement employee protective measures per 8CCR1529. Monitoring should be conducted by an individual experienced and knowledgeable about the methods of air monitoring in compliance with applicable regulatory standards.

## E2 Requirements for Asbestos Work

### E2.1 Asbestos Administrative Controls

Employers must establish a written hazard communication (HAZCOM) training program and train their employees to the hazards to which they are exposed. A HAZCOM program should be implemented for employees who will impact asbestos. If exposure monitoring shows worker airborne exposure to asbestos above the PEL, or above the excursion limit, then additional training and worker certification is necessary.

Supervisors who oversee asbestos work shall have completed 40 hours of USEPA Asbestos Hazard Emergency Response Act (AHERA)-accredited supervisor training. Employees interacting with asbestos must have a level of training appropriate for the class of asbestos work, ranging from two hours (HAZCOM) to 32 hours (AHERA-accredited Worker). At no time should suspected or known asbestos material be drilled, cut, sanded, scraped, or otherwise disturbed by untrained personnel.

Asbestos disturbance and/or removal operations must be conducted by a Cal/OSHA-registered and State-licensed asbestos removal contractor. Contractor registration with Cal/OSHA is required if greater than 100 square feet of ACM, RACM, or ACCM are disturbed by a contractor within a one-year period of time. Employers whose employees disturb asbestos must file a written Report of Use of Regulated Carcinogens (Report of Use) form with Cal/OSHA. A Report of Use form must be filed with Cal/OSHA by employers whose workers disturb material containing greater than 0.1 percent asbestos. Disturbance of asbestos and/or abatement operations should be supervised by a Competent Person, as defined by 8CCR1529, who is trained, knowledgeable and qualified in the techniques of asbestos abatement.

One or more of the following specialty certifications for asbestos is/are required by the California Contractors' State License Board (CSLB) for contractors who disturb greater than 100 square feet of asbestos in a year (some exceptions for specific materials apply):

1. C-22 – Asbestos abatement

## E2.2 Work Practice Controls

Asbestos abatement should be performed by persons trained, qualified, licensed, and equipped to perform asbestos abatement. Employees must never be exposed to airborne asbestos above the PEL, thus specific administrative controls, work practice controls and personal protective equipment (PPE) protocols must be implemented by the employer. Whole-body coverings (including hood and foot-coverings), gloves, and HEPA cartridge-equipped respirators are the standard PPE utilized for asbestos work in most circumstances. The remainder of this section consists of a brief summary of selected work practices required when impacting materials containing asbestos.

A regulated area is required to be established using signage and/or barrier tape around a work area where asbestos is to be impacted if there is a "reasonable possibility" that airborne concentrations of asbestos will exceed the PEL (8CCR1529). A regulated area is also required for all Class I, II and III work. Regulated areas shall be demarcated "in a manner that minimized the number of persons within the area and protects persons outside the area from exposure to airborne asbestos" (8CCR1529). Access to regulated areas shall be limited to properly trained and protected workers.

The use of wet methods (water) to mitigate emissions of airborne dust is required whenever material containing asbestos is disturbed. The goal of using wet methods is to achieve no visible emissions of asbestos-related dust.

Vacuum cleaners equipped with High Efficiency Particulate Filters (HEPA) must be used by employees impacting material containing asbestos in detectable quantities and must also be used to address associated dust and debris. Material containing asbestos in detectable quantities may not be impacted by non-HEPA-equipped sanders, grinders, saws, or other abrasive power tools. Material containing asbestos (including associated dust and debris) may not be addressed using compressed air, dry sweeping, or dry shoveling.

Material containing asbestos in detectable quantities must be "promptly" containerized in leak tight containers. Prompt clean-up generally is understood to mean that material should not be left un-containerized (unpacked or outside of a sealable disposal container or waste bin) after any work stoppage such as scheduled breaks and the end of any work shift. Waste containers containing ACM or RACM must be labeled in accordance with Cal/OSHA labeling requirements. Waste containers of RACM must be additionally labeled in accordance with USEPA labeling requirements.

## E2.3 Asbestos Work Notifications

Notifications are required by regulatory agencies prior to conducting certain types of work which may impact hazardous materials. Pre-work notifications are required for the project by the local USEPA NESHAP delegated authority and Cal/OSHA office with jurisdiction over the Project Site as noted in Table 5.1 located in Section 5.

### E2.3.1 Cal/OSHA Temporary Worksite Notification

For Project activities which will involve asbestos-related work in excess of 100 square or linear feet, written notification must be made to Cal/OSHA. Such written notification to Cal/OSHA must be submitted to the nearest Cal/OSHA office exercising regulatory authority over the project at least 24 hours prior to the start of asbestos-related work. In addition, certain unexpected events related to asbestos work, such as employees exposed over the PEL without a respirator, must be reported to Cal/OSHA within 15 days of the incident.

### E2.3.2 NESHAP Renovation or Renovation Notification

The USEPA NESHAP regulations are authorized by Section 112 of the Clean Air Act (published in 40 Code of Federal Regulations Parts 61 and 63) and specify work practices for asbestos to be followed during renovations and

renovations of all structures meeting the NESHAP definition of a facility. The NESHAP regulations require the owner of the facility, or the facility operator, to notify a USEPA delegated authority at least 10 business days prior to the planned commencement of abatement, renovation, and/or renovation work triggering notification.

A Renovation Notification must be supplied to the MBARD 10 business days before any work meeting one or more of the following criteria:

1. Impaction or removal of RACM in quantities greater than the notification thresholds noted in Section 5
2. Facility renovation, including unweighting or removal of any load-bearing structure
3. Intentional burning for fire training purposes

## E2.4 Asbestos Disposal Requirements

Category I and Category II nonfriable ACM should be disposed of as asbestos-containing waste in California. Friable ACM (RACM), including nonfriable material that has become or will be rendered friable, should be disposed of in California as non-Resource Conservation and Recovery Act (non-RCRA) hazardous waste. Impacting nonfriable ACM with mechanical means will render such material friable and reclassify the material as RACM.

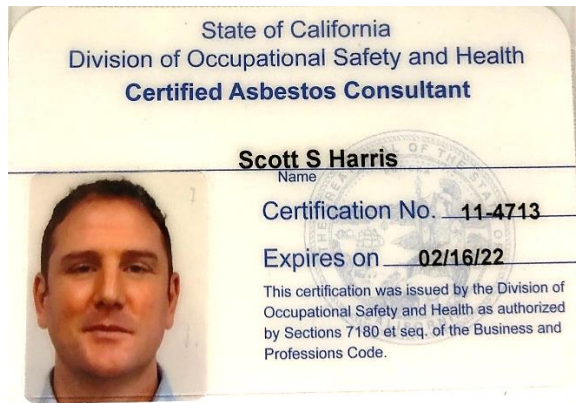
If point count laboratory analysis (Point Count 400) shows that a given material contains less than 1% asbestos, then such material is not considered a hazardous waste by USEPA, or the California Department of Toxic Substances Control (DTSC). Asbestos material containing less than 1% asbestos is not subject to Cal/OSHA asbestos waste labeling requirements. Waste materials containing less than 1% asbestos may generally be disposed of as construction debris in many California landfills and at many municipal transfer stations; however, the acceptance criteria of each facility may differ. The waste acceptor should be contacted, and their individual acceptance-criteria abided by, prior to waste transport and disposal.

# **Appendix F**

## **Personnel Certifications**



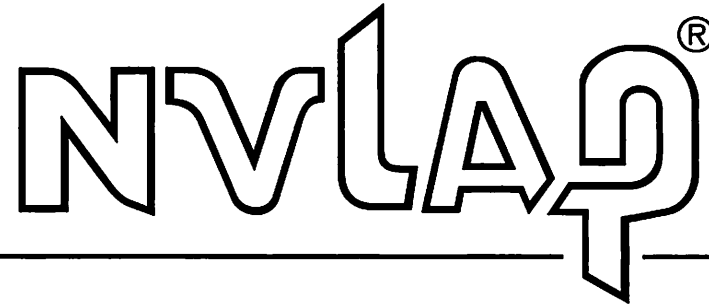
Table F.1 GHD Personnel Certifications



# **Appendix G**

## **Laboratory Certifications**

**United States Department of Commerce  
National Institute of Standards and Technology**



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**Certificate of Accreditation to ISO/IEC 17025:2017**

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**NVLAP LAB CODE: 200056-0**

**EMSL Analytical, Inc.**  
Depew, NY

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

**Asbestos Fiber Analysis**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

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2021-07-01 through 2022-06-30

*Effective Dates*



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*Dana S. Hamman*  
For the National Voluntary Laboratory Accreditation Program

**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017**

**EMSL Analytical, Inc.**

490 Rowley Road

Depew, NY 14043

Ms. Rhonda McGee

Phone: (716) 651-0030 Fax: (716) 651-0394

Email: [rmcgee@emsl.com](mailto:rmcgee@emsl.com)

<http://www.emsl.com/>

**ASBESTOS FIBER ANALYSIS**

**NVLAP LAB CODE 200056-0**

**Bulk Asbestos Analysis**

**Code**

**Description**

18/A01

EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples

18/A03

EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

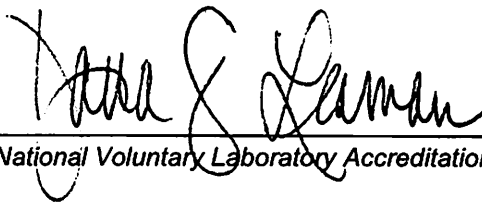
**Airborne Asbestos Analysis**

**Code**

**Description**

18/A02

U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.



*For the National Voluntary Laboratory Accreditation Program*



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**→ The Power of Commitment**



# Soil Laboratory Analytical Report

3

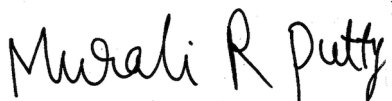
Report for:

**Anna Gower**  
**SHN Consulting Engineers & Geologists**  
812 West Wabash Ave.  
Eureka, CA 95501

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Regarding: Project: 019227; Supply Creek Phase II ESA  
EML ID: 2607927

Approved by:



Technical Manager  
Murali Putty

REVISED REPORT

Dates of Analysis:  
Asbestos-CARB 435 (400 pt ct): 04-08-2021 and 07-30-2021

Service SOPs: Asbestos-CARB 435 (400 pt ct) (EM-AS-S-1265)  
NVLAP Lab Code 200728-0

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All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received and tested.

Eurofins EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: SHN Consulting Engineers & Geologists  
C/O: Anna Gower  
Re: 019227; Supply Creek Phase II ESA

Date of Sampling: 03-25-2021 and 03-26-2021  
Date of Receipt: 03-30-2021  
Date of Report: 07-30-2021

**ASBESTOS POINT COUNT REPORT: CARB METHOD 435**

Location:	NOA-TP-1, 0'-3' 3/25/21 1205		
Total Points Counted:	400		
Lab ID-Version‡:	12448670-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:** No asbestos was detected and no points were counted.

Location:	NOA-TP-1, 3'-5' 3/25/21 1205		
Total Points Counted:	400		
Lab ID-Version‡:	12448671-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:** No asbestos was detected and no points were counted.

Location:	NOA-TP-2, 0'-1.5' 3/25/21 1240		
Total Points Counted:	400		
Lab ID-Version‡:	12448672-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:** No asbestos was detected and no points were counted.

The analytical sensitivity is 1 asbestos point. The limit of detection is 1 asbestos point divided by the total number of points counted and multiplied by 100.

The results relate only to the items tested. Interpretation is left to the company and/or persons who conducted the field work. The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government.

All samples were received in acceptable condition unless otherwise noted. Eurofins EMLab P&K reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: SHN Consulting Engineers & Geologists  
C/O: Anna Gower  
Re: 019227; Supply Creek Phase II ESA

Date of Sampling: 03-25-2021  
Date of Receipt: 03-30-2021  
Date of Report: 07-30-2021

**ASBESTOS POINT COUNT REPORT: CARB METHOD 435**

Location:	NOA-TP-2, 1.5'-2.7' 3/25/21 1240		
Total Points Counted:	400		
Lab ID-Version‡:	12448673-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:** No asbestos was detected and no points were counted.

Location:	NOA-TP-3, 0'-3' 3/25/21 1315		
Total Points Counted:	400		
Lab ID-Version‡:	12448674-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:** No asbestos was detected and no points were counted.

Location:	NOA-TP-3, 3'-3.5' 3/25/21 1315		
Total Points Counted:	400		
Lab ID-Version‡:	12448675-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:** No asbestos was detected and no points were counted.

The analytical sensitivity is 1 asbestos point. The limit of detection is 1 asbestos point divided by the total number of points counted and multiplied by 100.

The results relate only to the items tested. Interpretation is left to the company and/or persons who conducted the field work. The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government.

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Date of Receipt: 03-30-2021  
Date of Report: 07-30-2021

**ASBESTOS POINT COUNT REPORT: CARB METHOD 435**

Location:	NOA-TP-4, 0'-2' 3/25/21 1420		
Total Points Counted:	400		
Lab ID-Version‡:	12448676-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:** No asbestos was detected and no points were counted.

Location:	NOA-TP-4, 2'-4' 3/25/21 1420		
Total Points Counted:	400		
Lab ID-Version‡:	12448677-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:** No asbestos was detected and no points were counted.

Location:	NOA-TP-5, 0'-1' 3/25/21 1455		
Total Points Counted:	400		
Lab ID-Version‡:	12448678-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:** No asbestos was detected and no points were counted.

The analytical sensitivity is 1 asbestos point. The limit of detection is 1 asbestos point divided by the total number of points counted and multiplied by 100.

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Date of Sampling: 03-25-2021  
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Date of Report: 07-30-2021

**ASBESTOS POINT COUNT REPORT: CARB METHOD 435**

Location:	NOA-TP-6, 0'-2' 3/25/21 1525		
Total Points Counted:	400		
Lab ID-Version‡:	12448679-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:**No asbestos was detected and no points were counted.

Location:	NOA-TP-7, 0'-1' 3/25/21 1545		
Total Points Counted:	400		
Lab ID-Version‡:	12448680-2		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:**No asbestos was detected and no points were counted.

Location:	NOA-TP-8, 0'-2' 3/25/21 1615		
Total Points Counted:	400		
Lab ID-Version‡:	12448681-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:**No asbestos was detected and no points were counted.

The analytical sensitivity is 1 asbestos point. The limit of detection is 1 asbestos point divided by the total number of points counted and multiplied by 100.

The results relate only to the items tested. Interpretation is left to the company and/or persons who conducted the field work. The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government.

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Client: SHN Consulting Engineers & Geologists  
C/O: Anna Gower  
Re: 019227; Supply Creek Phase II ESA

Date of Sampling: 03-26-2021  
Date of Receipt: 03-30-2021  
Date of Report: 07-30-2021

**ASBESTOS POINT COUNT REPORT: CARB METHOD 435**

Location:	NOA-TP-9, 0'-3' 3/26/21 0830		
Total Points Counted:	400		
Lab ID-Version‡:	12448682-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:**No asbestos was detected and no points were counted.

Location:	NOA-TP-10, 0'-3' 3/26/21 0905		
Total Points Counted:	400		
Lab ID-Version‡:	12448683-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:**No asbestos was detected and no points were counted.

Location:	NOA-TP-10, 3'-5' 3/26/21 0905		
Total Points Counted:	400		
Lab ID-Version‡:	12448684-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:**No asbestos was detected and no points were counted.

The analytical sensitivity is 1 asbestos point. The limit of detection is 1 asbestos point divided by the total number of points counted and multiplied by 100.

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**ASBESTOS POINT COUNT REPORT: CARB METHOD 435**

Location:	NOA-TP-11, 0'-3' 3/26/21 0940		
Total Points Counted:	400		
Lab ID-Version‡:	12448685-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:**No asbestos was detected and no points were counted.

Location:	NOA-TP-12, 0'-3' 3/26/21 1015		
Total Points Counted:	400		
Lab ID-Version‡:	12448686-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:**No asbestos was detected and no points were counted.

Location:	NOA-TP-13, 0'-3' 3/26/21 1045		
Total Points Counted:	400		
Lab ID-Version‡:	12448687-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:**No asbestos was detected and no points were counted.

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**ASBESTOS POINT COUNT REPORT: CARB METHOD 435**

Location:	NOA-TP-14, 0'-3' 3/26/21 1215		
Total Points Counted:	400		
Lab ID-Version‡:	12448688-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:**No asbestos was detected and no points were counted.

Location:	NOA-TP-14, 3'-5' 3/26/21 1215		
Total Points Counted:	400		
Lab ID-Version‡:	12448689-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:**No asbestos was detected and no points were counted.

Location:	NOA-TP-15, 0'-3' 3/26/21 1305		
Total Points Counted:	400		
Lab ID-Version‡:	12448690-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:**No asbestos was detected and no points were counted.

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Date of Sampling: 03-26-2021  
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 Date of Report: 07-30-2021

**ASBESTOS POINT COUNT REPORT: CARB METHOD 435**

Location:	DUP		
Total Points Counted:	400		
Lab ID-Version‡:	12448691-1		
Sample Layers	Asbestos Type	Asbestos Points Counted	Asbestos Concentration (%)
Brown Soil	-	-	ND
<b>Layer Totals:</b>	-	-	-

**Comments:** No asbestos was detected and no points were counted.

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Date of Sampling: 03-26-2021  
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Date of Report: 07-30-2021

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**SUMMARY OF REVISIONS**

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**Location:** NOA-TP-7, 0'-1'; 3/25/21 1545 Lab ID-Version‡: 12448680-2  
Analysis Time revised. Sample Layers revised.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

**CHAIN OF CUSTODY**  
www.EMLabPK.com



EMLab P&K

New Jersey: 3000 Lincoln Drive East, Suite A, Marlton, NJ 08053 \* (866) 871-1984  
Phoenix, AZ: 1501 West Knudsen Drive, Phoenix, AZ 85027 \* (800) 651-4802  
SSF, CA: 6000 Shoreline Court, Suite 205, South San Francisco, CA 94080 \* (866) 888-6653

CONTACT INFORMATION					
Company:	SHN		Address: 812 W. Wabash Ave, Eureka CA 95501		
Contact:	R. Klakken		Special Instructions:		
Phone:	707-441-8855				
PROJECT INFORMATION			TURN AROUND TIME CODES (TAT)		
Project ID:	019227		STD – Standard (DEFAULT)		Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.
Project Description:	Supply Creek Phase II ESA		ND – Next Business Day		
Project Zip Code:	95546	Sampling Date & Time:	See description		
PO Number:		Sampled By:	R. Klakken		
			*Please call Client Services for locations with Rush services		
Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume (Air Samples only)	Notes
NOA-TP-1, 0'-3'	3/25/21 1205	SO	STD		
NOA-TP-1, 3'-5'	3/25/21 1205	SO	STD		
NOA-TP-2, 0'-1.5'	3/25/21 1240	SO	STD		
NOA-TP-2, 1.5'-2' 7"	3/25/21 1240	SO	STD		
NOA-TP-3, 0'-3'	3/25/21 1315	SO	STD		
NOA-TP-3, 3'-3.5'	3/25/21 1315	SO	STD		
NOA-TP-4, 0'-2'	3/25/21 1420	SO	STD		
NOA-TP-4, 2'-4'	3/25/21 1420	SO	STD		
NOA-TP-5, 0'-1'	3/25/21 1455	SO	STD		
NOA-TP-6, 0'-2'	3/25/21 1525	SO	STD		
NOA-TP-7, 0'-1'	3/25/21 1545	SO	STD		

ASBESTOS ANALYSIS												
REQUESTED SERVICES (Check boxes below)												
PCM Air		PLM Bulk						Rock & Soil		Other Requests		
Fiber Count (NIOSH 7400)	OSHA with TWA	Asbestos Bulk PLM	EPA Point Count (200 Point Count)	EPA Point Count (400 Point Count)	EPA Point Count (1000 Point Count)	Gravimetric Point Count (400 Pt Count)	Gravimetric Point Count (1000 Pt Count)	CARB 435 Method (400 Point Count)	CARB 435 Method (1000 Point Count)	Lead Analysis – Flame AA		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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SAMPLE TYPE CODES		RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
A – Air	W – Wipe	Roger Klakken	03/29/21 1500		
B – Bulk	T – Tape				
D – Dust	R – Rock	Roger Klakken			
SO – Soil	O – Other:				

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New Jersey: 3000 Lincoln Drive East, Suite A, Marlton, NJ 08053 \* (866) 871-1984  
Phoenix, AZ: 1501 West Knudsen Drive, Phoenix, AZ 85027 \* (800) 651-4802  
SSF, CA: 6000 Shoreline Court, Suite 205, South San Francisco, CA 94080 \* (866) 888-6653

CONTACT INFORMATION

Company:	SHN	Address:	812 W. Wabash Ave, Eureka CA 95501
Contact:	R. Klakken (rklakken@shn-engr.com)	Special Instructions:	
Phone:	707-441-8855		

PROJECT INFORMATION

TURN AROUND TIME CODES (TAT)

Project ID:	019227	STD – Standard (DEFAULT)	Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.
Project Description:	Supply Creek Phase II ESA	ND – Next Business Day	
Project Zip Code:	95546	SD – Same Business Day Rush*	
PO Number:		*Please call Client Services for locations with Rush services	
Sampling Date & Time:	See description	Sampled By:	R. Klakken

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume (Air Samples only)	Notes
NOA-TP-8, 0'-2'	3/25/21 1615	SO	STD		
NOA-TP-9, 0'-3'	3/26/21 0830	SO	STD		
NOA-TP-10, 0'-3'	3/26/21 0905	SO	STD		
NOA-TP-10, 3'-5'	3/26/21 0905	SO	STD		
NOA-TP-11, 0'-3'	3/26/21 0940	SO	STD		
NOA-TP-12, 0'-3'	3/26/21 1015	SO	STD		
NOA-TP-13, 0'-3'	3/26/21 1045	SO	STD		
NOA-TP-14, 0'-3'	3/26/21 1215	SO	STD		
NOA-TP-14, 3'-5'	3/26/21 1215	SO	STD		
NOA-TP-15, 0'-3'	3/26/21 1305	SO	STD		
DUP		SO	STD		

ASBESTOS ANALYSIS

REQUESTED SERVICES (Check boxes below)

PCM Air	PLM						Rock & Soil	Other Requests		
	Bulk									
Fiber Count (NIOSH 7400) OSHA with TWA	Asbestos Bulk	PLM	EPA Point Count (200 Point Count)	EPA Point Count (400 Point Count)	EPA Point Count (1000 Point Count)	Gravimetric Point Count (400 Pt Count)	Gravimetric Point Count (1000 Pt Count)	CARB 435 Method (400 Point Count)	CARB 435 Method (1000 Point Count)	Lead Analysis – Flame AA
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SAMPLE TYPE CODES		RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
A – Air	W – Wipe	Roger Klakken	03/29/21 1500		
B – Bulk	T – Tape				
D – Dust	R – Rock Type text here	Roger Klakken			
SO – Soil	O – Other:				

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