WEST TOE DRAIN INSTALLATION WORK PLAN

CHIQUITA CANYON LANDFILL

July 2024
Rev. August 7, 2024

Chiquita Canyon Landfill

A Waste Connections Company

29201 Henry Mayo Drive
Castaic, California 91384

CHIQUITA CANYON LANDFILL
WEST TOE DRAIN INSTALLATION WORK PLAN

TABLE OF CONTENTS

Figures
Figure 1 – Site Plan

Tables
Table 1 – Stop Work Decision Matrix

Appendices

Appendix A	Condition No. 42 of Chiquita's Stipulated Order for Abatement in Case No. 6177-4
Appendix B	West Toe Drain and Geosynthetic Cover Plans (May 2024) – 15 sheets updated July 19, 2024
Appendix C	West Slope Toe Drain Health and Safety Plan V1.1 (July 3, 2024)
Appendix D	West Toe Drain Installation Work Plan – Slope Stability Recommendations (Geo-Logic Associates, July 19, 2023)
Appendix E	Atmos Aqueous Foam Application for Odor Control

TABLE OF CONTENTS

1.0 INTRODUCTION

The Chiquita Canyon Landfill (Landfill) is a Class III disposal site located in Los Angeles County, north of Henry Mayo Drive (SR-126) approximately 2.5 miles west of Interstate 5. The Landfill's primary permits were issued by the California Department of Resources Recycling and Recovery (CalRecycle): Solid Waste Facilities Permit 19-AA-0052, and the California Regional Water Quality Control Board, Los Angeles Region (RWQCB): Waste Discharge Requirements (WDRs) Order No. 98-086.

The purpose of this work plan is to summarize the guidelines and approach for implementation of the west toe drain installation, a component of the West Toe Drain and Geosynthetic Cover Plan project. While this work plan provides an overview summary for implementation of the work, the detailed documents attached and referenced herein provide additional information and shall be adhered to for execution of the work on behalf of the Landfill.

Note that a previous work plan dated May 14, 2024, was submitted to and approved by the LEA. Per the June 28, 2024 West Toe Drain Installation and Scrim Removal letter, this additional work plan and Health and Safety Plan is being circulated to the agencies. Work on the project is expected to start as early as the week of July 29 and continue for approximately 6 weeks.

1.1 Site Description

The Chiquita Canyon Landfill is approximately 639 acres with 400 acres permitted for waste disposal. The permitted landfill consists of two closed areas, Canyon B and Primary Canyon landfill areas, and an active operating area, the Main Canyon landfill area (Canyons A, C, D, and Cells 1 through 13). Landfill operations are currently filling in Cell 8A.

1.2 Project Summary

The existing scrim area must be covered by a 30-mil HDPE geomembrane in accordance with the Unilateral Administrative Order ("UAO") issued by the U.S. Environmental Protection Agency on February 21, 2024, as well as Condition 31 of the Stipulated Order for Abatement from the South Coast AQMD ("Stipulated Order") and Milestone #2A-1 of the June 6, 2024 LEA Compliance Order. Prior to the installation of the 30 mil HDPE geomembrane, the existing toe drain will be replaced to ensure adequate liquid collection below the geomembrane cover. The proposed toe drain is an 18" diameter ADS pipe with cleanouts spaced approximately every 200 feet, with sumps placed between the cleanouts also spaced approximately every 200 feet, to provide access for maintenance and redundancy.

Approximately 1.8 acres of the west slope at the Landfill are currently covered by a temporary scrim liner. Below the scrim liner is an existing toe drain that does not currently span the entire length of the scrim area and is susceptible to clogging due to the heavy sediment loading in that area. The adjacent perimeter access road has been built up along the edge of the scrim to minimize the potential for leachate that currently flows beneath the liner from daylighting and flowing into the concrete perimeter channel.

The proposed project to install a toe drain and remove and replace the temporary scrim liner with the 30 mil high-density polyethylene ("HDPE") geomembrane cover will allow for better leachate drainage into the leachate collection system, thus providing relief to minimize leachate seeps occurring along the west slope, improve gas collection by having a continuous geosynthetic cover, and allow for stormwater collected on top of the liner to flow directly into the concrete stormwater channel.

1.3 Hours of Operations

Based on the CUP 2004-00042-(5), the facility is allowed to operate during the following hours. As such, work hours have been established for this project and are presented in the below table.

Activity	Hours
West Toe Drain Project Hours	6:00 am – 6:00 pm Monday - Friday
Typical Excavation Hours	8:00 am – 4:00 pm Monday - Friday
Receipt of Solid Waste and Beneficial Reuse Materials	4:00 am – 5:00 pm Monday – Saturday
Facility Operations (site maintenance, waste processing, cover placement, etc.)	3:00 am – 7:00 pm Monday – Saturday
Equipment Maintenance	3:00 am – 7:00 pm Monday - Saturday

Under normal work conditions, excavation will not be conducted between 6pm and 6am, on weekends, or on legal holidays, unless otherwise approved in writing by the South Coast AQMD.

2.0 IMPLEMENTATION PROCESS

The west toe drain installation will include the following:

1. Place steel plates over the top of the length of the existing concrete perimeter channel that is in the work zone.
2. Place earthen fill (1 to 5 feet) over the top of the steel plates to widen the existing perimeter access road and provide a safe working area for the excavator and haul trucks.
3. Excavate to expose the toe of slope as necessary to provide access for installation of the toe drain.
4. Place soil over existing waste as necessary to provide access and stabilize the work zone.
5. Initially, excavation will be performed in 50-foot-wide sections (generally running north to south). Once CCL is confident they have a procedure in place to control odors, then excavation will be performed in 75-to-100-foot-wide sections similar to landslide remediation methods to limit the surface area that is uncovered at one time.
6. Utilize spray foam over the exposed excavation area for temporary odor control while work is in progress.
7. Cover the excavation with at least 6 inches of soil, or other South Coast AQMD approved cover within 1 hour of completion of excavation/construction activities at the uncovered area, as well as at the end of each working day.
8. Temporary back cuts will be sloped in accordance with the slope stability requirements.
9. Repair the existing bottom liner as needed.
10. Place gravel, ADS collection piping, 60-mil liner and backfill as necessary to reach permanent slope configuration per the slope stability requirements.
11. Install 30-mil HDPE geomembrane liner.
12. Remove earthen fill above the steel plates and remove steel plates.
13. Remove all debris from concrete stormwater channel and clean up

The work shall be performed in accordance with the following documents:

- Condition No. 42 of Chiquita's Stipulated Order for Abatement in Case No. 6177-4 (Appendix A);
- West Toe Drain and Geosynthetic Cover Plan Drawings (Appendix B);

- Health and Safety Plans (Appendix C); and
- Slope Stability Recommendations (Appendix D).

2.1 Earthwork

A primary component of the work will involve earthwork. This will generally include regrading/placement of soil/aggregate for equipment access, excavation and relocation of soils and in-place refuse, placement and grading of cover soils, installation of aggregates, and backfill. Throughout the excavation the west slope will be monitored for slope stability in accordance with Section 3.4.

2.2 Widen Existing Access Road

To protect the existing concrete stormwater channel and facilitate access to the work area, the contractor will start by installing steel plates spanning the channel along the work area. Prior to installing plates, the concrete channel will be thoroughly cleaned to remove all accumulated sediment. Steel plates will then be installed in an overlapping pattern to create a heavy "seal" over the channel to further reduce the chance of any sediment entering the channel. Soil will then be placed on top of the plates, effectively increasing the working width of the existing perimeter road. The contractor will then stockpile and stage clean soil adjacent to the work area which will be used for cover materials as needed.

2.3 Sequencing and Access

The length of the west toe drain installation is approximately 1,200 feet. Working from north to south, excavation for the toe drain installation will be performed in approximately 50-foot-wide sections (generally running north to south) until CCL is confident they have a procedure in place to control odors. Then, excavation will be performed in 75-to-100-foot segments. The haul trucks will drive in a counterclockwise direction, entering the work zone from the north and exiting at the south, then looping around to the top deck disposal area and back to the work zone, see Figure 1.

2.4 Scrim Removal

The sand bags currently deployed over the scrim area will be removed from the area of work that is in progress. Our Contractor will cut the scrim section and an excavator will be used to remove the plastic from the work area.

2.5 Refuse Excavation, Loading, Transportation, and Disposal

Excavation will not be conducted on days when the South Coast AQMD forecasts high levels of pollution. During excavation any exposed materials (consisting of exposed excavation working face, exposed waste, excavated waste/soil) will be sprayed with Atmos Cover aqueous foam to control odors. Additional odor controls in place are discussed in detail below in Section 2.9. Exposed refuse materials that have not been relocated for disposal will be covered with a minimum of six inches of clean soils, a minimum 10 mil liner, or South Coast AQMD approved cover within two (2) hours whenever excavation is not actively in progress, as well as at the end of each working day. The excavation area will be inspected daily for conformance of cover requirements. Any issues with the cover will be documented and the contractor will take immediate corrective action to add and secure a new cover or additional cover. An inspection and corrective action log will be maintained throughout the duration of the project. Third party construction quality assurance (CQA) representatives will be onsite throughout the west toe drain excavation to document the work.

During the material loading process, each truck will be lined with a new 10-mil bed liner. Materials loaded into each transfer dump truck will be completely covered with a 10-mil tarp and "burrito bagged" with

sandbags placed on top to secure the plastic in place. Additionally, each truck will be equipped with an automated tarping unit that will be in place prior to trucks leaving the work area. Per the SOFA this tarp will be tied down. This will aid in the containment of soil, reduce odor, and reduce the risk of free draining materials during transportation to designated disposal area. Equipment operators will inspect the loading process and be instructed that haul trucks are not overloaded, and no material will be loaded above the sides or rear of the truck beds to minimize the chance of spillage. The project manager will monitor these activities to ensure compliance.

Once transportation of material begins, traffic flow is such that trucks will drive south along the western perimeter road. All trucks, including those hauling excavated materials from the west toe drain area will go over a rumble strip before exiting the area. If free liquids are encountered or they come in contact with truck tires or the sides of the haul vehicles, the liquids will be removed from the haul path before the next truck moves into the loadout area. When a truck reaches the designated deposit area, the driver will remove the automated tarp and dump the load. The entire load consisting of plastic burrito liner, sandbags, and excavated material will be unloaded. It is anticipated materials will stay mostly intact as they exit the truck bed; however, to minimize and control odors, loads will be covered with a minimum of 6 inches of soil within 15 minutes of depositing. At the end of each workday the excavated soil deposited in designated deposit area will receive 12 inches of soil.

Haul trucks will cycle throughout the workday and will be cleaned of excavated materials following the conclusion of the haul route via the use of dry, clean soil. Additionally, all trucks will remain onsite at the conclusion of each day and will be inspected to confirm they are cleaned of excavated materials at the end of each workday.

Chiquita estimates that approximately 7,000 cubic yards of material will be excavated from west slope; however approximately 14,000 cubic yards of total material is estimated to be transported and disposed of within the reaction boundary over the course of the project. We anticipate that the excavated material will include soil, leachate-contaminated soil, and refuse. All excavated material will be removed from the west toe and redeposited within the West Toe Drain Refuse Disposal Area #1 or #2 within the data driven reaction area boundary as shown on Figure 1. The west slope area where excavation is taking place is within the reaction area, and the excavated material will simply be moved to a different portion of the reaction area. At the conclusion of the project all excavated material will be redeposited within the data driven reaction boundary where it will be capped with soil cover (18-inches minimum) before the 30-mil geomembrane liner is installed. This cover plan is congruent with adjacent capped areas.

2.6 Geosynthetics Repair

During the excavation process, the liner will be visually inspected for any impairments or holes requiring repair. Those areas needing repair will be cleaned and repaired by the liner contractor and tested accordingly. A third party will provide CQA personnel during the project and will document all liner repairs according to the original CQA plan for Cell 4 and 5.

2.7 Toe Drain Installation

Following CQA personnel confirmation that all liner repairs have been completed, the contractor will then proceed with the toe drain installation and backfill in accordance with the drawings in Appendix B. The contractor will start by placing LCRS gravel and then the washed stone as bedding for the pipes. Once the pipe bedding is placed and graded as needed, the 18" and 12" perforated ADS pipe will be installed. Following installation of the pipes, washed stone will be placed to the grades shown in the plans. Above the washed stone, 6 oz/sy non-woven geotextile will be placed with a 60 mil double sided textured HDPE liner above. The liner will be extrusion welded to the cell base liner. General soil will then be placed to

backfill this liner to match the existing slope gradient. Once final grade is established, 30 mil HDPE geomembrane will be installed consistent with the current liner deployment on site.

A piping contractor will install drainage pipe and perform the CQA of the toe drain installation and a survey contractor will perform the survey and prepare as-builts.

2.8 Dust Suppression

A dedicated water truck will be utilized to provide dust suppression and minimize fugitive dust in all areas of the project during project hours of operation as required by the Stipulated Order Condition No. 42(f).

2.9 Odor Controls

Throughout the planning process of this project Chiquita Canyon Landfill has collaborated with its landfill operations experts to ensure that there is adequate odor control measures (e.g., fans, misters) at both the excavation working face and the active working face. The below sections detail which products will be used on this project.

2.9.1 Atmos Aqueous Foam

Aqueous Foam will be sprayed for odor control purposes on all exposed areas of the excavation work area once the scrim is removed and on excavated surfaces during work progress.

2.9.2 Odor Neutralizer

Fence mounted (including perimeter fencing) and mobile-mounted systems misters will be utilized for the duration of the project to control odors. This form of odor control is currently deployed at CCL for ongoing waste filling operations and in response to odors from the reaction. Mobile misting systems will be placed on the east side of the active excavation work area located on the bench above the scrim.

2.9.3 Fans

An orchard fan and Tow-and-Blow fans will be utilized within the immediate excavation work area to maintain air flow for worker safety. One Tow-and-Blow fan will be located on the bench above the scrim area pointed south-east or as needed. An additional Tow-and-Blow fan will be located on the west side of the landfill blowing air from the rear of the contractor working on the excavation. The orchard fans currently in use for ongoing waste acceptance operations will remain where they are. For this project specifically, one orchard fan will be located on the west perimeter boundary of the landfill and will be adjusted accordingly.

2.10 Liquids Management

2.10.1 Saturated Waste

The contractor will place clean soil in nearby stockpiles locations to have clean dry soil to mix in with the potentially moist soils while excavating under the scrim. This will aid in the stabilization process of the work zone as it is to be excavated and placed into lined haul trucks. Once the truck is loaded with dirt by the excavator, it will be then ‘burrito wrapped ‘and secured with sandbags on top to secure the load. Additionally, each truck will be equipped with an automated tarping unit that will be in place prior to trucks leaving the work area. Per the SOFA this tarp will be tied down. This will aid in the containment of soil, reduce odor and reduce the risk of free draining materials during the transportation process to the disposal area on top of the landfill.

2.10.2 Free Liquids

Free liquids will be redirected to current pathways to the south and pumped out using existing pumps and or vacuum truck. Constructed sumps will be used as temporary pumping areas while drain lines are being installed. Large amounts of free liquids will be contained and pumped out via vac truck.

2.11 Wet Weather Preparedness

At the end of every workday and in advance of a potential rain event the excavation area and dump area will be covered up with a minimum of six inches of clean soils, a minimum 10 mil liner, or South Coast AQMD approved cover. In the event of a rain event no work will take place and will resume once site conditions allow.

Inlets to the existing channel will be created by stripping perimeter cover soil at strategic locations and removing steel plates to create an inlet into the concrete channel. Inlet protection including sandbags, fiber rolls and/or silt fences will be installed to control sediment.

3.0 MONITORING AND STOP WORK REQUIREMENTS

To address the LEA's May 29, 2024 requirements to not install the toe drain on days when emissions (odor) complaints are high and to develop criteria with SCAQMD to pause construction activities when emissions exceed an agreed action level, CCL will ensure compliance with Condition No. 42 of the Stipulated Order for Abatement with SCAQMD. See Appendix A for the full text of this condition. This list contains already agreed upon conditions to address potential impacts from excavation activities, including requirements to stop work under certain conditions related to receipt of notices of violation, wind conditions, and emissions monitoring. All records required to demonstrate compliance with Appendix A will be maintained for a minimum of 5 years.

This section summarizes the monitoring requirements for implementation of the work. In conjunction with the required monitoring, there are specific conditions under which if observed work must stop. The prescribed stop work conditions are also included in this section.

3.1 Weather Monitoring

3.1.1 Wind Speed and Direction

During the excavation, continuous monitoring and recording of wind speed and direction will be conducted at the onsite meteorological station. Wind direction data will be used to determine the location of the downwind property line or other approved location for air monitoring during the excavation.

3.1.2 Forecast Rain Events

The weather forecast will be monitored daily, if NOAA shows more than a 50 percent of 0.5-inches of rain then the wet weather plan shall be implemented in accordance with Section 2.8.

3.1.3 Episodes

The excavation will not occur on days where SCAQMD forecasts first, second, or third stage episodes for area number 13 or when SCAQMD requires companies in area number 13 to implement their first, second, or third stage episode plans.

3.2 Air Monitoring

During excavation, monitoring for Total Organic Compounds as methane using an Organic Vapor Analyzer (OVA) or other monitor approved by the South Coast AQMD will be conducted continuously at the working face of the excavation and at the downwind property line or other approved locations. Prior to excavation, a background level will be established as well. The maximum sustained readings (sustained for over 15 seconds) will be recorded every 15 minutes. The OVA or other approved monitoring instrument will be calibrated each day in accordance with manufacturer's recommendations.

3.2.1 Excavation Working Face

If recorded readings of 2,000 ppmv or greater Total Organic Compounds as methane for a sustained reading (greater than 15 seconds) are observed at the working face of the excavation, the excavation will cease and the area generating the emissions will immediately be covered with a minimum of 6 inches clean soil, minimum 10 mil plastic liner, or other South Coast AQMD approved cover. Excavation will not resume until the readings return to the pre-excavation level.

3.2.2 Downwind Property Line or Other Approved Locations

If recorded readings of 200 ppmv or greater Total Organic Compounds as methane for a sustained reading (greater than 15 seconds) are observed at the downwind property line (or other approved locations), the excavation will cease and the area generating the emissions will immediately be covered with a minimum of 6 inches clean soil, minimum 10 mil plastic liner, or other South Coast AQMD approved cover. Excavation will not resume until the readings return to the pre-excavation level. These readings will be taken from the closest accessible downwind property line location from the working face of the excavation. Air monitors will be positioned along the western ridge adjacent to the project limits.

3.3 Daily Cover Monitoring

The excavation area will be inspected daily for conformance of cover requirements. Any issues with the cover will be documented and the contractor will take immediate corrective action. An inspection and corrective action log will be maintained throughout the duration of the project.

3.4 Slope Stability Monitoring

A competent spotter will be used during excavation and whenever personnel are working within the excavation near the toe of the excavation slope to monitor for slope movements, bulging, seepage, or other indications of possible slope movements that could jeopardize the safety of personnel and equipment or that could compromise the integrity of the excavation and/or surrounding areas.[1] An

audio-visual warning system that will allow a spotter to communicate observations that may require immediate protective actions will be developed and implemented.

3.5 Stop Work Requirements

Condition No. 42 of Chiquita's Stipulated Order for Abatement in Case No. 6177-4 (Appendix A) prescribed specific conditions under which work shall not occur or shall stop. These conditions have been tabulated and summarized below in Table 1.

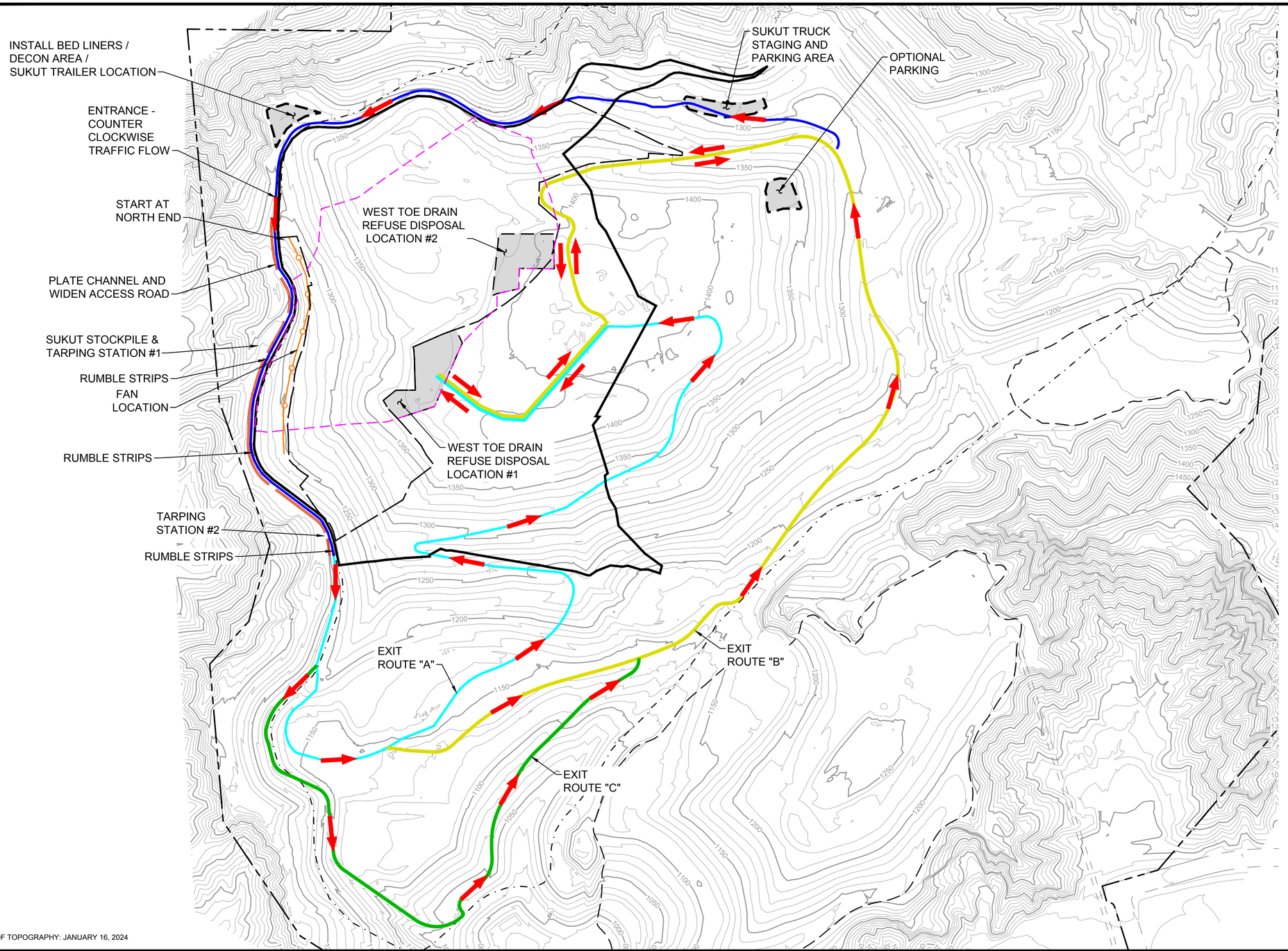
Table 1: Stop Work Criteria Summary

AIR	
Stop Work Criteria	**Reference Document**
Excavation inside the Reaction Area shall stop when the wind speed is greater than 15 mph (averaged over 15 minutes) or the wind speed instantaneously exceeds 25 mph **and** Chiquita either receives **an odor nuisance NOV from South Coast AQMD, or any complaints for dust**. Note that excavation will not occur outside the Reaction Area.	Condition No. 42(e) of Chiquita's Stipulated Order for Abatement in Case No. 6177-4
If recorded readings of **2,000 ppmv or greater Total Organic Compounds as methane for a sustained reading (greater than 15 seconds) are observed at the working face of the excavatio**n, the excavation will cease and the area generating the emissions will immediately be covered with a minimum of 6 inches clean soil, minimum 10 mil plastic liner, or other South Coast AQMD approved cover. Excavation will not resume until the readings return to the pre-excavation level.	Condition No. 42(i) of Chiquita's Stipulated Order for Abatement in Case No. 6177-4
If recorded readings of **200 ppmv or greater Total Organic Compounds as methane for a sustained reading (greater than 15 seconds) are observed at the downwind property line (or other approved locations)**, the excavation will cease and the area generating the emissions will immediately be covered with a minimum of 6 inches clean soil, minimum 10 mil plastic liner, or other South Coast AQMD approved cover. Excavation will not resume until the readings return to the pre-excavation level.	Condition No. 42(j) of Chiquita's Stipulated Order for Abatement in Case No. 6177-4
Excavation shall stop in the event that a FLIR camera detects a temperature that exceeds the recommended maximum manufacturer temperatures for the ADS pipe.	LEA May 29, 2024 Comments on Draft Workplan
WEATHER	
Stop Work Criteria	**Reference Document**
Excavation work shall stop on days where the **South Coast AQMD forecasts first, second, or third stage episodes for area number 13 or when South Coast AQMD requires companies in area number 13 to implement their first, second, or third stage episode plans**. Episode forecasts for the following day can be obtained by calling (800) 288-7664.	Condition No. 42(c) of Chiquita's Stipulated Order for Abatement in Case No. 6177-4
Excavation inside the Reaction Area shall stop when the wind speed is greater than 15 mph (averaged over 15 minutes) or the wind speed instantaneously exceeds 25 mph **AND** Chiquita receives either any NOV for violation of Section 41700 / Rule 402 or any complaints for dust. Note that excavation will not occur outside the Reaction Area.	Condition No. 42(e) of Chiquita's Stipulated Order for Abatement in Case No. 6177-4
SLOPE STABILITY	
Stop Work Criteria	**Reference Document**
Work shall stop if **slope instability is observed**. Slopes shall be stabilized per geotechnical recommendations.	7/19/24 Slope Stability Recommendations

[1] In accordance with 29 CFR Part 1926, Subpart P, a competent person is a designated individual who can identify existing and conditions in the surroundings or working conditions that are potentially hazardous to workers, and who is authorized to take prompt corrective measures to eliminate them.

4.0 MANDATORY COMMUNICATION AND NOTIFICATIONS

Condition No. 42 of Chiquita's Stipulated Order for Abatement in Case No. 6177-4 (Appendix A) requires notification and communication of specific work items. South Coast AQMD must be notified at least two days prior to starting excavation, and within five days after its completion.



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GRAPHIC SCALE:1"= 250'

LEGEND

- APPROXIMATE LIMIT OF PROPERTY LINE
- CLOSED LIMIT OF REFUSE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PERMITTED LIMIT OF REFUSE
- REACTION AREA BOUNDARY (APPROXIMATE)
- REACTION AREA BOUNDARY - CONDITION 9A
- GEOSYNTHETIC CAP LIMIT
- DIRECTION OF TRAVEL
- ENTRANCE ROUTE
- EXIT ROUTE "A"
- EXIT ROUTE "B"
- EXIT ROUTE "C"

DATE OF TOPOGRAPHY: JANUARY 16, 2024

NO.	REVISION DESCRIPTION	DATE

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CHIQUITA CANYON LANDFILL

WEST TOE DRAIN OPERATIONS PLAN

DESIGNED BY :	J.M.H	FILE : Figure 1 - Reaction Areas vs Liner Limits.dwg			
DRAWN BY :	A.N.P.	DATE :	07-2024	SCALE:	AS SHOWN
CHECKED BY :	J.M.H	DATE :	07-2024	**FIGURE 1**	
APPROVED BY :	C.H.M.	DATE :	07-2024		

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Appendix A
Condition No. 42 of Chiquita's Stipulated Order for Abatement in Case No. 6177-4

Rule 1150 Landfill Excavation

Condition 42

Respondent shall comply with the following requirements in the interim period, starting upon issuance of this Order and until the final approval of the Rule 1150 landfill excavation plan under the application specified in Condition No. 41 above, for all excavation, as defined in Rule 1150(a)(5), unless excavation is occurring pursuant to one or more exemption as listed in South Coast AQMD Rule 1150(c):

a. The South Coast AQMD shall be notified at least two (2) days prior to each excavation commencement and within five (5) days after its completion. The notification shall be made by email [Christina Ojeda, Air Quality Inspector, (cojeda@aqmd.gov); Gerardo Vergara, Air Quality Inspector, (gvergara@aqmd.gov); and Rule1150notifications@aqmd.gov]. The subject line of the email shall contain "Rule 1150 Notification." The body of the email shall contain the following information:

    i. Company Name and Company ID
    ii. Site Address
    iii. Notification Type (2 days prior or 5 days after)
    iv. Estimated Excavation Start Date and Completion Date
    v. A Map of the Facility with Excavation Location Indicated

b. Excavation shall not be conducted between the hours of 6:00 p.m. and 6:00 a.m. or on weekends and legal holidays unless excavation is occurring to comply with Condition 24, or otherwise approved in writing by the South Coast AQMD.

c. Excavation shall not be conducted on days when South Coast AQMD forecasts first, second, or third stage episodes for area number 13 or when South Coast AQMD requires companies in area number 13 to implement their first, second or

third stage episode plans. Episode forecasts for the following day can be obtained by calling (800) 288-7664.

d. During excavation, continuous monitoring and recording of the wind speed and directions shall be conducted at an appropriate site or, through the meteorological station if present at the site.

e. Excavation shall not be conducted, except in the Reaction Area, when the wind speed is greater than 15 mph (averaged over 15 minutes) or the wind speed instantaneously exceeds 25 mph. If Respondent receives either any NOV for violation of Section 41700 / Rule 402 or any complaints for dust, Respondent shall stop excavation in the Reaction Area during such wind conditions.

f. During excavation, all working excavation areas, excavated material and unpaved roadways shall be watered down until the surface is moist and then maintained in a moist condition to minimize dust and emissions without creating a safety hazard condition.

g. VOC contaminated soil (as defined by Rule 1166) shall not be spread onsite or offsite, nor stockpiled, if it results in uncontrolled evaporation of VOC to the atmosphere. VOC contaminated soil shall not be used for landfill cover.

h. During excavation, monitoring for Total Organic Compounds as methane using an Organic Vapor Analyzer (OVA) or other monitor approved by the South Coast AQMD shall be conducted continuously at the working face of the excavation and at the downwind property line or other approved locations. The maximum sustained readings (greater than 15 seconds) shall be recorded every 15 minutes. The OVA or other approved monitor shall be calibrated each day in accordance with manufacturers' specifications.

i. If the OVA or other approved organic monitor shows a sustained reading (greater than 15 seconds) of 2,000 ppmv Total Organic Compounds as methane or greater at the working face of the excavation, the excavation shall cease and the area

generating the emissions shall immediately be completely covered with a minimum of 6 inches of clean dirt, plastic sheet, or other South Coast AQMD approved cover. Excavation shall not resume until the readings return to the pre-excavation level.

j. If the OVA or other approved organic monitor shows a sustained reading (greater than 15 seconds) of 200 ppmv Total Organic Compounds as methane or greater downwind from the site at the property line (or other approved locations), the excavation shall cease and the area generating the emissions shall immediately be completely covered with a minimum of 6 inches of clean dirt, plastic sheet, or other South Coast AQMD approved cover. Excavation shall not resume until the readings return to the pre-excavation level.

k. Excavated landfill material and refuse shall be immediately, not to exceed 2 hours, relocated for burial onsite, immediately deposited into trucks/trailers for off-site transport and completely covered with automated vinyl tarps, with such covers tied down, except for during active loading/unloading of refuse.

l. When refuse loading is completed and during transport, no material shall extend above the sides or rear of the truck or trailer which will haul the excavated material. Excavated material shall be completely covered with automated vinyl tarps, with the cover tied down.

m. Respondent shall ensure that there is no track-out from the excavation area. Respondent shall ensure that all trucks used for excavation in Reaction Area go through a rumble strip before exiting the excavation area, and Respondent shall ensure that all trucks shall, following the conclusion of excavation, but not less than once per day, be free of excavation materials.

n. Landfill materials and refuse which have been exposed to the atmosphere as a result of the excavation, which have not been excavated and relocated for burial or transported off site, shall be immediately, not to exceed 2 hours, covered (with

a minimum of 6 inches of clean soil, secured plastic sheeting that is at least 10 mil, or other South Coast AQMD approved cover) whenever excavation is not actively in progress, and at the end of each working day so that no portion of landfill material and refuse is exposed to the atmosphere. Foam by itself shall not be used as a night cover if it is raining or rain is predicted by the National Weather Service prior to the next scheduled day of excavation.

o. Daily inspections shall be conducted of any covered excavation area (per Conditions 41(i), 41(j), and 41(n) above) to ensure the integrity of the cover(s) is maintained and secured so that no portion of the soil is exposed to atmosphere. If the cover material is not completely covering the landfill materials and refuse generating emissions, or if the integrity of the cover has been compromised, immediate corrective action shall be taken to add and secure a new cover, or additional cover, on the area requiring corrective action. An inspection log shall be maintained to record the time of the inspections and any corrective action performed.

p. All materials that are listed as hazardous by a federal or state agency shall be considered "hazardous materials" for the purpose of this Order.

    i. All excavated hazardous material shall be transported in such a manner as to prevent any emissions of hazardous materials.

    ii. All hazardous materials shall be transported in containers clearly marked as to the type of material contained and what procedures should be followed in case of accidental spills.

    iii. Excavated liquid hazardous materials with the potential to cause air emissions shall be encapsulated or enclosed in containers with sealed lids before loading into the transport vehicles.

q. Excavation, handling and stockpiling activities shall comply with the applicable requirements of Rule 403.

r. All records required to demonstrate compliance with Condition No. 42 shall be kept and maintained for at least 5 years.

Landfill excavation mitigation measures, other than those listed in this Condition No. 42, which South Coast AQMD personnel determine are necessary to protect the health and safety of the public, shall be implemented upon request.

Appendix B
West Toe Drain and Geosynthetic Cover Plan Drawings

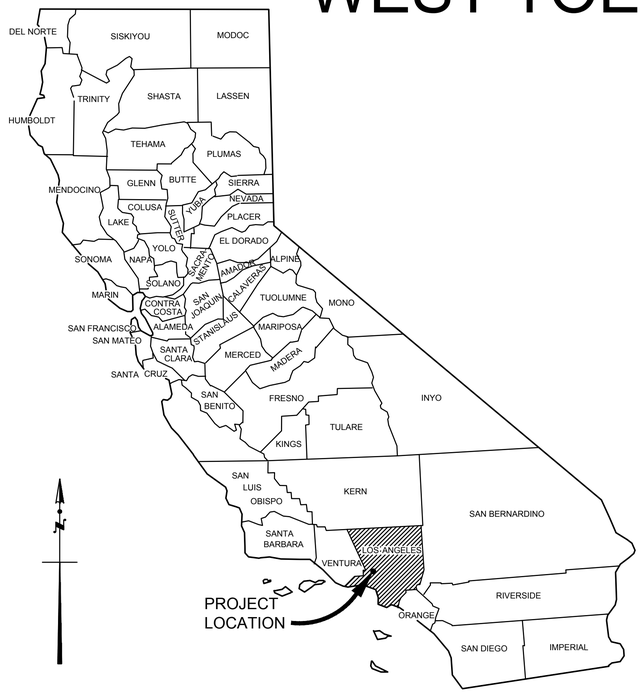
WASTE CONNECTIONS

CHIQUITA CANYON LANDFILL

CASTAIC, CA

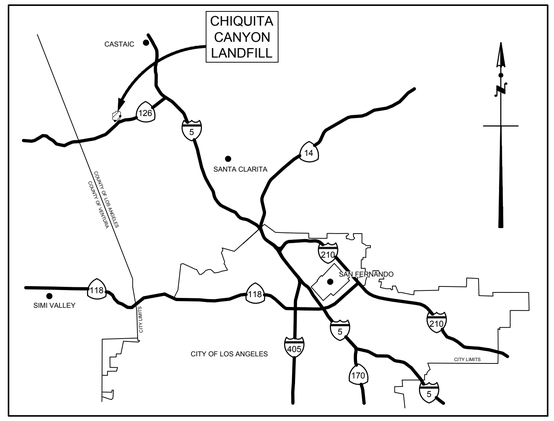
WEST TOE DRAIN AND GEOSYNTHETIC COVER PLAN

MAY 2024



STATE LOCATION MAP
NTS

INDEX OF SHEETS



VICINITY MAP
NTS

BENCH MARK:

BM: L 6106 Elev.: 982.867 FT (NAVD 88 DATUM)

QUAD (YEAR): NEWHALL (2009)

DESCRIPTION:
LACO BM TAG IN CTR NOSE OF C/L MED S END C/L MED S END C/L CHIQUITO CYN LANDFILL ENT 89' N/O C/L HENRY MAYO DR (HWY126) 0.6MI E/O CHIQUITO CYN RD

NO.	REVISION DESCRIPTION	DATE
4	WEST TOE DRAIN DETAILS	7/2024
3	UPDATE EXISTING TOPOGRAPHY	7/2024
2	TOP DECK ACCESS ROADS - LAYOUT AND DETAILS	6/2024
1	UPPER TOE DRAIN - LAYOUT AND DETAILS	6/2024

CHIQUITA CANYON
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REGISTERED PROFESSIONAL ENGINEER CALEB H. MOORE 66580 CIVIL STATE OF CALIFORNIA

CHIQUITA CANYON LANDFILL

COVER SHEET

DESIGNED BY :	D.J.P. / J.M.H	FILE : C-001 Cover Sheet.dwg	
DRAWN BY :	D.J.P / A.T.	DATE : 05-2024	SCALE: AS SHOWN
CHECKED BY :	J.M.H	DATE : 05-2024	C-001
APPROVED BY :	C.H.M.	DATE : 05-2024	

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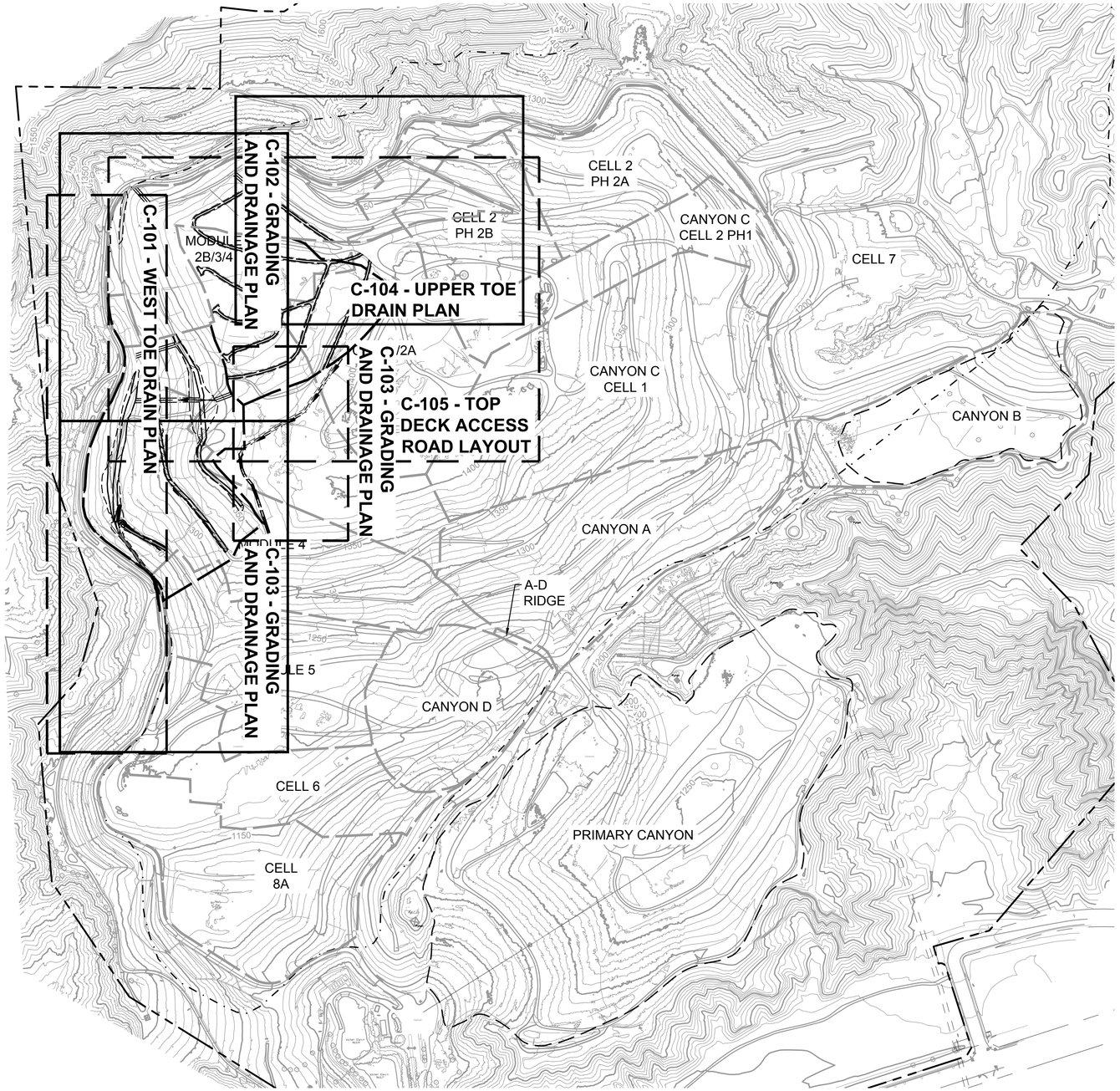

DATE OF TOPOGRAPHY: JANUARY 16, 2024 SUPPLEMENTED WITH MAY 8, 2024

0 150 300 600

GRAPHIC SCALE:1"= 300'

CONSTRUCTION NOTES

1. CLEAR AND GRUB, GRADE TO DRAIN, PREPARE SUBGRADE, AND PLACE 30 MIL HDPE GEOMEMBRANE
2. PROTECT LFG SYSTEM AND COMPOSITE LINER IN PLACE
3. CONSTRUCT BENCH CROSSING PER 3 C-503
4. CONSTRUCT DOWNDRAIN PER 4 C-503
5. CONSTRUCT BENCH ROAD TYPE A PER 4 C-501
6. CONSTRUCT DRAINAGE PIPE INLET TYPE A AND CROSSING PER 2 C-503
7. CONSTRUCT BENCH ROAD TYPE B PER 1 C-503
8. CONSTRUCT SIDE SLOPE LINER TERMINATION PER 3 C-501
9. CONSTRUCT TOP OF SLOPE LINER TERMINATION PER 2 C-502
10. CONSTRUCT LINED DRAINAGE BENCH PER 5 C-502
11. CONSTRUCT STORMWATER DIVERSION BERM PER 3 C-502
12. CONSTRUCT TOE DRAIN TERMINATION CLEANOUT PER 1 C-501
13. CONSTRUCT TOE DRAIN SUMP PER 1 C-502
14. CONSTRUCT TOE DRAIN PIPE CLEANOUT PER 2 C-501
15. CONSTRUCT TOE DRAIN BENCH PER 5 C-501
16. CONSTRUCT DRAINAGE PIPE INLET TYPE B AND CROSSING PER 2 C-504
17. CONSTRUCT CONCRETE HEAD WALL PER 1 C-504
18. CONSTRUCT EARTHEN BENCH PER 4 C-502
19. INSTALL SANDBAGS BALLAST SYSTEM PER 3 C-504
20. CONSTRUCT UPPER TOE DRAIN CLEANOUT PER 1 C-505
21. INSTALL UPPER TOE DRAIN PER 2 C-505
22. INSTALL VACUUM PORT PER 1 C-505
23. CONSTRUCT BENCH COLLECTOR PER 3 C-505
24. CONSTRUCT TOE COLLECTOR TERMINATION AND ROAD CROSSING PER 4 C-506 (1)
25. CONSTRUCT TOP DECK ACCESS ROAD PER 1 C-506
26. CONSTRUCT TOP DECK ACCESS ROAD CROSS DRAIN PER 2 C-506 (2)

NOTES:

1. MATERIALS, LIMITS, AND GRADES OF ALL IMPROVEMENTS SHALL BE FIELD FIT BASED ON ACTUAL CONDITION AT THE TIME OF CONSTRUCTION.

LEGEND

- LIMIT OF GRADING / DAYLIGHT
- EXISTING ROAD
- EXISTING LINER LIMIT
- 10 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PERMITTED LIMIT OF REFUSE
- APPROXIMATE LIMIT OF PROPERTY LINE
- PROPOSED LINER LIMIT

NO.	REVISION DESCRIPTION	DATE
2	TOP DECK ACCESS ROADS - LAYOUT AND DETAILS	6/2024
1	UPPER TOE DRAIN - LAYOUT AND DETAILS	6/2024

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CHIQUITA CANYON LANDFILL

SITE PLAN AND SHEET INDEX MAP

DESIGNED BY :	D.J.P. / J.M.H	FILE : C-100 Site Plan and Sheet Index Map.dwg	
DRAWN BY :	D.J.P / A.T.	DATE : 05-2024	SCALE: AS SHOWN
CHECKED BY :	J.M.H	DATE : 05-2024	C-100
APPROVED BY :	C.H.M.	DATE : 05-2024	

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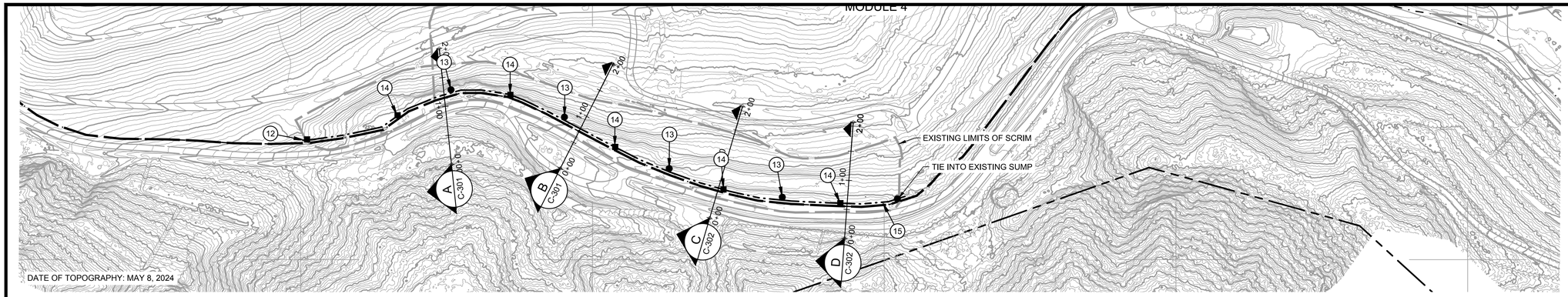
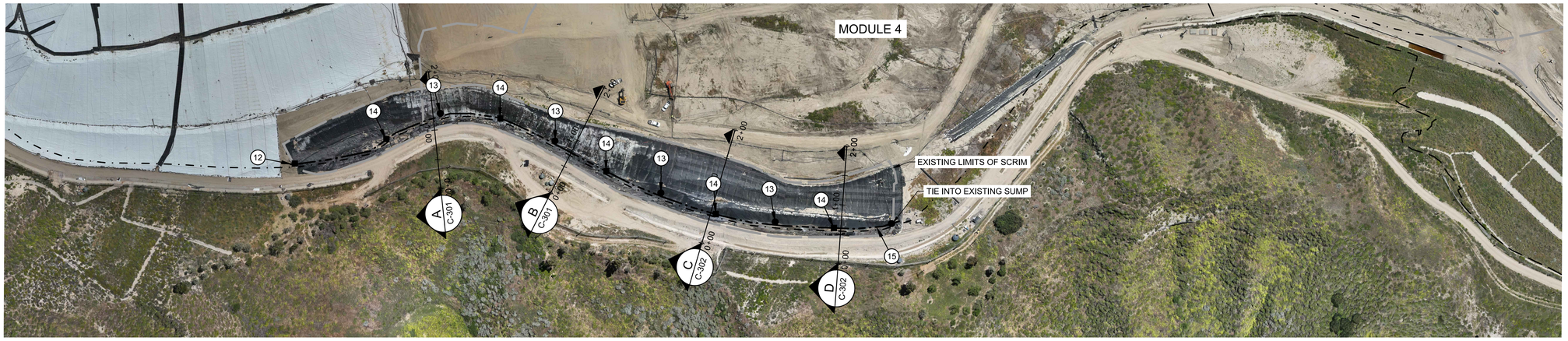
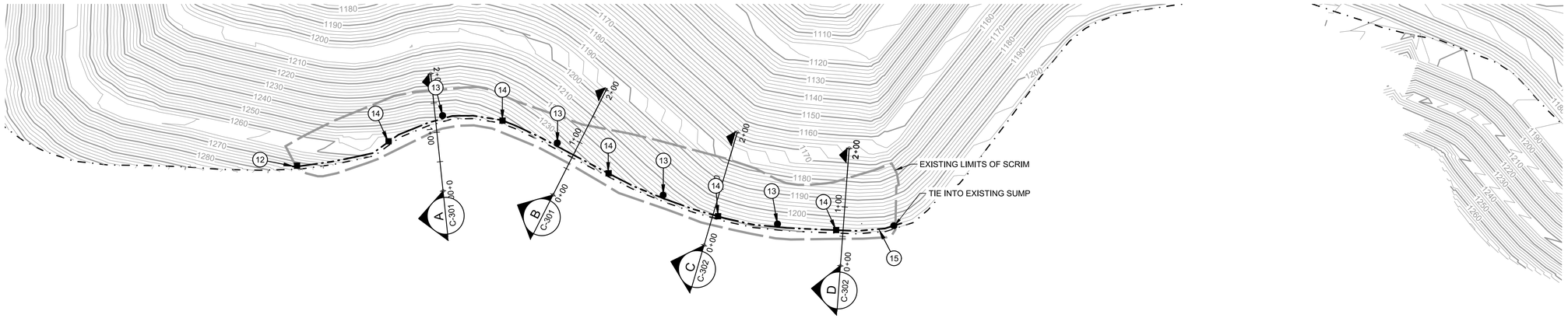


EXISTING TOPOGRAPHY



MAY 8, 2024 AERIAL IMAGE



AS-BUILT LINER GRADES

NOTES:
1. GRADES SHOWN REPRESENT TOP OF LINER GRADES BASED ON AVAILABLE AS-BUILT INFORMATION

0 50 100 200
GRAPHIC SCALE:1"= 100'

CONSTRUCTION NOTES

12 CONSTRUCT TOE DRAIN TERMINATION CLEANOUT PER — 1 / C-501
13 CONSTRUCT TOE DRAIN SUMP PER — 1 / C-502
14 CONSTRUCT TOE DRAIN PIPE CLEANOUT PER — 2 / C-501
15 CONSTRUCT TOE DRAIN BENCH PER — 5 / C-501

LEGEND

- LIMIT OF GRADING / DAYLIGHT
- EXISTING ROAD
- EXISTING LINER LIMIT
- 10 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PERMITTED LIMIT OF REFUSE
- APPROXIMATE LIMIT OF PROPERTY LINE
- ODOR CONTROL LINER AREA
- PERFORATED SEEPAGE COLLECTION PIPE
- SOLID SEEPAGE TRANSMISSION PIPING
- TOE DRAIN SUMP
- TOE DRAIN CLEANOUT

NO.	REVISION DESCRIPTION	DATE

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REGISTERED PROFESSIONAL ENGINEER
CALEB H. MOORE
66580
OF CALIFORNIA

CHIQUITA CANYON LANDFILL

WEST TOE DRAIN PLAN

DESIGNED BY :	D.J.P. / J.M.H	FILE : C-101 West Toe Drain Plan.dwg	
DRAWN BY :	D.J.P / A.T.	DATE : 05-2024	SCALE: AS SHOWN
CHECKED BY :	J.M.H	DATE : 05-2024	C-101
APPROVED BY :	C.H.M.	DATE : 05-2024	

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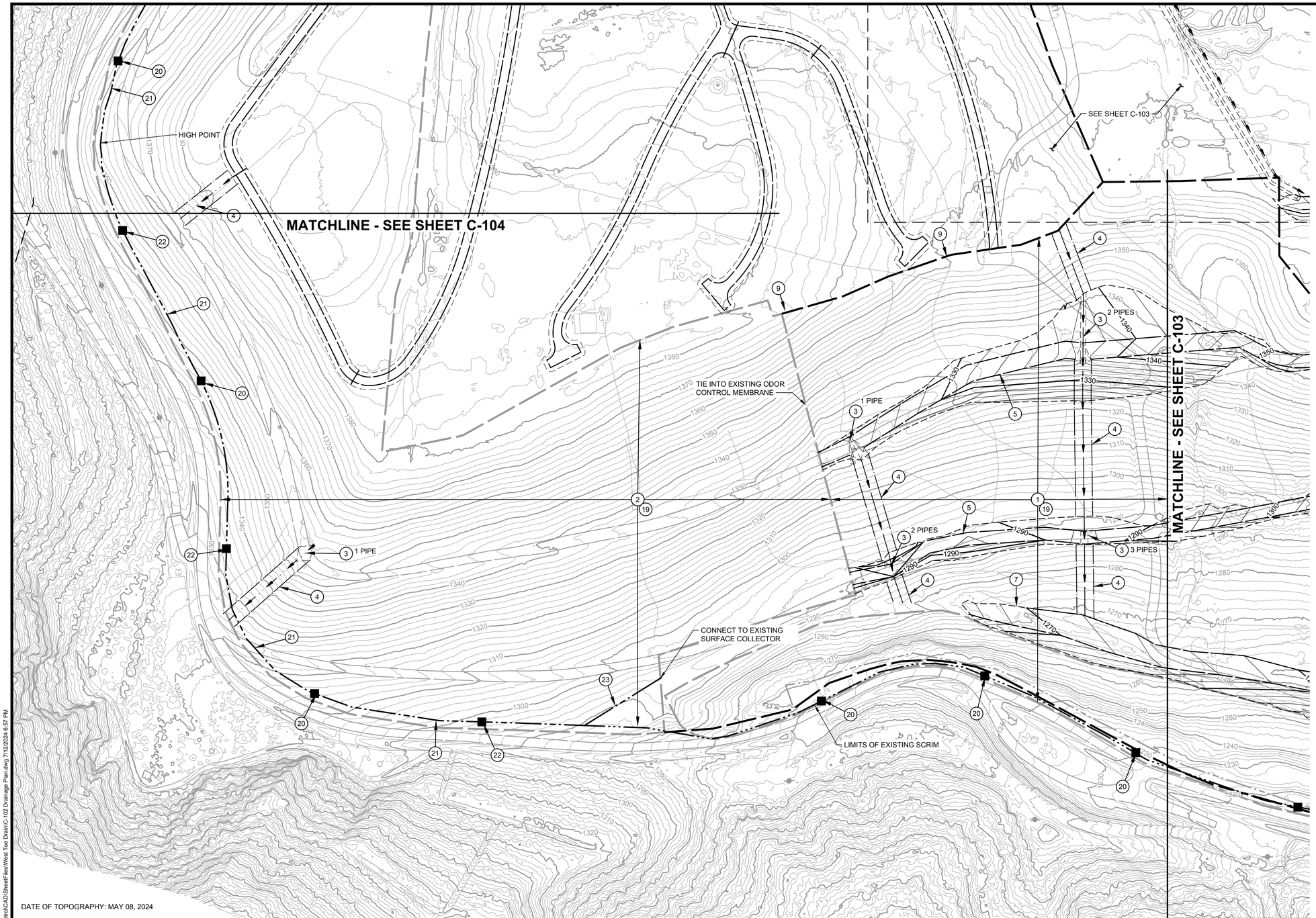

DATE OF TOPOGRAPHY: MAY 08, 2024

0 30 60 120

GRAPHIC SCALE:1"= 60'

CONSTRUCTION NOTES

1. CLEAR AND GRUB, GRADE TO DRAIN, AND PLACE 30 MIL HDPE GEOMEMBRANE
2. PROTECT LFG SYSTEM LINER IN PLACE
3. CONSTRUCT BENCH CROSSING PER — 3 C-503
4. CONSTRUCT DOWNDRAIN PER — 4 C-503
5. CONSTRUCT BENCH ROAD TYPE A PER — 4 C-501
7. CONSTRUCT BENCH ROAD TYPE B PER — 1 C-503
9. CONSTRUCT TOP OF SLOPE LINER TERMINATION PER — 2 C-502
19. INSTALL SANDBAG BALLAST SYSTEM PER — 3 C-504
20. CONSTRUCT UPPER TOE DRAIN CLEANOUT PER — 1 C-505
21. INSTALL UPPER TOE DRAIN PER — 2 C-505
22. INSTALL VACUUM PORT PER — 1 C-505
23. CONSTRUCT BENCH COLLECTOR PER — 3 C-505

1

LEGEND

- LIMIT OF GRADING / DAYLIGHT
- EXISTING ROAD
- EXISTING LINER LIMIT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PERMITTED LIMIT OF REFUSE
- APPROXIMATE LIMIT OF PROPERTY LINE
- ODOR CONTROL LINER AREA
- UPPER TOE DRAIN PERFORATED PIPE
- UPPER TOE DRAIN SOLID PIPE
- UPPER TOE DRAIN CLEANOUT

NO.	REVISION DESCRIPTION	DATE
1	UPPER TOE DRAIN - LAYOUT AND DETAILS	6/2024

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GRADING AND DRAINAGE PLAN

DESIGNED BY :	D.J.P. / J.M.H	FILE : C-102 Drainage Plan.dwg	
DRAWN BY :	D.J.P / A.T.	DATE : 05-2024	SCALE: AS SHOWN
CHECKED BY :	J.M.H	DATE : 05-2024	C-102
APPROVED BY :	C.H.M.	DATE : 05-2024	

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MATCHLINE - C-102 - GRADING AND DRAINAGE PLAN

RELCOATE STOCKPILES AS NECESSARY TO MAINTAIN 3% FLOWLINE

SEE ENLARGED VIEW AT RIGHT

RELCOATE STOCKPILES AS NECESSARY TO MAINTAIN 3% FLOWLINE

CONNECT TO EXISTING GRAVITY DRAIN TO TANK FARM

LIMITS OF EXISTING SCRIM

DATE OF TOPOGRAPHY: MAY 8, 2024

0 30 60 120
GRAPHIC SCALE:1"= 60'

0 30 60 120
GRAPHIC SCALE:1"= 60'

CONSTRUCTION NOTES

5	CONSTRUCT BENCH ROAD TYPE A PER	4 C-501
6	CONSTRUCT DRAINAGE PIPE INLET TYPE A AND CROSSING PER	2 C-503
7	CONSTRUCT BENCH ROAD TYPE B PER	1 C-503
8	CONSTRUCT SIDE SLOPE LINER TERMINATION PER	3 C-501
9	CONSTRUCT TOP OF SLOPE LINER TERMINATION PER	2 C-502
10	CONSTRUCT LINED DRAINAGE BENCH PER	5 C-502
11	CONSTRUCT STORMWATER DIVERSION BERM PER	3 C-502
16	CONSTRUCT DRAINAGE PIPE INLET AND CROSSING TYPE B PER	2 C-504
17	CONSTRUCT CONCRETE HEADWALL PER	1 C-504
18	CONSTRUCT EARTHEN BENCH PER	4 C-502
19	INSTALL SANDBAG BALLAST SYSTEM PER	3 C-504
20	CONSTRUCT UPPER TOE DRAIN CLEANOUT PER	1 C-505
21	INSTALL UPPER TOE DRAIN PER	2 C-505
22	INSTALL VACUUM PORT PER	1 C-505

LEGEND

- LIMIT OF GRADING / DAYLIGHT
- EXISTING ROAD
- EXISTING LINER LIMIT
- 10 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PERMITTED LIMIT OF REFUSE
- APPROXIMATE LIMIT OF PROPERTY LINE
- ODOR CONTROL LINER AREA
- UPPER TOE DRAIN PERFORATED PIPE
- UPPER TOE DRAIN SOLID PIPE
- UPPER TOE DRAIN CLEANOUT

NO.	REVISION DESCRIPTION	DATE

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GRADING AND DRAINAGE PLAN

DESIGNED BY :	D.J.P. / J.M.H	FILE : C-103 Drainage Plan.dwg	
DRAWN BY :	D.J.P / A.T.	DATE : 05-2024	SCALE: AS SHOWN
CHECKED BY :	J.M.H	DATE : 05-2024	C-103
APPROVED BY :	C.H.M.	DATE : 05-2024	

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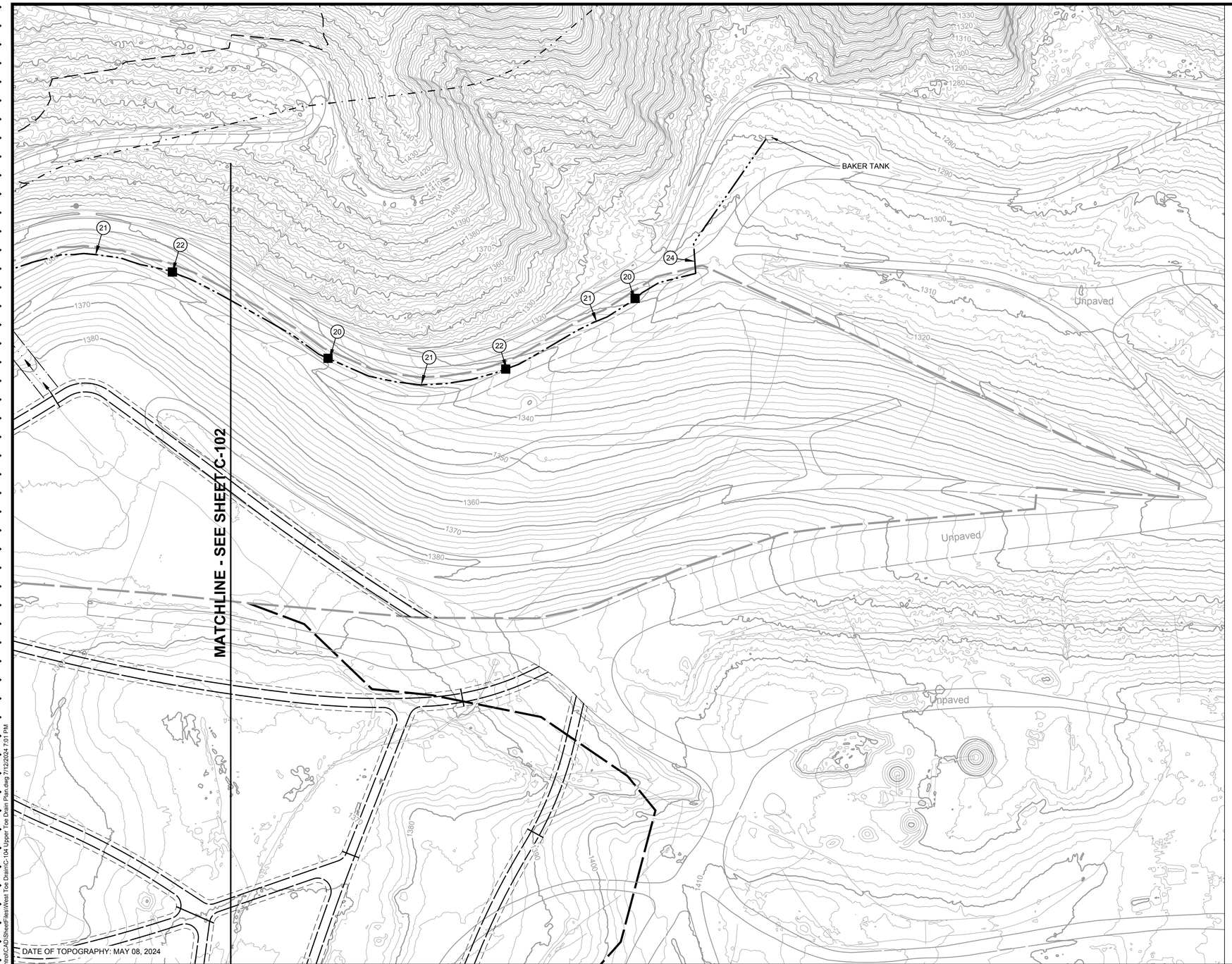

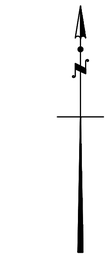

0 30 60 120

GRAPHIC SCALE:1"= 60'

CONSTRUCTION NOTES

(20) CONSTRUCT UPPER TOE DRAIN CLEANOUT PER — 1 / C-505

(21) INSTALL UPPER TOE DRAIN PER — 2 / C-505

(22) INSTALL VACUUM PORT PER — 1 / C-505

(24) CONSTRUCT TOE COLLECTOR TERMINATION AND ROAD CROSSING PER — 4 / C-505

LEGEND

- LIMIT OF GRADING / DAYLIGHT
- EXISTING ROAD
- EXISTING LINER LIMIT
- 10 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PERMITTED LIMIT OF REFUSE
- APPROXIMATE LIMIT OF PROPERTY LINE
- ODOR CONTROL LINER AREA
- UPPER TOE DRAIN PERFORATED PIPE
- UPPER TOE DRAIN CLEANOUT

NO.	REVISION DESCRIPTION	DATE
1	UPPER TOE DRAIN - LAYOUT AND DETAILS	6/2024

CHIQUITA CANYON
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CHIQUITA CANYON LANDFILL

UPPER TOE DRAIN PLAN

DESIGNED BY :	D.J.P. / J.M.H	FILE : C-104 Upper Toe Drain Plan.dwg			
DRAWN BY :	D.J.P / A.T.	DATE :	05-2024	SCALE:	AS SHOWN
CHECKED BY :	J.M.H	DATE :	05-2024		
APPROVED BY :	C.H.M.	DATE :	05-2024		

C-104

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N

0 30 60 120

GRAPHIC SCALE:1"= 60'

CONSTRUCTION NOTES

25 CONSTRUCT TOP DECK ACCESS ROAD PER 1 C-506

26 CONSTRUCT TOP DECK ACCESS ROAD CROSS DRAIN PER 2 C-506

NOTE:
ACCESS ROAD ALIGNMENT SHOWN IS PRELIMINARY. ROAD SHALL BE ADJUSTED TO ACCOUNT FOR FIELD CONDITIONS.

LEGEND

- LIMIT OF GRADING / DAYLIGHT
- EXISTING ROAD
- EXISTING LINER LIMIT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PERMITTED LIMIT OF REFUSE
- APPROXIMATE LIMIT OF PROPERTY LINE
- ODOR CONTROL LINER AREA
- UPPER TOE DRAIN PERFORATED PIPE
- UPPER TOE DRAIN SOLID PIPE
- UPPER TOE DRAIN CLEANOUT

NO.	REVISION DESCRIPTION	DATE
1	UPDATE EXISTING TOPOGRAPHY	7/2024
2	TOP DECK ACCESS ROADS - LAYOUT AND DETAILS	6/2024

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STATE OF CALIFORNIA

CHIQUITA CANYON LANDFILL

TOP DECK ACCESS ROAD LAYOUT

DESIGNED BY :	D.J.P. / J.M.H	FILE : C-105 Top Deck Access Road Layout.dwg	
DRAWN BY :	D.J.P / A.T.	DATE : 05-2024	SCALE: AS SHOWN
CHECKED BY :	J.M.H	DATE : 05-2024	C-105
APPROVED BY :	C.H.M.	DATE : 05-2024	

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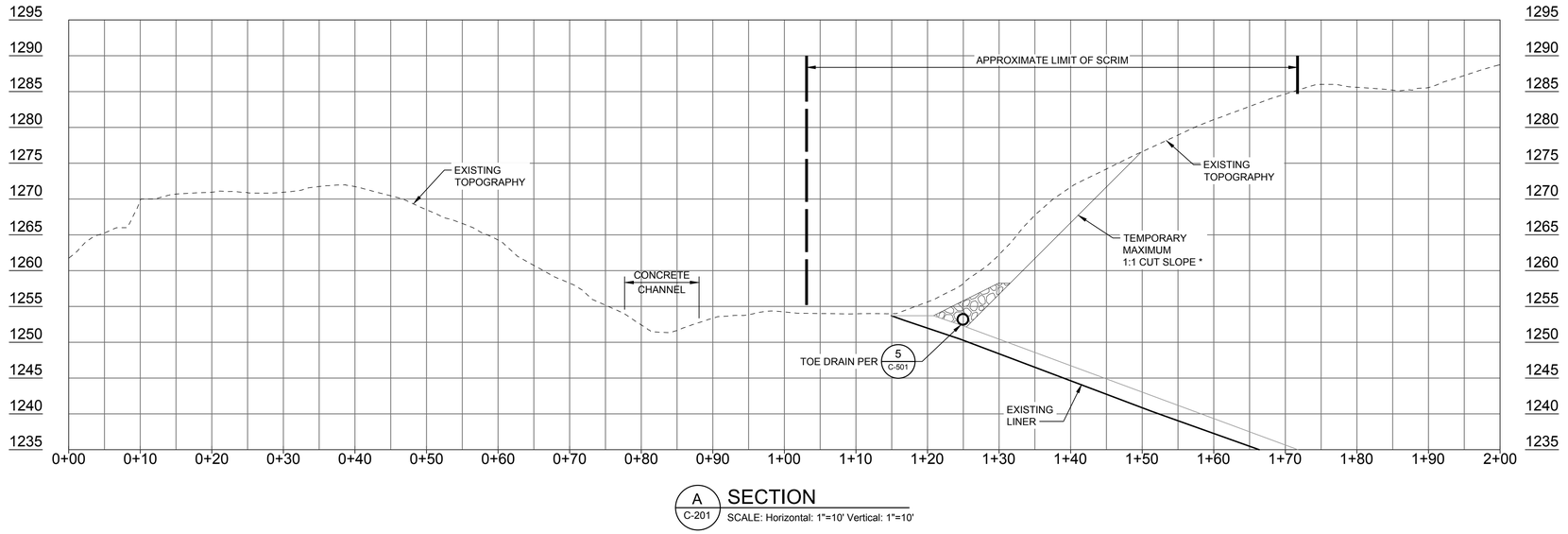
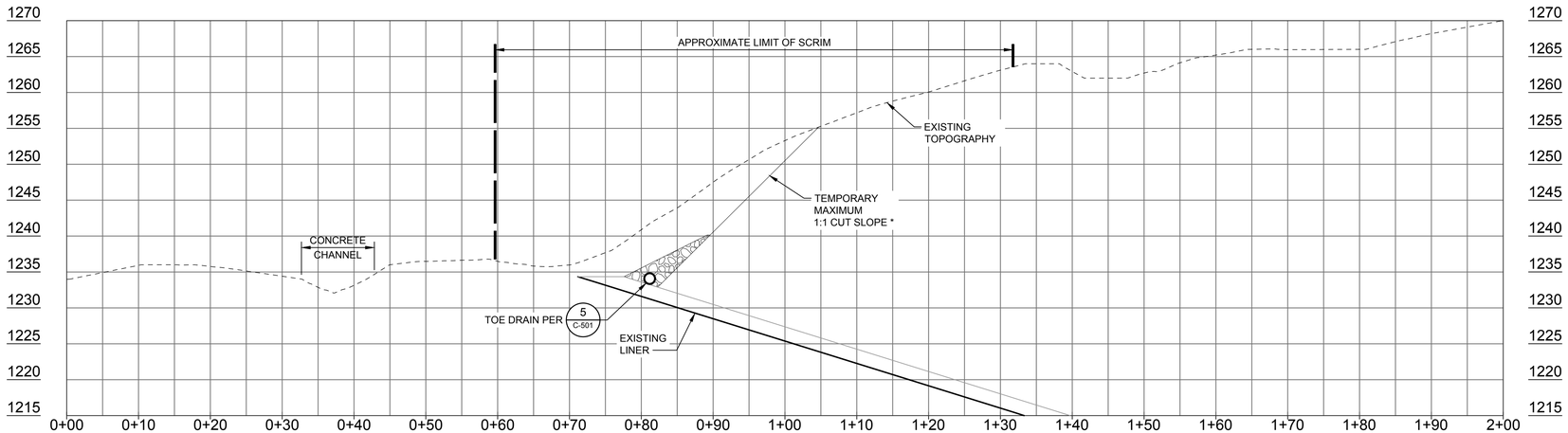


A C-201 SECTION

SCALE: Horizontal: 1"=10' Vertical: 1"=10'

4 * NOTE:
TEMPORARY BACK CUT SHALL NOT BE STEEPER THAN 1:1 AND SHALL BE EXCAVATED IN SEGMENTS AND BACKFILLED IN ACCORDANCE WITH THE SLOPE STABILITY RECOMMENDATIONS.



B C-201 SECTION

SCALE: Horizontal: 1"=10' Vertical: 1"=10'

NO.	REVISION DESCRIPTION	DATE
4	WEST TOE DRAIN DETAILS	7/2024

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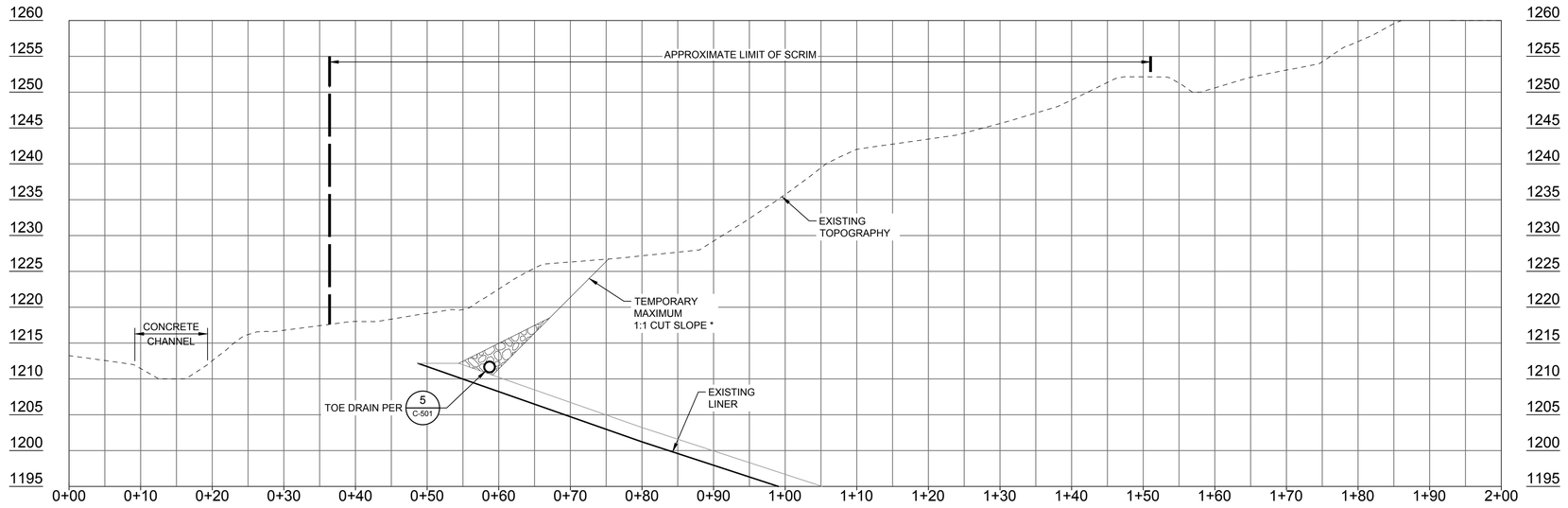
CHIQUITA CANYON LANDFILL

SECTIONS

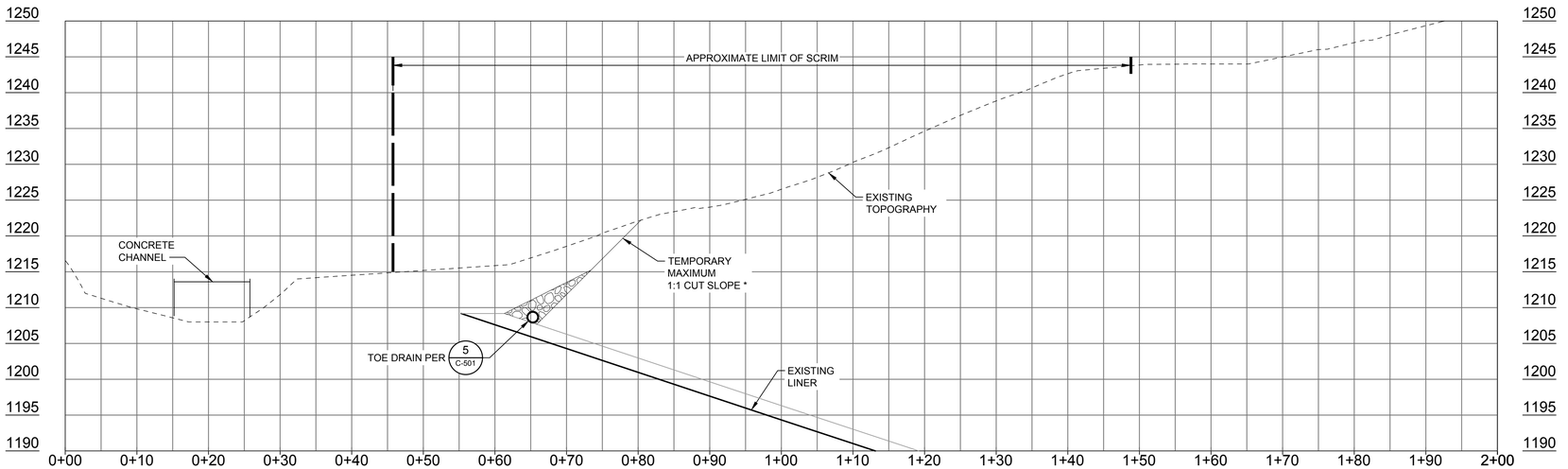
DESIGNED BY :	D.J.P. / J.M.H	FILE : C-301 Sections.dwg			
DRAWN BY :	D.J.P / A.T.	DATE :	05-2024	SCALE:	AS SHOWN
CHECKED BY :	J.M.H	DATE :	05-2024	C-301	
APPROVED BY :	C.H.M.	DATE :	05-2024		



C C-201 SECTION

SCALE: Horizontal: 1"=10' Vertical: 1"=10'

4 * NOTE:
TEMPORARY BACK CUT SHALL NOT BE STEEPER THAN 1:1 AND SHALL BE EXCAVATED IN SEGMENTS AND BACKFILLED IN ACCORDANCE WITH THE SLOPE STABILITY RECOMMENDATIONS.



D C-201 SECTION

SCALE: Horizontal: 1"=10' Vertical: 1"=10'

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NO.	REVISION DESCRIPTION	DATE
4	WEST TOE DRAIN DETAILS	7/2024

CHIQUITA CANYON
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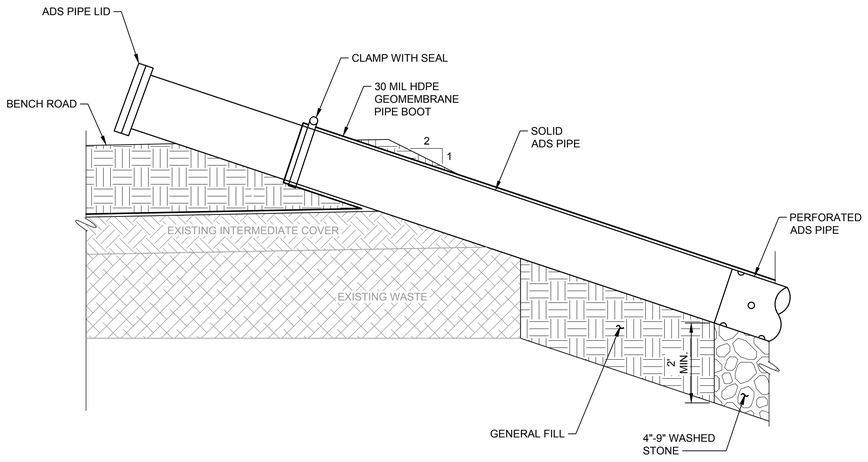
REGISTERED PROFESSIONAL ENGINEER CALEB H. MOORE 66599 CIVIL STATE OF CALIFORNIA

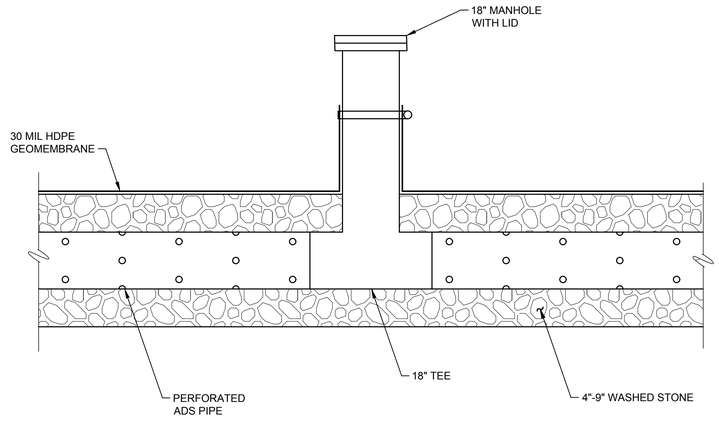
CHIQUITA CANYON LANDFILL

SECTIONS

DESIGNED BY :	D.J.P. / J.M.H	FILE : C-302 Sections.dwg	
DRAWN BY :	D.J.P / A.T.	DATE : 05-2024	SCALE: AS SHOWN
CHECKED BY :	J.M.H	DATE : 05-2024	C-302
APPROVED BY :	C.H.M.	DATE : 05-2024	



1	TOE DRAIN TERMINATION CLEANOUT
NTS	REFERENCE SHEET: C-101



2	TOE DRAIN PIPE CLEANOUT
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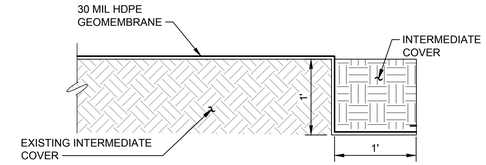

3	SIDE SLOPE LINER TERMINATION
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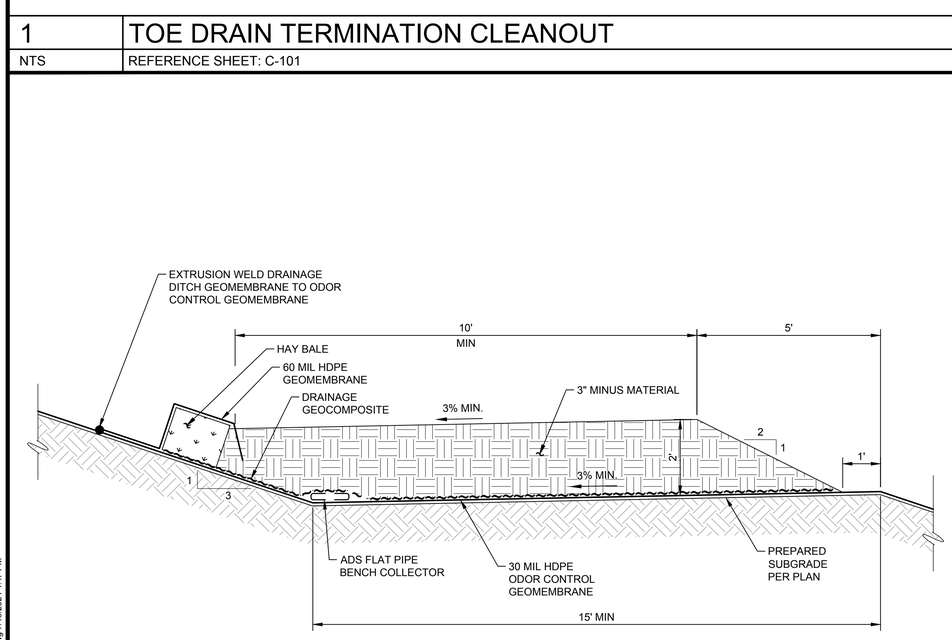

NOTE:
BENCH COLLECTOR SHALL DAYLIGHT TO EXISTING DRAINAGE OUTSIDE OF LINER LIMITS

4	BENCH ROAD TYPE A
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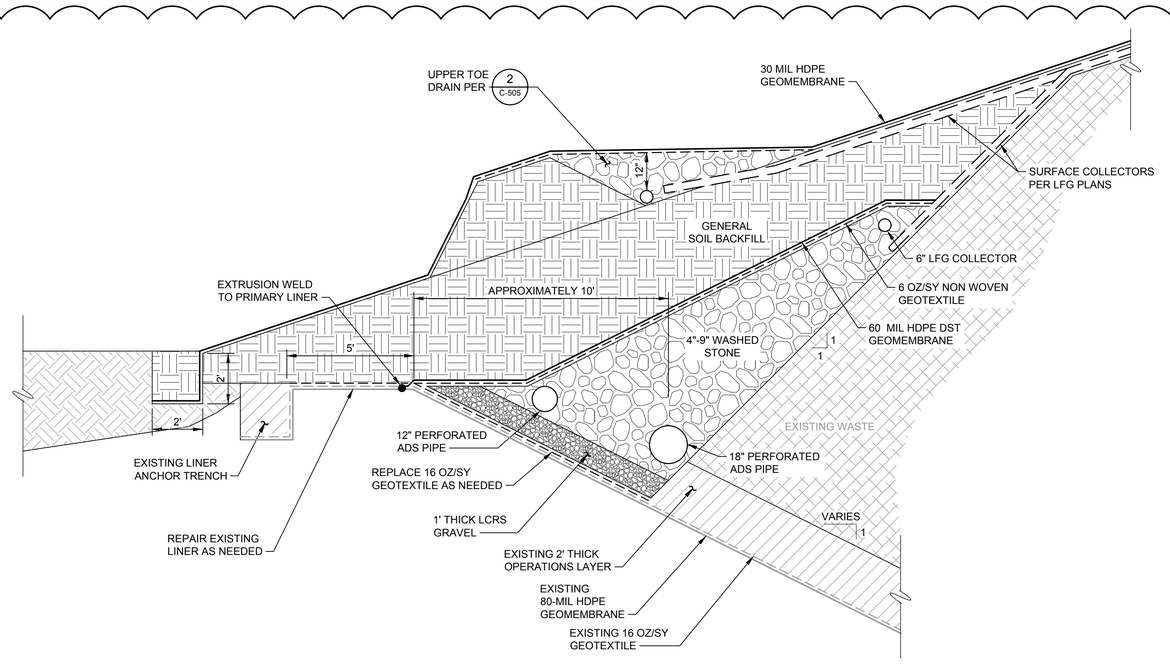

5	TOE DRAIN TRENCH
NTS	REFERENCE SHEET: C-101, C-103

NO.	REVISION DESCRIPTION	DATE
4	WEST TOE DRAIN DETAILS	7/2024

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DETAILS

DESIGNED BY :	D.J.P. / J.M.H	FILE : C-501 Details.dwg	
DRAWN BY :	D.J.P / A.T.	DATE : 05-2024	SCALE: AS SHOWN
CHECKED BY :	J.M.H	DATE : 05-2024	C-501
APPROVED BY :	C.H.M.	DATE : 05-2024	

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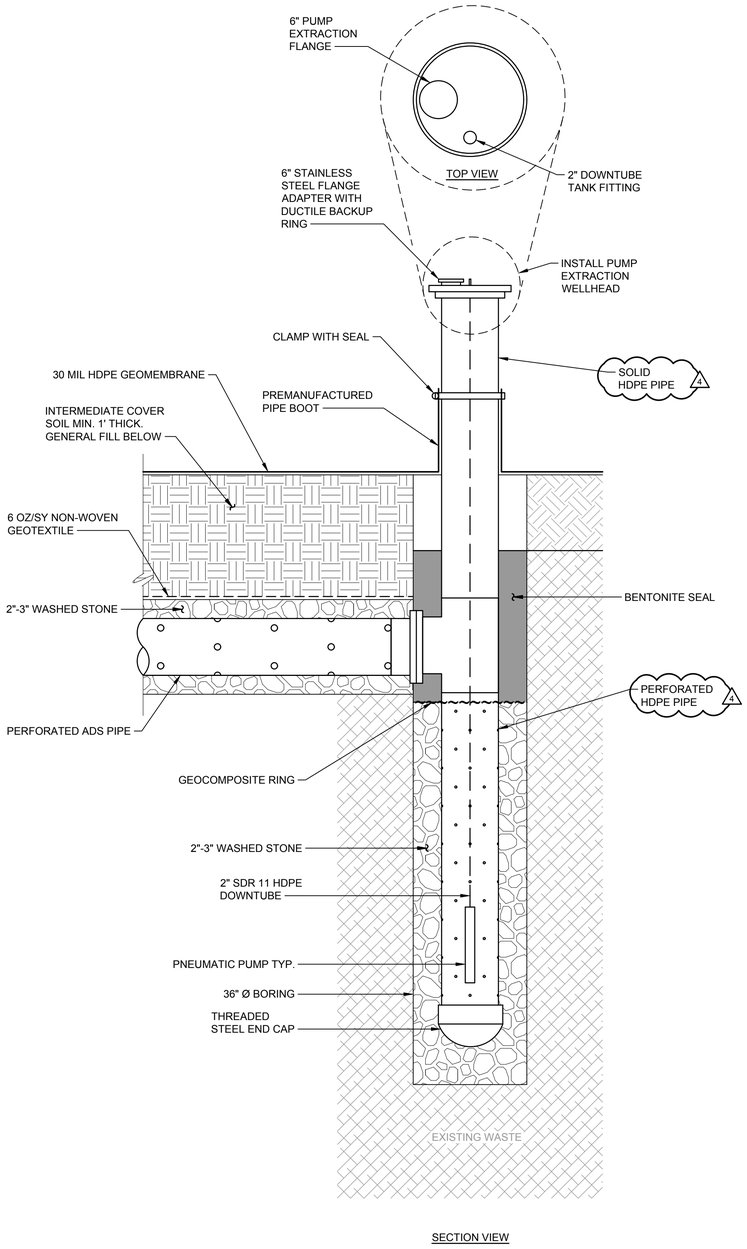

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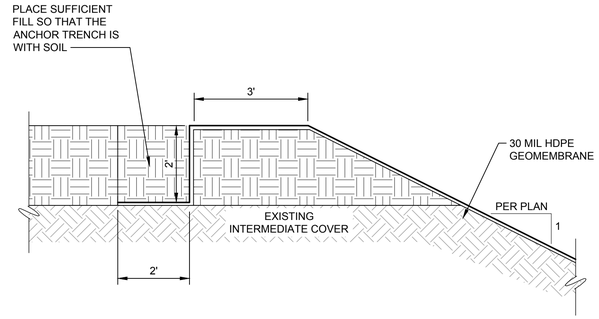

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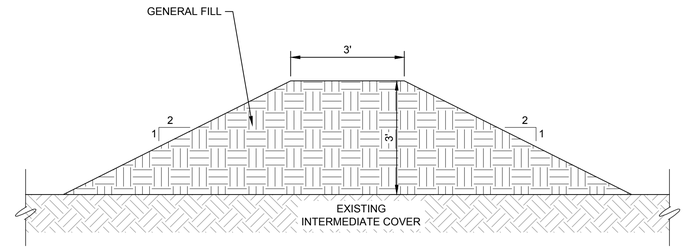

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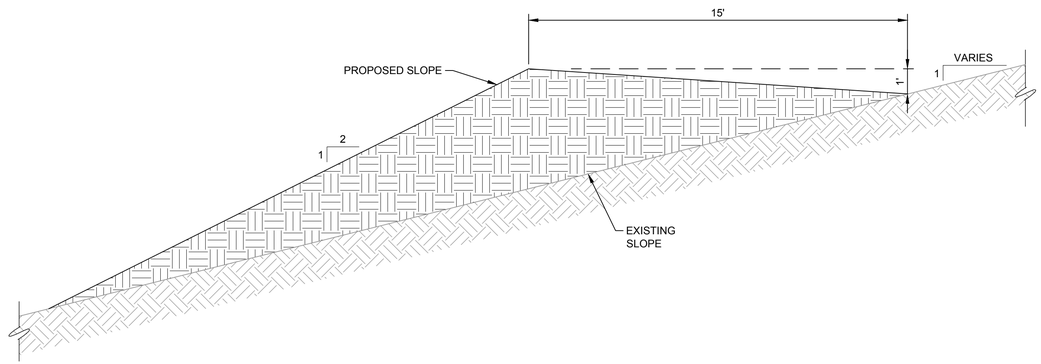

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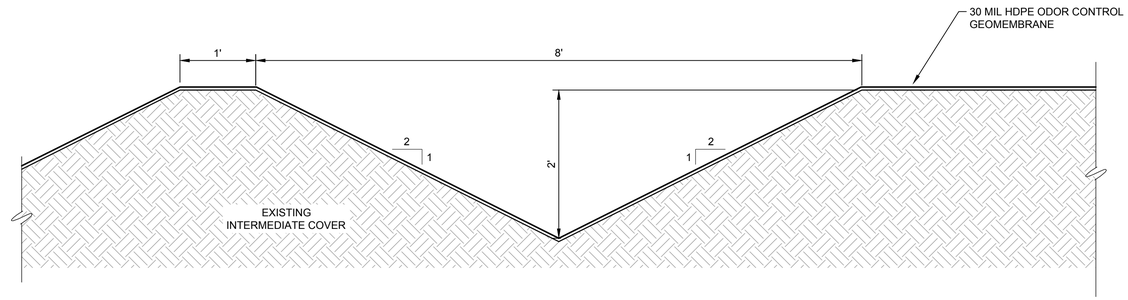

5	LINED DRAINAGE BENCH
NTS	REFERENCE SHEET: C-102, C-103

NO.	REVISION DESCRIPTION	DATE
1	WEST TOE DRAIN DETAILS	7/2024

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DETAILS

DESIGNED BY :	D.J.P. / J.M.H	FILE : C-502 Details.dwg			
DRAWN BY :	D.J.P / A.T.	DATE :	05-2024	SCALE:	AS SHOWN
CHECKED BY :	J.M.H	DATE :	05-2024	C-502	
APPROVED BY :	C.H.M.	DATE :	05-2024		

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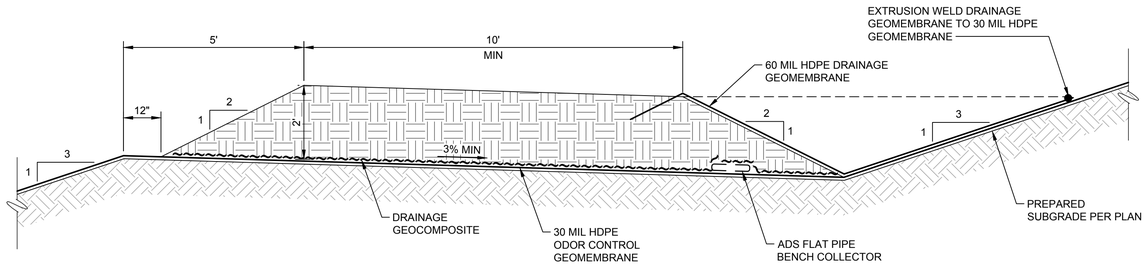

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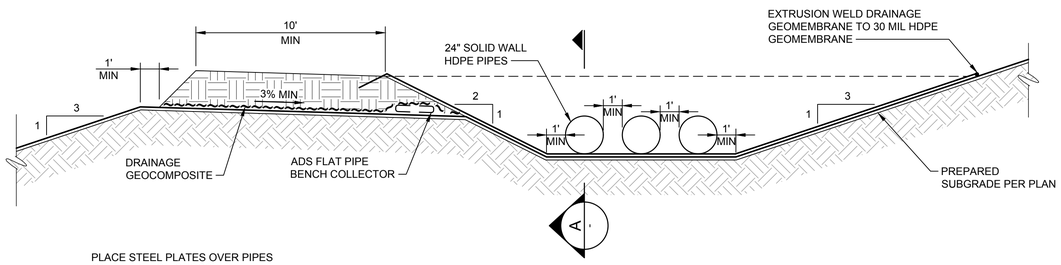

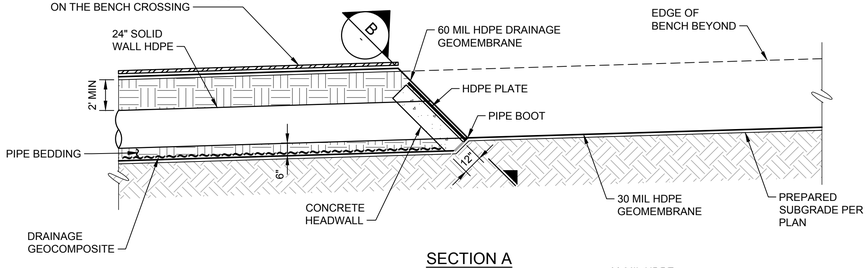

SECTION A
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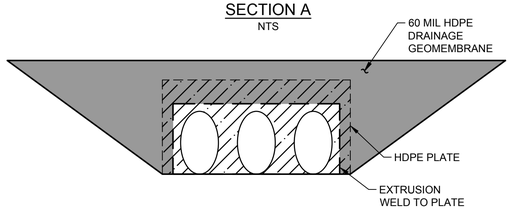

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2	DRAINAGE PIPE INLET TYPE A AND CROSSING
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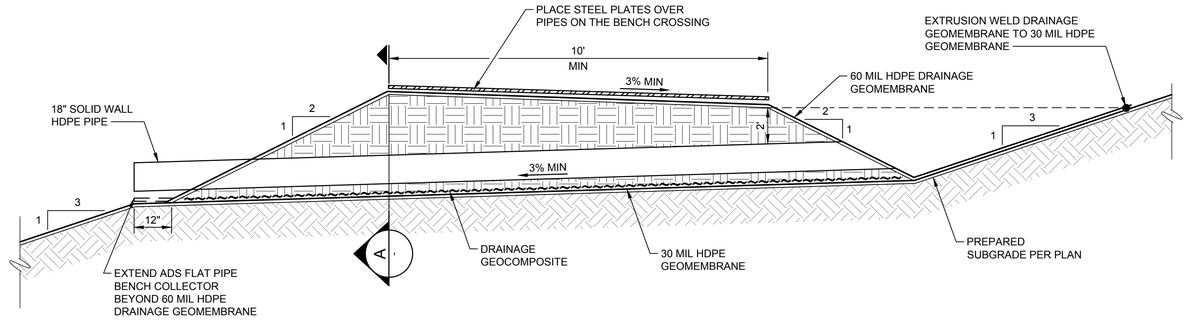

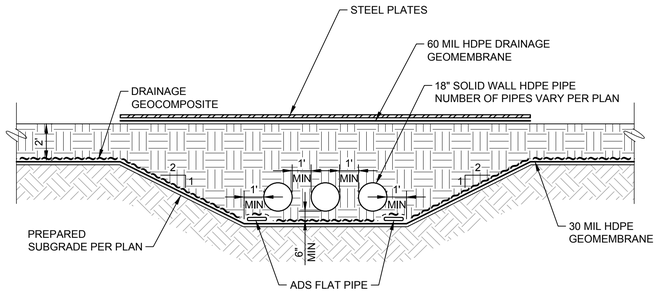

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3	BENCH CROSSING
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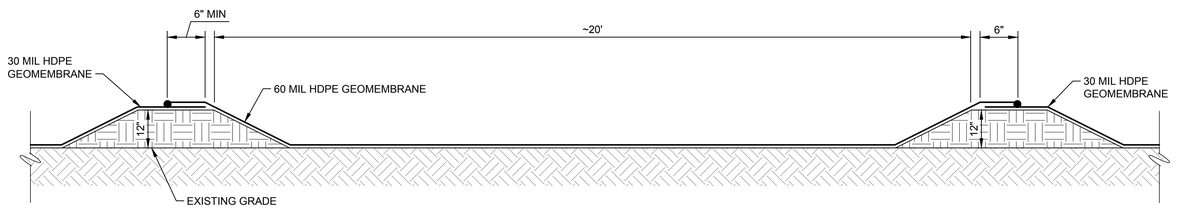

4	TYPICAL DOWN DRAIN SECTION
NTS	REFERENCE SHEET: C-102

NO.	REVISION DESCRIPTION	DATE

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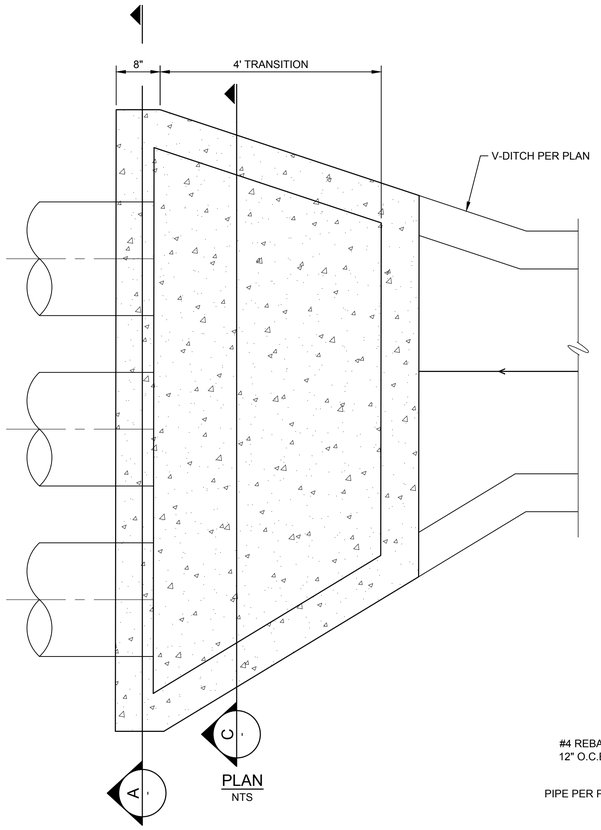
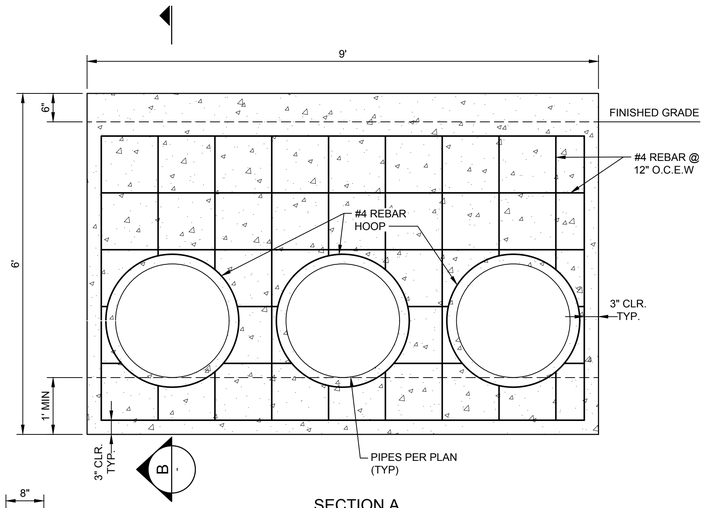
DETAILS

DESIGNED BY :	D.J.P. / J.M.H	FILE : C-503 Details.dwg			
DRAWN BY :	D.J.P / A.T.	DATE :	05-2024	SCALE:	AS SHOWN
CHECKED BY :	J.M.H	DATE :	05-2024		
APPROVED BY :	C.H.M.	DATE :	05-2024		C-503



PLAN
NTS



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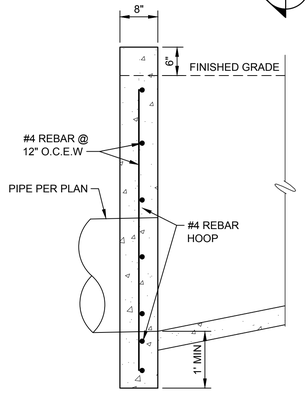

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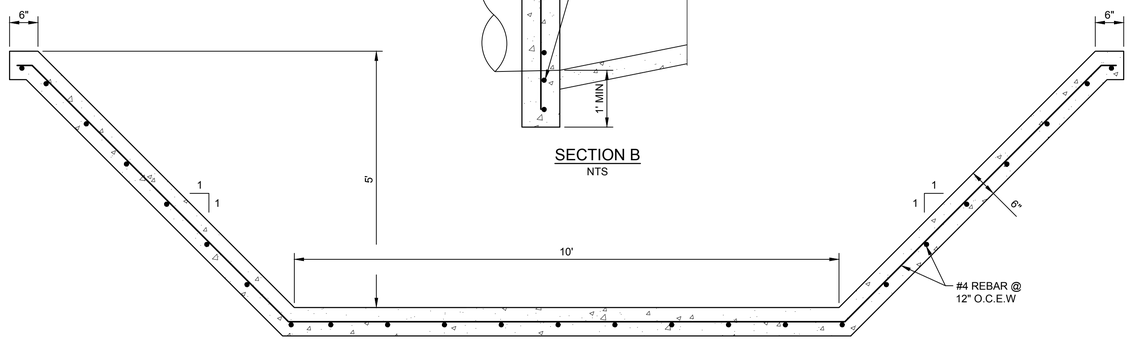

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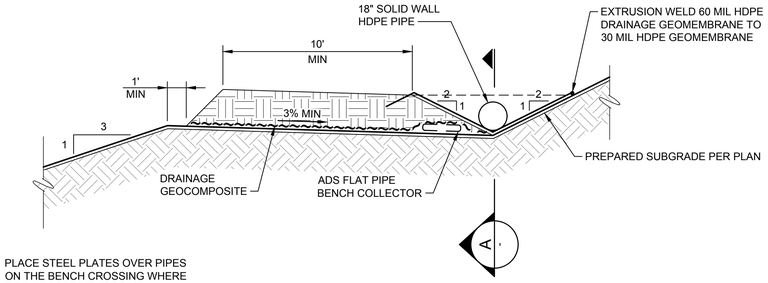
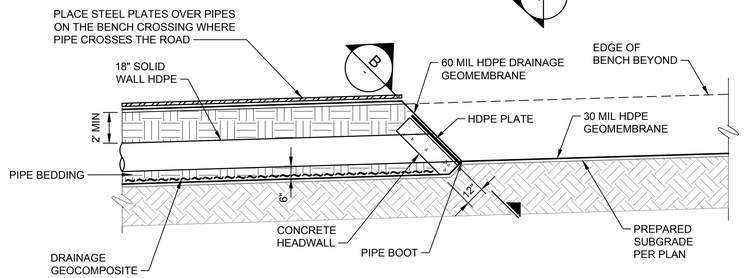
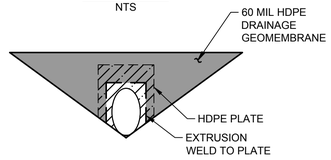




SECTION A
NTS

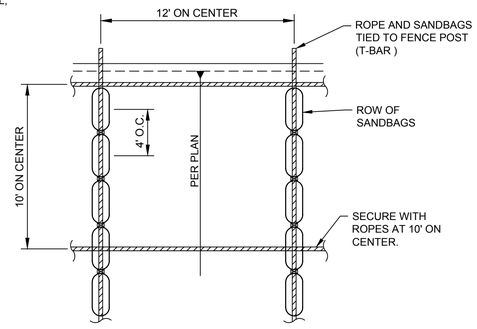


SECTION B
NTS

2	DRAINAGE INLET TYPE B AND CROSSING
NTS	REFERENCE SHEET: C-103

NOTES:

1. THE 30 MIL HDPE GEOMEMBRANE COVER AND SANDBAG BALLAST SHALL BE INSTALLED.
2. HORIZONTAL ROPES SHALL BE THE SAME MATERIAL, SIZE AND STRENGTH AS VERTICAL ROPES.
3. ROPE AND SANDBAGS SHALL BE UV PROTECTED.
4. ALL MATERIALS SHALL HAVE A 5 YEAR UV RATING.
5. PLACE SANDBAG BALLAST AS NECESSARY TO ANCHOR GEOSYNTHETIC COVER



3	SANDBAG BALLAST SYSTEM
NTS	REFERENCE SHEET: C-103

NO.	REVISION DESCRIPTION	DATE

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DRAWN BY :	D.J.P / A.T.	DATE :	05-2024	SCALE:	AS SHOWN
CHECKED BY :	J.M.H	DATE :	05-2024		
APPROVED BY :	C.H.M.	DATE :	05-2024		C-504

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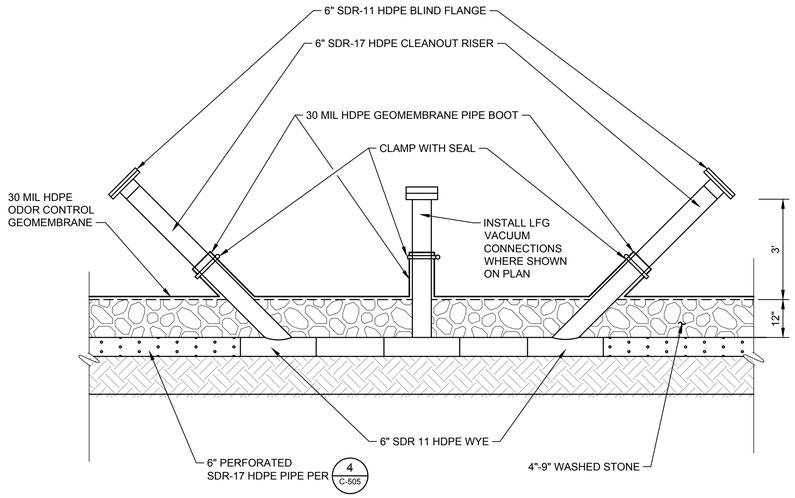

1	UPPER TOE DRAIN CLEANOUT
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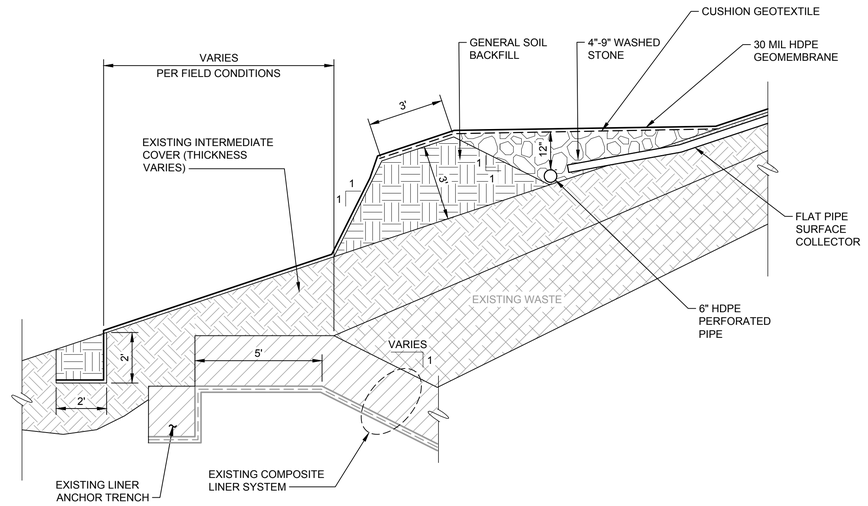

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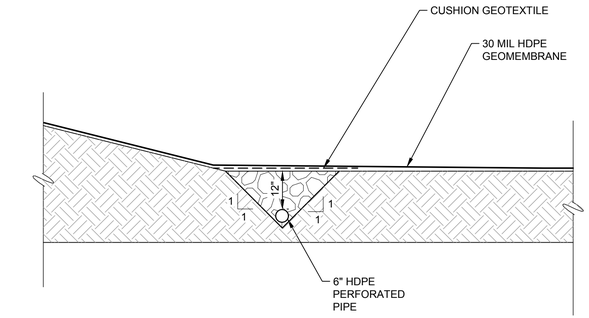

3	BENCH COLLECTOR
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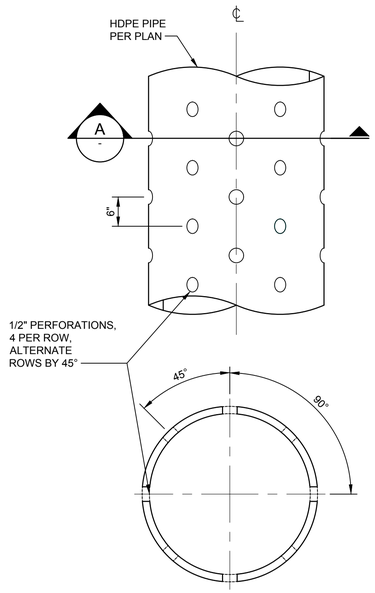

SECTION A

4	PIPE PERFORATION SCHEDULE
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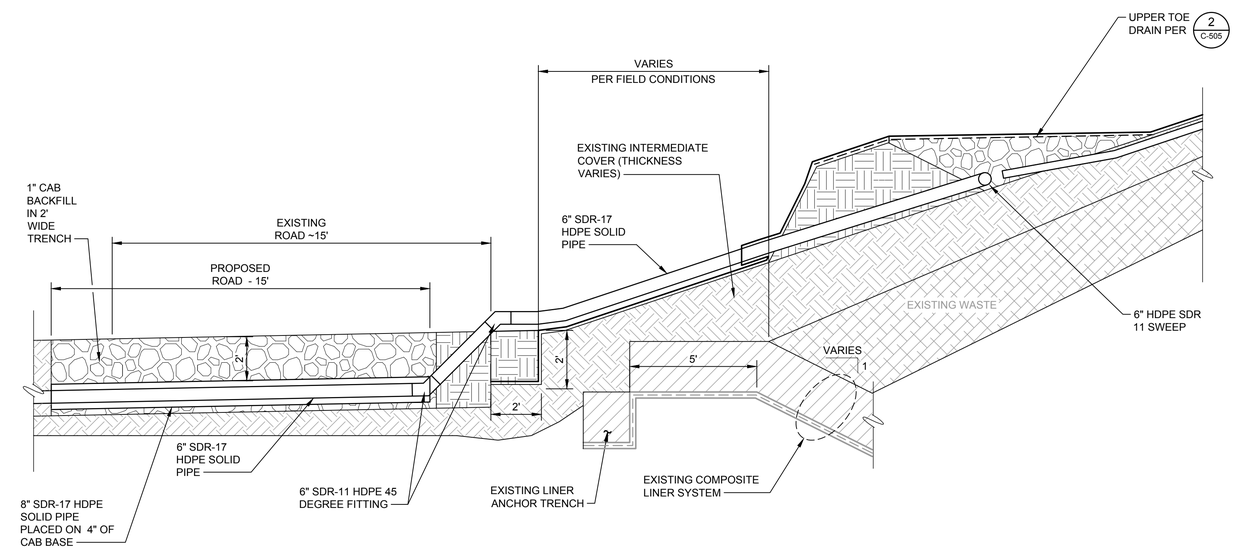

5	UPPER TOE DRAIN
NTS	REFERENCE SHEET:

NO.	REVISION DESCRIPTION	DATE
1	UPPER TOE DRAIN - LAYOUT AND DETAILS	6/2024

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CHECKED BY :	J.M.H	DATE :	05-2024	C-505	
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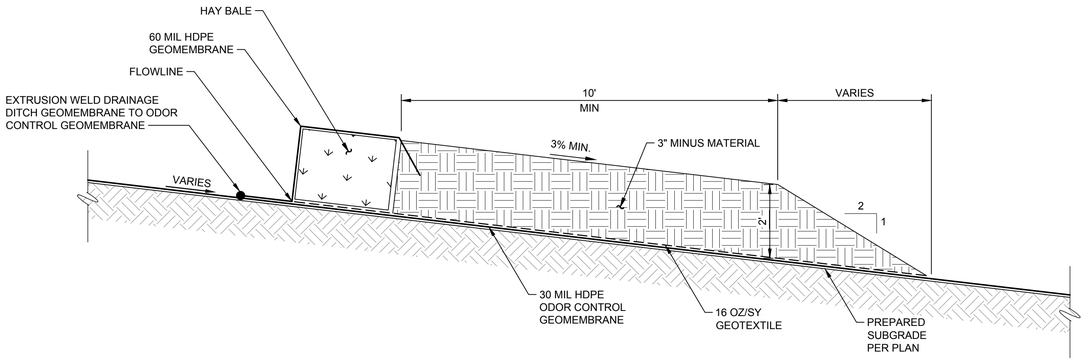

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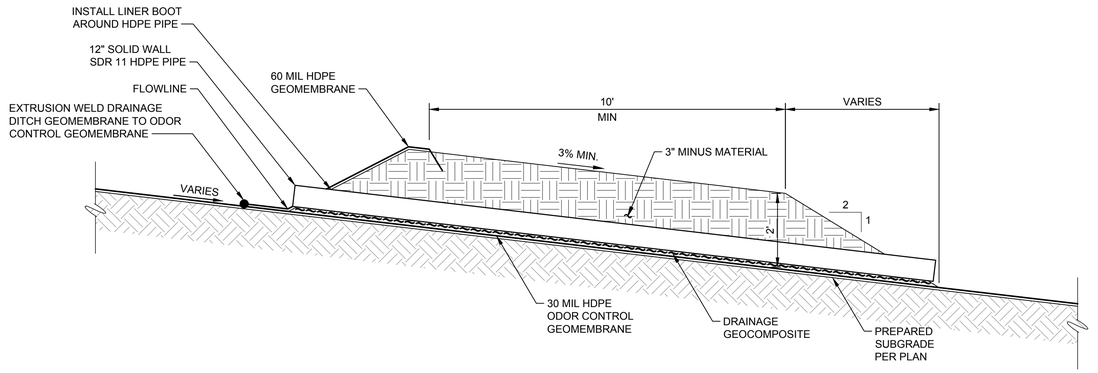

2	TOP DECK ACCESS ROAD CROSS DRAIN PROFILE
NTS	REFERENCE SHEET: C-105

NO.	REVISION DESCRIPTION	DATE
2	TOP DECK ACCESS ROADS - LAYOUT AND DETAILS	6/2024

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DETAILS

DESIGNED BY :	D.J.P. / J.M.H	FILE : C-506 Details.dwg			
DRAWN BY :	D.J.P / A.T.	DATE :	05-2024	SCALE:	AS SHOWN
CHECKED BY :	J.M.H	DATE :	05-2024	C-506	
APPROVED BY :	C.H.M.	DATE :	05-2024		

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Appendix C
West Slope Toe Drain Health and Safety Plan

West Slope Toe Drain Health and Safety Plan

Chiquita Canyon ETLF Response

Castaic, California

August 6, 2024

Version 2.0B

Prepared By

CTEH, LLC

Jason Callahan, MS, CIH, CSP – Senior Health Scientist — August 6, 2024 *Date*

Approved By

Chiquita Canyon Landfill, LLC (CCL)

David Matthews – Incident Commander — August 6, 2024 *Date*

Steve Cassulo – CCL District Manager — August 6, 2024 *Date*

Nicole Ward – CCL Assistant District manager — August 6, 2024 *Date*

Michael Hearns – CCL Toe Drain Removal Project Manager — August 6, 2024 *Date*

Reviewed By

On-Scene Coordinators (OSC)

Ben Castellana – US EPA (Federal OSC) — August 6, 2024 *Date*

John Elkins – Cal EPA (State OSC) — August 6, 2024 *Date*

Fernando Florez – LA County Fire, Health, and Hazmat (Local OSC) — August 6, 2024 *Date*

Table of Contents

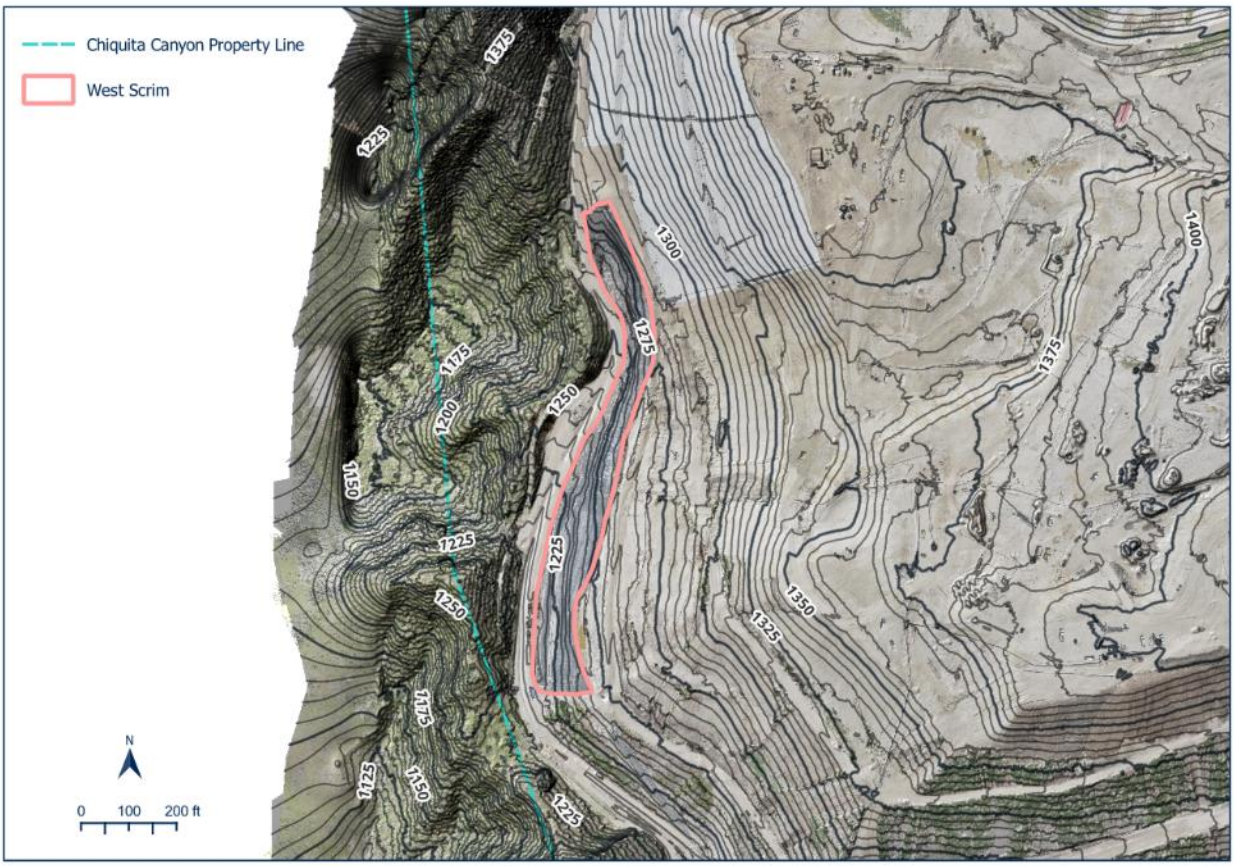
List of Tables

List of Figures

1.0 Purpose

This plan is intended to supplement the Health and Safety Plan – Elevated Temperature Landfill Operation Areas first issued on March 21, 2024. This plan addresses work tasks related to toe drain installation on the west slope of the Chiquita Canyon Landfill. These tasks include, but are not limited to, scrim removal, excavation, toe drain installation, air and environmental monitoring tasks.

Figure 1.1 West Scrim of Chaquita Canyon Landfill



This task-specific information has been developed from the latest available information. Revisions and alterations to this plan may become necessary as further information is developed or becomes available. All alterations to this plan will be recorded in the Health and Safety Plan Management of Change section and communicated in regularly scheduled safety briefings.

All personnel working on the west slope and involved with toe drain installation are to review and comply with this Health and Safety Plan. It is the responsibility of Chiquita Canyon, LLC (CCL) to ensure this plan is implemented.

Table 1 Project Organization

Project Role	Name	Company	Phone Number
CCL ETLF Project Team Leader	Dave Matthews	CCL	(330) 635-4885
CCL District Manager	Steve Cassulo	CCL	(661) 371-9214
CCL Assistant District Manager	Nicole Ward	CCL	(661) 425-4619
CCL Toe Drain Removal Project Manager	Michael Hearns	CCL	(661) 209-0041
Project Industrial Hygienist	Jason Callahan	CTEH	(501) 366-8044

2.0 Mandatory Safety Briefings

At the start of each workday a mandatory safety briefing will occur. All workers who will be participating in operations on each workday must attend the briefing. If a worker or workgroup is unable to attend this meeting due to operational needs, they must make arrangements with site management to receive a safety briefing at a later time before beginning work.

3.0 Hazard Assessment

The following is the standard level of Personal Protective Equipment (PPE) required when operating near the west slope during toe drain installation work activities. This PPE may be modified depending on specific site conditions or job tasks as determined by site safety and Job Hazard Analysis (JHA). Prior to beginning any work task, determine the appropriate level of PPE through consultation with your manager and site safety. Minimum PPE in the ETLF operation areas covered under this plan is:

- Hardhat
- Safety glasses. This may also include helmet-mounted eye protection goggles or face shields if dust or splash hazards are present.
- Foot protection (steal toe)
- Hearing protection (around loud equipment)
- High visibility vest

3.1 Chemical Hazards

Leachate, its vapors, and landfill gases are present at the west slope and represent a dermal and respiratory hazard. The respiratory hazard increases in places where vapor and gases may become trapped such as underneath the scrim. Leachate and landfill gases are complex mixtures with primary hazardous components including benzene, dioxane, hydrogen sulfide (H_2S), and carbon monoxide. However, additional volatile organic compounds may also reach hazardous concentrations when leachate vapors are not maintained below site action levels. For additional information on the hazards posed by these compounds review the *Health and Safety Plan – ETLF Operation Areas*.

3.2 Physical Hazards

All physical hazards contained in the *Health and Safety Plan – ETLF Operation Areas* may be found on or near the west slope and must be controlled. Additional hazards are present related to the toe drain installation process, such as decreased soil stability as well as steep slopes, and new hazards may be identified during the course of work. Physical hazards of note on the west slope include decreased soil stability. Due to the liquid content of soils on the west slope, the risk of ground subsidence and other soil movement may be increased in comparison to other similar soils with lower liquid content. Soils saturated with water or leachate also increase the risk of worker slips, trips, and falls.

4.0 Atmospheric Hazards and Worker Exposure Monitoring

4.1 Handheld Real-time Air Monitoring

As a safety practice, CCL requires workers to wear a personal 5-Gas monitor (e.g., Blackline G7 monitor or equivalent) when they conduct work within the ETLF Operation Area to detect the presence of landfill gas that may be toxic, asphyxiating and/or combustible. Whenever possible, workers should work upwind of sources of leachate vapor/gases and minimize the duration of tasks that may result in exposure. Due to the potential for exposure to hazardous atmospheric (airborne) conditions within the ETLF Operation Area and/or the Landfill, air monitoring is conducted using 5-Gas monitor for oxygen (O_2), hydrogen sulfide (H_2S), carbon monoxide (CO), flammable atmospheres (lower explosive limit, LEL), and a photoionization detector (PID) for total Volatile Organic Compounds (VOCs) to protect employee health and safety. As a safety practice, air monitoring must be conducted for each lone worker and/or group using a personal 5-Gas monitor.

The audible alarm warning from the five-gas monitor prompts users to evaluate hazardous conditions that may not otherwise be apparent. When properly set up and used, the alarms within the monitor will sound if any of the values exceed the set points. The alarm will also sound if any of the sensors fail while the monitor is in use. For instructions on how to set alarms, review the manual, contact the manufacturer, or the safety representative in charge of equipment maintenance.

If the instrument low alarm/site action level is exceeded for any of the monitored gasses (O_2, H_2S, CO, LEL, and PID), first immediately egress the area and then evaluate the potential source from a safe location and allow the area to naturally ventilate, alter work practices, or implement engineering controls to reduce exposure below site action levels. Onsite management, including CCL and site safety, must be notified when exposure cannot be maintained below site action levels. Additionally, in the event of an alarm on the PID (Total VOCs), unless a monitor capable of measuring benzene is available, contact site safety to conduct further analysis of the hazard and vapor as VOCs may contain benzene which cannot be accurately measured with a 5-gas meter. For both high and low

alarms, monitoring will be performed upon re-entry (upwind if possible) to confirm that concentrations in air are below site action levels. If alteration to work practices or implementation of additional exposure controls are unsuccessful, use of respiratory protection following a written respiratory protection program may be required following discussion with site safety personnel or your company's safety representative. **Table 2** provides current set points for hand-held monitoring equipment and **Figure 2** illustrates the resolution process for action level exceedances.[1]

[1] *All organizations involved with west slope toe drain work activities, including CCL, may adopt and implement alternative action levels so long as they are at least as protective as those provided in this table and their use does not create a substantial hazard*

Figure 2 Generalized Site Action Level Exceedance Process

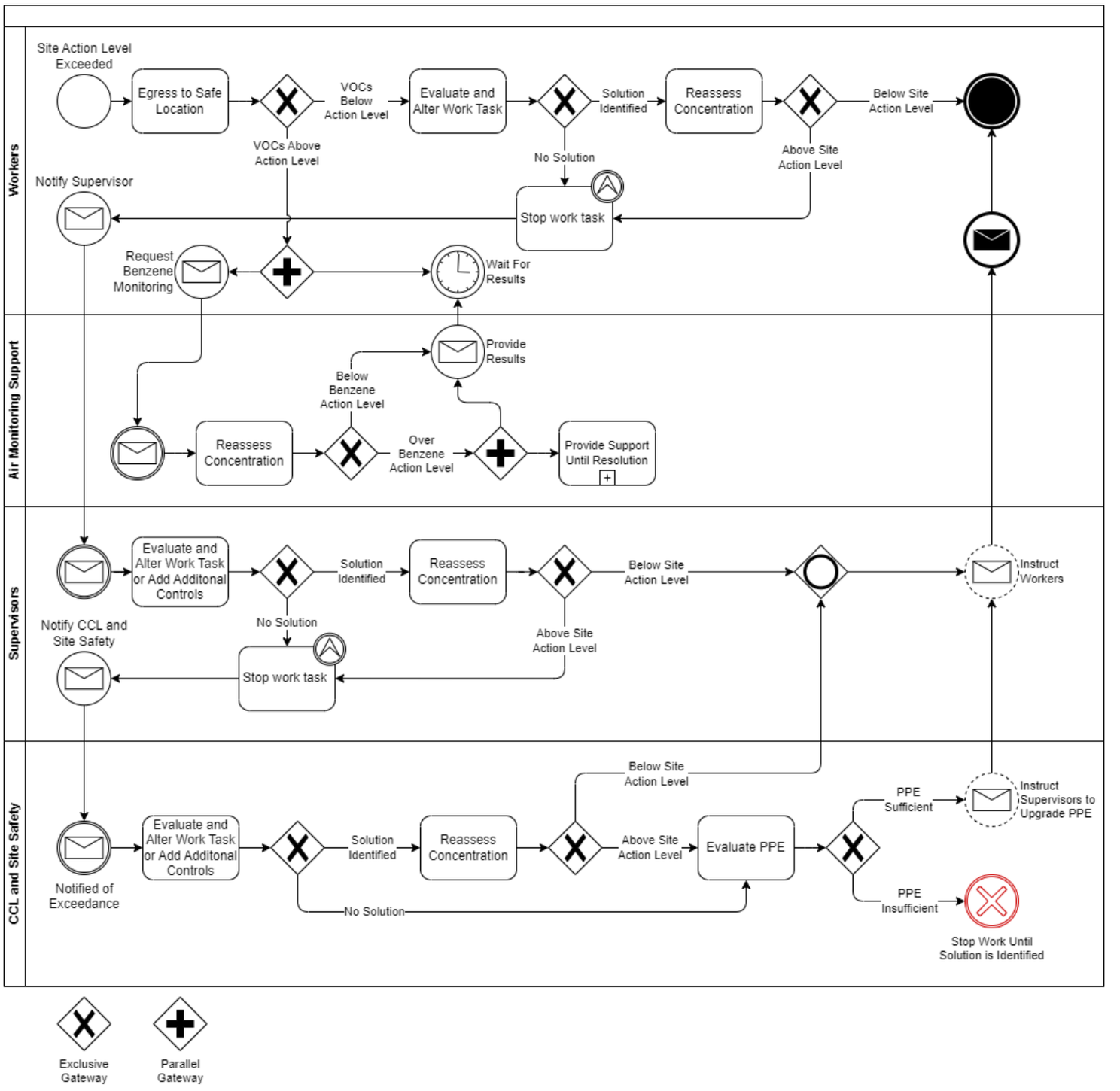


Table 2 Atmospheric Hazards and Air Monitoring Action Levels and Instrument Alarm Limits

Chemical/ Parameter	Cal OSHA-PEL	ACGIH TLV	NIOSH IDLH	Site Action Level and Low Alarm Limit	Action	High Alarm Limit	Monitoring Equipment
Oxygen (O_2)	19.5% to 23.5%	N/A	<19.5%	**<19.5%**	Re-evaluate work task to reduce exposure below action level. If concentration cannot be reduced below action level, elevate issue to supervisor and/or site safety for further evaluation	>23.5%	5-gas personal monitor O_2 Sensor
Lower Explosive Limit (LEL)	N/A	N/A	(100% of LEL)	**1% of LEL**		10% of LEL	5-gas personal monitor LEL Sensor
Carbon Monoxide (CO)	25 ppm 8-hr TWA 200 ppm CEILING	25 ppm STEL	1,200 ppm	**13 ppm**		100 ppm	5-gas personal monitor CO Sensor
Hydrogen Sulfide (H_2S)	10 ppm 8-hr TWA 15 ppm STEL 20 ppm CEILING 50 ppm PEAK	1 ppm TWA 5 ppm STEL	100 ppm	**0.5 ppm**		5 ppm	5-gas personal monitor H_2S Sensor
Benzene	0.5 ppm 8-hr TWA AL 1 ppm 8-hr TWA 5 ppm STEL	0.02 ppm TWA	500 ppm	**0.25 ppm**		2.5 ppm	UltraRAE with Benzene Sep Tube, Gastec Tube 121L, or Xpid
Volatile Organic Compounds (VOCs)	N/A	N/A	N/A	**25 ppm**		50 ppm	5-gas personal monitor PID Sensor

Cal OSHA PEL - California Occupational Safety and Health Administration Permissible Exposure Limits are regulator limits of a toxic material to which an average person in average health may be exposed on a day-to-day basis with no adverse health effects. PELs are based on specified lengths of time, typically 8 hours (see also Ceiling, TWA, and STEL).

ACGIH TLV - Threshold Limit Values (TLV's) are guidelines (not standards), to assist industrial hygienists in making decisions regarding safe levels of exposure to various hazards found in the workplace.

NIOSH IDLH - Then National Institute of Occupational Safety and Health Immediately Dangerous to Life and Health is the level of exposure that is immediately dangerous to life or health (would cause irreversible adverse health effects or would impair an individual's ability to escape from a dangerous atmosphere).

TWA - Time-Weighted Averages are an average concentration over a certain period of time (e.g., 8-hour work period or 40-hour work week).

AL: California OSHA Action Level which, if exceeded, requires certain regulatory requirements be met.

STEL - Short-Term Exposure Limit is the maximum average chemical concentration to which an employee can be exposed for up to 15 minutes. At no time can the employee exposure concentration exceed the "Ceiling" limit.

Ceiling - The maximum instantaneous chemical concentration to which an employee can be exposed at any time.

Peak – Permitted to occur once over the course of 10-minutes so long as no other measurable exposure occurs.

LEL is the lowest concentration of a gas or vapor in air that is capable of producing a flash or fire.

%: Percent gas by volume.

PPM - Parts per million.

In addition to the minimum air monitoring required for each contractor described in *Health and Safety Plan – ETLF Operations,* at least one person designated by CCL, will be dedicated to conducting handheld real-time air monitoring using direct reading instrumentation for the duration of the activities covered under this plan. **Table 2** Atmospheric Hazards and Air Monitoring Action Levels lists compounds that will be regularly assessed in real time by CCL and its contractors during work operations. Total VOCs and benzene concentrations will be measured using Photoionization Detectors (PIDs) equipped with 9.8-11.7 eV lamps and the equipment listed in **Table 2**.[2]

4.2 Excavation Equipment Air Monitoring

Continuous air monitoring for excavation equipment cab interiors and exteriors will occur using CTEH's Sentinel Monitoring procedure. Sentinel monitoring is intended to supplement worker personal air sampling by providing actionable air monitoring data to direct on-site operations and initiate corrective actions to limit worker exposures, as appropriate. Sentinel monitoring is conducted by strategically placing real-time air monitoring instruments inside and outside the cabin of heavy equipment during its use in the work area. Sentinel monitoring is conducted by attaching one RAE Systems AreaRAE to the outside of the cab and attaching one MultiRAE and one Drager X-PID 8500/9500 to the inside of the cab (typically to the headrest, in a manner characteristic of the worker's breathing zone). The AreaRAE and MultiRAE instruments are used to monitor for O_2, H_2S, CO, %LEL, and total VOCs, and the Drager X-PID 8500/9500 is used for chemical-specific monitoring of benzene. Data collected from sentinel monitoring operations are compared to the site-specific action levels and exposure limits established for workers in **Table 2** with consideration of the maximum use concentration limitations of respiratory protection provided in **Table 5**. These data are evaluated and communicated to the equipment operator in real-time in accordance with the decision matrix provided in **Table 3** when the action level is exceeded for a five-minute period**.**

[2] *Use of Flame Ionization Detectors (FID) measurements are not directly comparable to the action levels in this document due to elevated concentrations of methane in the area.*

Table 3 Sentinel Monitoring Action Levels

Chemical/ Parameter	Instrument Location	Action Level*	Action Taken
Oxygen (O_2)	Vehicle Exterior	<19.5	Assess O_2 concentrations inside the cab. Evaluate site conditions. Adjust/apply engineering controls that control emissions and increase ventilation.
	Vehicle Interior	<19.5	Instruct operator to egress or exit the area or don atmosphere-supplying respirator. Evaluate site conditions. Adjust/apply engineering controls that control emissions and increase ventilation. Work activity should not resume until adequate controls are applied to sustain concentrations below this action level.
Lower Explosive Limit (LEL)	Vehicle Exterior	10% of LEL	Stop work. Evaluate site conditions. Adjust/apply engineering controls that control emissions and increase ventilation. Work activity should not resume until adequate controls are applied to sustain concentrations below this action level.
	Vehicle Interior	5% of LEL	Stop work. Evaluate site conditions. Adjust/apply engineering controls that control emissions and increase ventilation. Work activity should not resume until adequate controls are applied to sustain concentrations below this action level.
Carbon Monoxide (CO)	Vehicle Exterior	25 ppm	Assess for presence of CO inside the cab. Evaluate site conditions. Consider adjustment/application of engineering controls that control emissions and increase ventilation.
	Vehicle Interior	13 ppm	Instruct operator to egress area or don atmosphere-supplying respirator. Evaluate site conditions. Adjust/apply engineering controls that control emissions and increase ventilation. Work activity should not resume until adequate controls are applied to sustain concentrations below this action level.
Hydrogen Sulfide (H_2S)	Vehicle Exterior	5 ppm	Assess for presence of H_2S inside the cab. Evaluate site conditions. Consider adjustment/application of engineering controls that control emissions and increase ventilation.
	Vehicle Interior	0.5 ppm	Instruct operator to don air purifying respirator. Adjust/apply engineering controls that control emissions and increase ventilation.

Chemical/ Parameter	Instrument Location	Action Level*	Action Taken
		50 ppm	Instruct operator to egress area or don atmosphere-supplying respirator. Evaluate site conditions. Adjust/apply engineering controls that control emissions and increase ventilation. Work activity should not resume until adequate controls are applied to sustain concentrations below this action level.
Volatile Organic Compounds (VOCs)	Vehicle Exterior	50 ppm	Evaluate site conditions. Consider adjustment/application of engineering controls that control emissions and increase ventilation.
	Vehicle Interior	5 ppm	Begin continual assessment for benzene inside cab.
		25 ppm	Evaluate site conditions. Adjust/apply engineering controls emissions and increase ventilation.
Benzene	Vehicle Interior	0.25 ppm	Instruct operator to don air-purifying respirator. Evaluate site conditions. Adjust/apply engineering controls that control emissions and increase ventilation.
		10 ppm	Instruct operator to egress area or don air purifying respirator. Evaluate site conditions. Adjust/apply engineering controls that control emissions and increase ventilation.
		25 ppm	Instruct operator to egress area or don atmosphere-supplying respirator. Evaluate site conditions. Adjust/apply engineering controls that control emissions and increase ventilation. Work activity should not resume until adequate controls are applied to sustain concentrations below this action level.

**The action level is exceeded when measurements are sustained at or above the action level for 5-minutes or the approximate average over 5-minutes is expected to exceed the action level.*

4.3 Benzene Monitoring

Workers must identify sources of leachate which may contain benzene as part of their job hazard analysis. These sources may include, but are not limited to, leachate contained in tanks and other containers, vapor from open or leaking pipes and wells, surface fissures, seeps, and leachate contaminated soil. Benzene specific monitoring must be conducted at minimum when the site action level for VOCs is reached, if not sooner. If benzene is present in the worker's breathing zone at concentrations greater than the site action level, additional hazard analysis must be conducted to minimize exposure including altering the task, implementing engineering controls, or eliminating the

task. Respiratory protection may only be used when no feasible work practice control or engineering control can be implemented. All respiratory protection must be used in compliance with an appropriate written respiratory protection program.

CCL, or its contractors, will collect personal air samples in the breathing zones of workers reasonably anticipated to represent worst case exposure daily using passive organic vapor dosimeters. Tasks anticipated to be sampled include:

- Operators of excavation equipment
- Equipment operators and/or workers associated with initial scrim pullback
- Truck drivers transporting leachate contaminated soil
- Workers on the west slope installing piping
- Repair, installation and removal of geosynthetics
- Other identified tasks where exposure risk cannot be adequately controlled using data from other exposure groups.

Each sample will be collected for comparison to Cal/OSHA benzene exposure limits and be used to evaluate the efficacy of on-site administrative and engineering controls.[3] Additional air samples may be collected for other exposure assessment purposes at the discretion of the project industrial hygienist.

If benzene air monitoring or sampling demonstrates worker exposure exceeds, or can reasonably be expected to exceed, the Cal/OSHA Action Level or exposure limits contained in **Table 2**, then further evaluation of engineering controls, administrative controls, and work practices must occur. In addition, relevant portions of Title 8 § 5218 will be implemented.

5.0 Safety Controls, Procedures, and PPE

The following offers additional safety controls, procedures, and PPE guidance and requirements specific to west slope toe drain work activities. Minimum PPE requirements for all operation areas are contained in "*Health and Safety Plan – Elevated Temperature Landfill Operation Areas"* and must

[3] *Other sample durations may be collected if necessary to evaluate a specific task segment, for short work shifts, or other reasons.*

be adhered to in addition to the guidance in this plan. Additional PPE and other safety equipment/measures may be required for tasks as set forth in the applicable job hazard assessment or any contractor specific health and safety plan.

5.1 Skin Protection

Concentrations of chemicals found in leachate, and leachate contaminated soil, are unlikely to cause acute health effects on contact with skin. However, contacted with skin, especially for longer durations, should be avoided. Whenever possible, use of chemical protective clothing should be avoided due to the hazards created from its use. Every effort must be made to avoid skin contact with leachate and leachate contaminated soil prior to requiring the use of chemical protective clothing. Before relying on chemical protective clothing alter work practices and attempt other protective controls. When possible, provide clean work, lay down chemical resistant material in the work area, or construct walkways using chemical resistant mats to prevent contact with skin or clothing. Chemical resistant boots must be worn if required to walk through spilled or pooled leachate or leachate contaminated soil.

If skin contact cannot be avoided, use appropriate chemical-resistant gloves, boots, and/or body protection that has a chemical permeation time sufficient to prevent skin contact during the task and, if appropriate based on JHA, constructed of fire-resistant materials. Benzene and other organic compounds contained in leachate will permeate gloves made of nitrile, natural rubber, butyl rubber, and neoprene in less than one hour. Gloves constructed of these materials may be used for temporary protection from incidental contact only and should be removed and replaced if contaminated. Cloth, leather, and other glove materials that do not afford any chemical protection cannot be used for tasks where sufficient leachate contact may occur to permeate the glove material unless a suitable chemical protective glove is present overtop or underneath the glove. No glove material provides extended protection for all chemicals found in leachate; however different glove materials are more likely to provide broader protection over extended periods. For tasks requiring regular contact with contaminated soil, select gloves that provide protection against a greater number of chemicals for longer durations.

Table 4 Chemical Resistant Gloves

Material	Protection
Natural Rubber	Very Poor
Neoprene Rubber	Very Poor
Nitrile	Poor
Polyvinyl Chloride	Poor
Butyl Rubber	Poor
Polyvinyl Alcohol	Good
Viton	Good
Viton/Butyl Rubber	Good
Honeywell SilverShield	Better
Ansell Barrier	Better

Glove materials indicated as"Better" typically provides protection from a broader range of compounds for longer durations.

If chemical protective clothing is required, it must be constructed of a suitable material. Tychem 6000, Tychem Responder CSM, or Tychem 10000 are recommended, but other equivalent materials from other manufacturers may be selected if appropriately evaluated. Tychem 6000 and Tychem 1000 are available in FR variants if flam resistance is necessary. Tyvek does not provide sufficient chemical protection but may be used to protect clothing from incidental contact with leachate contaminated soil, but not leachate. If Tyvek becomes contaminated with leachate contaminated soil, it must be removed and discarded.

To prevent skin absorption, non-chemical protective clothing which has become contaminated with leachate must not be worn and may need to be discarded depending on the amount of contamination. If skin contact occurs, wash thoroughly with soap and water.

5.2 Fire Protection and Flammable Environments

Flammable vapors are known to be present beneath the west scrim at concentrations greater than their lower flammable limit. When conducting initial removal of the scrim Flame-Resistant Clothing (FRC) will be required, and any potential source of ignition will be eliminated both downwind and crosswind during initial scrim removal. Following removal of the scrim, FRC will continue to be worn unless it can be demonstrated that flammable liquids and vapors are no longer present. All FRC must meet the minimum requirements of National Fire Protection Association (NFPA) *Standard 2112 Standard on Flame-Resistant Clothing for Protection of Industrial Personnel Against Short-Duration Thermal Exposures from Fire*. Follow guidelines in *NFPA Standard 2113 Standard on Selection, Care, Use, and Maintenance of Flame-Resistant Garments for Protection of Industrial Personnel Against*

Short-Duration Thermal Exposures from Fire when determining if FRC is appropriate for other work tasks related to the toe drain installation process. Factors to be considered include:

- Proximity of the work to be performed to a fire hazard.
- The presence of flammable materials in the environment during the process operation.
- The potential for the task being performed to increase the possibility of a flammable release, which could result from a mechanical failure such as a line breaking.
- Operating conditions to the process, for example, the potential for flammable vapors and fumes.
- The presence of engineering controls designed to reduce exposure to flammable materials present during normal operations.
- Means and duration of egress within potential exposure zone such as:
    - elevated or restricted areas.
    - connections to lifelines/fall protection.
    - capability of workers to escape.

In the event of a fire, workers are not to engage in fire fighting beyond their level of training and ability. Workers may use fire extinguishers to fight small, contained fires if it is safe to do so. Site water trucks may also be used to wet surrounding areas to prevent the spread of small controllable fires.

For larger fires, the local fire department will be notified by dialing 911 or, if cell communication is unavailable, site radios will be used to communicate the emergency to workers with phone connections. The nearest fire station is Los Angeles County Fire Department Station 76 located 2.6 miles from the entrance to the landfill. To assist fire department personnel with locating the fire on the landfill, an escort will be sent to the landfill entrance. All fires, regardless of size, must be reported to CCL as soon as it is safe to do so.

5.3 Noise Exposure

Various types of heavy equipment will be used during the course of toe drain installation work activities. This equipment, depending on the type and use, may cause noise levels to increase above occupational exposure limits.[4] Certain ventilation fan types which are employed to assist in ventilation of the worksite are known to exceed 100 dBA when in operation. The noise sources can result in short

[4] *If exposure as an 8-hr time-weighted average exceeds 85 dBA as described in Title 8 § 5095 certain provisions, such as audiometric testing described in Title 8 Article 105, are required.*

term hearing loss and, for repeated exposure, permanent damage to hearing. When working around machinery and heavy equipment, hearing protection will be required.

5.4 Respiratory Protection

If the fugitive vapors from leachate or other hazards cannot be controlled with engineering or administrative controls, and a critical task must be conducted, respiratory protection is required and must be used in accordance with the applicable Respiratory Protection Program and in consultation with site safety personnel or your company's safety representative. Respiratory protection creates hazards during its use by increasing exertion, susceptibility to heat stress, obscuring vision, etc. Use will be limited to situations where exposure is known (or reasonability anticipated) to exceed Cal/OSHA occupational exposure limits[5] or when the exposure hazard cannot be effectively evaluated. All workers required to wear respiratory protection must have received a quantitative fit test.

If Organic Vapor (OV) respirator cartridges are used, they must also be NIOSH approved for protection against H_2S as not all OV respirator cartridges are approved for use in protection from H_2S. Additionally, many OV respirator cartridges do not provide protection against CO and cannot be used in environments where Cal/OSHA CO exposure limits will be exceeded.

Air purifying respirators cannot be used in oxygen-deficient atmospheres, atmospheres where concentrations are above the National Institute for Occupational Safety and Health (NIOSH) Immediately Dangerous to Life and Health (IDLH) limit, or if concentrations are above the respirator Maximum Use Concentration (MUC). If the hazard cannot be adequately controlled, and air purifying respirators are insufficient, then airline or Self-Contained Breathing Apparatus (SCBA) must be used in consultation with site safety and in accordance with the applicable respiratory protection program. Site specific respiratory protection MUC are contained in **Table 5** and are provided as general guidance only. In all cases, changes in selected respiratory protection type must occur in consultation with a Certified Industrial Hygienist (CIH) or other appropriately qualified individual.[6] Regardless of respiratory protection selected, no workers will be permitted to work in IDLH atmospheres unless they can demonstrate sufficient prior experience or other specialty expertise operating in IDLH atmospheres to CCL safety.

If continual respiratory protection use is required at ambient temperatures in excess of 95 °F then workers who wear respiratory protection will be required to take an mandatory rest break for at least

[5] *All organizations involved with west slope toe drain work activities, including CCL, may adopt and implement alternative voluntary exposure limits for respiratory protection use so long as they are at least as protective as those provided by Cal/OSHA and the decision is in consultation with a qualified individual.*

[6] *Qualified means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.*

10-minutes every hour. Additionally, project management, in conjunction with site safety personnel, will evaluate the need for medical monitoring by qualified medical professionals.

Table 5 Site Specific Respiratory Protection Maximum Use Concentrations

Benzene (IDLH 500 ppm)	**Maximum Use Concentration (ppm)***		
APR Half-Face	< 10	< 50	< 500
APR Full-Face	< 50	< 250	< 500
SCBA/Airline Full-Face	< 1,000		
Hydrogen Sulfide (IDLH 100 ppm)			
APR Half-Face	< 100		
APR Full-Face	< 100		
SCBA/Airline Full-Face	< 10,000		
Carbon Monoxide (IDLH 1,200 ppm)			
APR Half-Face	< 25		< 200
APR Full-Face	< 25		< 200
SCBA/Airline Full-Face	< 25,000		
Total VOCs by PID*			
APR Half-Face	< 200	< 1,100	
APR Full-Face	< 1,100	< 5,900	
SCBA/Airline Full-Face	< 23,000		

8-hr	15-min	Peak††

** All Maximum Use Concentrations (MUC) for full-face APR assume a quantitative fit test. If a qualitative fit test was used, the MUC for half-face APR cannot be exceeded even when wearing a full-face respirator.*

†MUC for Total VOCs as measured with a based on an approximate mean benzene vapor content of 4.2% in leachate vapor. The exact benzene content must be confirmed during the work activity. All MUC have been rounded down to the nearest 100 ppm.

††The peak value may not be exceeded for any duration when utilizing an APR.

PID = Photoionization Detector
ppm = Parts-Per-Million
VOCs = Volatile Organic Compounds
IDLH = Immediately Dangerous to Life and Health
APR = Air Purifying Respirator
SCBA = Self-Contained Breathing Apparatus

5.5 Saturated Soils

To mitigate the hazard posed by soil saturated with water or leachate on the west slope, workers, vehicles, and heavy equipment should utilize established roads whenever feasible. Reduce speed and increase distance from obstacles as moist soils increase the risk of slips, trips, and falls and increases the stopping distance of vehicles.

While hazardous movement of soil is not anticipated, the potential for some subsidence is possible. All work activities that disturb soil require consideration of potential soil movement hazards. A plan will be developed to monitor and/or control slope stability during slope toe drain installation work activities to mitigate this hazard.

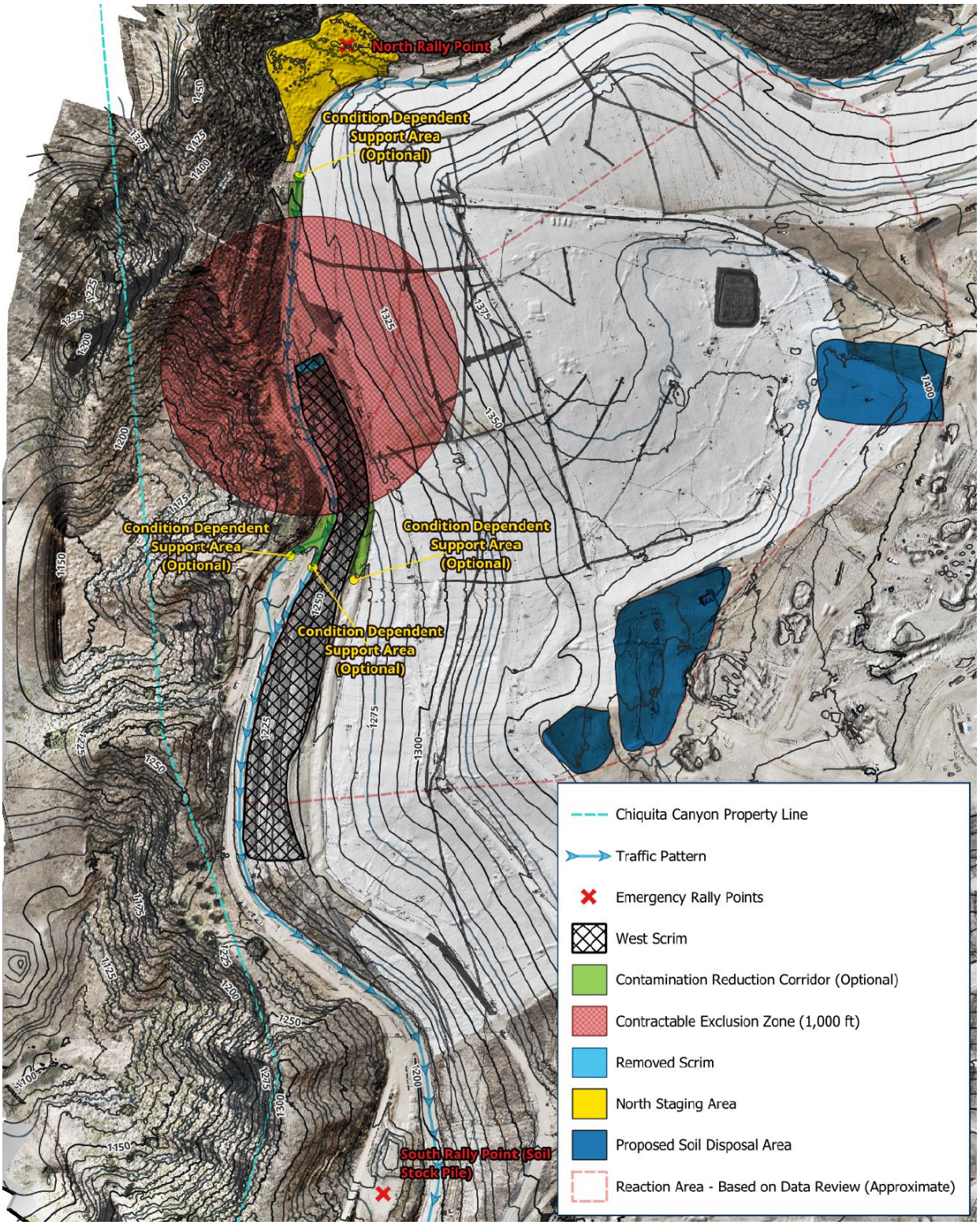
5.6 Scrim Removal and Excavation

The greatest exposure to leachate vapor and gases is anticipated to occur during the scrim removal portion of work activities followed by any excavation activities which disturb leachate saturated soils or expose pockets of vapor.

The scrim is known to trap various leachate vapors and gases, and its removal may result in the release of these compounds in unknown volumes. Limited sampling in small pockets beneath the scrim indicate concentrations of VOCs up to 415 ppm, H_2S up to 42 ppm, CO up to 402 ppm, and %LEL up to 99% as well as the VOCs contained in Appendix B. There is insufficient information to determine if the amount of vapor and gas trapped beneath the scrim can result in these concentrations occurring in ambient air during removal or how quickly these gases and vapors will dissipate following removal. To mitigate this hazard, the scrim will be cut and pulled back as small sections. Pull back will occur mechanically (e.g., excavator arm or other method) to maximize the distance between any workers and the point of exposure. No work activities will be permitted downwind during initial scrim removal. Due to the unknown atmospheric hazard related to this activity, workers engaged in initial scrim removal will be required to use supplied air until air monitoring supports downgrading or removing respiratory protection.

At the beginning of the removal of each approximately 75 to100 ft wide scrim section, an exclusion zone will be established with up to a 1,000-ft radius around the center of the scrim section. Within this exclusion zone, only workers critical to the safe removal of the scrim section will be permitted. Following removal of the scrim, air monitoring will be used to contract the exclusion zone until it is the same size as the section of removed scrim or until it is as small as feasible. Only workers involved with the toe drain removal and installation who have 40-hr HAZWOPER training will be permitted in this zone. Optional contamination reduction corridors and zones will be established if required by operations along with one or more optional small support zones. All zones are subject to change in design and shape based on projects needs and meteorological conditions. All optional zones may or may not be present based on project needs. All site zones will be communicated verbally at the morning safety briefing and when major changes occur. See **Figure 3** for example of initial site zones.

Figure 3 Example of Initial Scrim Removal Zones



All zones subject to change based on site conditions and project needs. Optional zones/areas may or may not be present based on project needs.

The exposure hazard posed by excavation of leachate saturated soil beneath the scrim is unknown. Air monitoring must be conducted within the cabs of all heavy equipment operators engaged in excavation using a 5-gas meter capable of monitoring %LEL, H_2S, CO, O_2, and VOCs. Excavation using heavy equipment without an enclosed cab will not be permitted. Excavation equipment cabs must be equipped with carbon air filters where feasible if doing so would reduce or prevent the need for respiratory protection.

Soil conditions and surface sloping near the west scrim can make use of heavy equipment for excavation and trenching challenging. Weight and vibrations from heavy equipment can increase these challenges and their hazards. Heavy equipment must only be operated on soil with sufficient stability[7] to safely support the equipment without posing a hazard to the operator and workers in the vicinity from cave-ins and other unanticipated soil movement. In some circumstances, additional sloping, shoring, or benching may become necessary to stabilize the soil prior to additional vehicle and heavy equipment traffic or to reduce the hazard posed by soil movement to workers. No equipment is to be operated on surfaces that are outside of the manufacturer's specifications. If heavy equipment must be operated on slopes, the contractor operating the equipment must address how the hazard will be mitigated. The contractor must consider relevant factors such as equipment weight, slope angle, shoring, surface friction, equipment anchoring, and any other excavation and trenching requirements in Cal/OSHA Title 8 Subchapter 4 Article 6 that may be necessary for work to be conducted safely.

When using equipment to hoist, lower, and horizontally move a suspended load such as cranes, derricks, hoists, and other powered equipment, a lift plan must be developed. The plan must, at minimum, consider factors such as the weight of the lift, the equipment's working load limit, overhead electrical hazards, use of a spotter, other regulatory requirements, and industry best practices. At no time during the lift will workers be permitted beneath the suspended load. The swing radius will be properly marked/barricaded, and travel paths will be cordoned off.

5.7 Traffic Control

Roads in the vicinity of the west slope of the landfill are typically narrow and the addition of heavy equipment along with truck traffic is anticipated to further constrict accessibility. A specified route for all vehicle traffic related to west slope toe drain activities will be developed where no two-way traffic will be permitted. The established traffic pattern will be followed by all vehicles regardless of size with any changes in the pattern communicated to all affected workers prior to implementation.

[7] *Cal/OSHA Title 8 § 1541.1 Appendix A*

Secondary routes which permit two-way traffic may be established where feasible. Soil removal truck movement will be coordinated by radio.

5.8 Ventilation

Mechanical ventilation will be implemented to assist in dissipation and dilution of leachate vapors and hazardous gasses during west slope toe drain work activities. Mechanical ventilation will be accomplished through a combination of fans including large orchard fans, smaller pneumatically operated air horn fans, and other fans as necessary. All fans will be placed in such a way that they direct contaminated air away from workers unless it can be demonstrated the added airflow provides a net reduction in exposure through dilution without creating a worse alternate hazard (e.g., airborne dust/debris). Prior to initial removal of the scrim, ventilation equipment and/or the landfill vapor extraction system will be used to reduce concentrations of leachate vapor trapped beneath the scrim through dilution and extraction.

5.9 Foam Application

Atmos Long Duration Foam will be applied directly to the exposed soil surface that was beneath the scrim during work operations if leachate vapor concentrations cannot be maintained below site action levels. Foam will not be applied to areas where workers are present if doing so would create an excessive slip, trip, or fall hazard using a Mini-Marooka with front spray turret.

5.10 Heat Stress and Heat Illness Prevention

Workers who are exposed to extreme heat or work in hot environments may be at risk of heat stress. Exposure to extreme heat can result in occupational illnesses and injuries. Heat stress can result in heat stroke, heat exhaustion, heat cramps, or heat rashes. Heat can also increase the risk of injuries in workers as it may result in sweaty palms, fogged-up safety glasses, and dizziness. When temperatures exceed 80°F and 95°F additional heat stress management actions are required by Cal/OSHA Title 8 § 3395 and each contractor must have a heat illness prevention plan compliant with this standard.

Supervisors or work team leads will be aware of weather conditions predicted for their shift, monitor conditions throughout the day, and consult the appropriate heat illness prevention plan for additional details when necessary.

During each day of work at the west scrim, shade will be provided by small pop-up tents for workers who require rest regardless of air temperature. Additional break areas, shade, and cold drinks will be provided at the North Staging Area (See Appendix A).

At minimum, when working outside in temperatures in excess of 95°F, workers must take a 10-minute or longer cool-down rest period every two-hours. It is recommended that supervisors with workers subject to heat stress implement a mandatory work/rest schedule and allow workers to take rests more than this schedule if needed. An example of such a worst rest schedule is provide in **Table 6**.

Table 6 Example Work Rest Schedule

Temperature (°F)	**Light Work** *(Work/Rest Minutes)*	**Moderate Work** *(Work/Rest Minutes)*	**Heavy Work** *(Work/Rest Minutes)*
90	Normal	Normal	Normal
91	Normal	Normal	Normal
92	Normal	Normal	Normal
93	Normal	Normal	Normal
94	Normal	Normal	Normal
95	55/5	55/5	45/15
96	55/5	55/5	45/15
97	55/5	55/5	40/20
98	55/5	55/5	35/25
99	55/5	55/5	35/25
100	55/5	45/15	30/30
101	55/5	40/20	30/30
102	55/5	35/25	25/35
103	55/5	30/30	20/40
104	55/5	30/30	20/40
105	55/5	25/35	15/45
106	45/15	20/40	Extreme Caution
107	40/20	15/45	Extreme Caution
108	35/25	Extreme Caution	Extreme Caution
109	30/30	Extreme Caution	Extreme Caution
110	15/45	Extreme Caution	Extreme Caution
111	Extreme Caution	Extreme Caution	Extreme Caution
112	Extreme Caution	Extreme Caution	Extreme Caution

Adapted from NIOSH Criteria for a Recommended Standard, Occupational Exposure to Heat and Hot Environments, ***Assumptions:*** *workers are physically fit, well-rested, fully hydrated, under age 40, and environment has 30% humidity and perceptible air movement*

- *Full sun (no clouds): Add 13 °F*
- *Partly cloudy/overcast: Add 7 °F*
- *No shadows visible, in the shade, or at night: No adjustment*
- *40% humidity: Add 3 °F*
- *50% humidity: Add 6 °F*
- *60% humidity or more: Add 9 °F*

5.11 Decontamination

A hand washing station will be present at the toe drain installation rest tent for sanitary purposes and to wash hands and arms which may have contacted leachate contaminated soil. One or more portable eye wash stations with movable shower head that allows for rinsing for 15 minutes will be located at the toe drain installation rest tent and blocked from sun to prevent overheating of water. A larger trailer-based decontamination shower and eyewash station will be located at the north staging area.

Small decontamination pools will be placed near toe drain installation activities for gross decontamination of the boots of workers who entered the uncovered area of the west slope and contacted leachate contaminated soil. Use of these decontamination pools to remove general jobsite dirt will not be permitted. At least one boot decontamination area will be present whenever job tasks require workers to enter contaminated areas, and additional locations will be added if needed to facilitate site operations. These pools will be located where workers exit the contaminated area.

Each boot decontamination area will be provided with two pools. The first pool will contain a mixture of a surfactant soap and water and include a long-handled scrub brush to remove accumulated soil from boots. Sufficient soap should be added to the water to create soap suds when scrubbing, but not so much soap that residue is difficult to remove. A chair must be present at the first decontamination pool for workers to sit on while cleaning boot bottoms. The second pool will contain rinse water to remove remaining soap and soil residues.

Decontamination pool water will be changed at least once per day. The first pool's water will be exchanged when use of the scrub brush no longer produces soap bubbles, and the second pool's water will be exchanged before the water becomes so dirty that the bottom of the pool is no longer visible.

5.12 Site Communication

All workers directly involved in west slope toe drain installation tasks will have a handheld radio supplied by CCL. Radio channels will be reserved for the following uses:

- Channel 1: Active toe drain installation work operations such as, excavation, liner repair, drain installation, etc.
- Channel 2: Open for use as needed to facilitate additional conversations and coordination and prevent blocking of other channels.
- Channel 3: Sentinel monitoring between remote air monitoring team and excavation equipment.
- Channel 4: Soil removal truck control and communication.
- Channel 5: Emergencies.

5.13 Emergency Rescue

A two-person rescue team will be always located adjacent to the work area during toe drain installation work activities and will constantly monitor the emergency radio channel indicated in **Section 5.12**. The team will have no other responsibilities other than to standby for rescue and emergency assistance. The team will have a vehicle dedicated for their use capable of transporting at least one individual to the landfill entrance to rendezvous with emergency medical personnel or, for less severe injuries, transport the injured person to the neared medical facility. The rescue team will have available the following equipment at minimum:

- First aid kit
- Potable water
- Automated Electronic Defibrillator (AED)
- Rescue backboard
- Fire resistant clothing
- ABC Fire extinguisher
- Tychem 6000 FR
- Supplied air respirator.

6.0 Contractor Expectations

It is expected that all onsite contractors working in the ETLF operation area have their own Health and Safety Plan which is in alignment with this health and safety plan and the Chiquita Health and

Safety Plan – ETLF Operation Area. Each contractor should have a copy of the plan on file with CCL. Each contractor is also expected to have a Job Safety Analysis/Job Hazard Analysis (JSA/JHA) for each process of the operation. This should include but not be limited to the following.

- Scrim removal and re-installation
- Excavation work and soil removal
- Pipe removal and installation
- Liner Repair

All workers involved in toe drain installation work must have received training appropriate to the tasks they will be involved in. Minimum requirements include:

6.1 HAZWOPER (Title 8 § 5192)

1. Employers must have a medical surveillance program as described in Title 8 § 5192(f).
2. 24-hr or 40-hr depending on the worker's role. 24-hr training is limited to workers who are on site only occasionally for a specific limited task (such as, but not limited to, ground water monitoring, land surveying, or geophysical surveying) and who are unlikely to be exposed over PELs and published exposure levels.
3. If 24-hr or 40-hr training did not include a hands-on portion where employees had the opportunity to become familiar with or to refresh their skills using PPE and safe practices in a non-hazardous setting, supplemental training is required.
4. Additional 8-hr supervisor training for on-site management and supervisors directly responsible for, or who supervise employees engaged in, hazardous waste operations.
5. 3-days supervised field experience for all workers.

6.2 Respiratory Protection (Title 8 § 5144)

1. Employers must have a written respiratory protection program in place as described in Title 8 § 5144(c).
2. All Workers must have received medical evaluations to wear respirators by a physician or other licensed healthcare professional.
3. Full face respirators are preferred. Half face respirators have 1/5th the maximum use concentration.

4. Workers must have a quantitative (not qualitative) fit test for the same size and model respirator to be worn. Full face respirators with qualitative fit test have 1/5th the maximum use concentration.
5. Respirator cartridges must be organic vapor cartridges that are also approved for protection from H_2S.

6.3 HASP and JHA

1. All employers must at least have their own site-wide HASP specific to their activities that is at least as protective as the current CCL site wide *Health and Safety Plan - ETLF Operation Areas*. Employers may incorporate some or all of the CCL site wide HASP by reference into their own plan but must have a plan specific to their work.
2. All employers must have completed Job Hazard Analysis (JHA) for west toe drain installation/scrim removal related tasks.
3. All workers must have reviewed the relevant HASPs and JHA.

6.4 HazComm (Title 8 § 5194) and Benzene (Title 8 § 5218)

1. All workers must have received hazard communication related to hazardous chemicals likely be encountered. At minimum these include landfill leachate, CO, H_2S, benzene, VOCs as a category, and oxygen deficient environments.
2. All workers must have received training on benzene that meets Title 8 § 5218(j)(3).

7.0 Contingency Plans

In the event of an emergency (at this site), the person first noticing the emergency should notify other workers in the immediate area. Evacuation should commence at once if the emergency poses any threat to the safety of the workers. Upon receiving notification of an emergency, the individual in charge of the work area should take appropriate measures to protect human life, the environment (including wildlife), and property consistent with their training and qualifications. Site safety should be notified along with the incident commander so appropriate portions of the Emergency Response Plan can be implemented.

Table 7 Emergency Contacts

Chiquita Canyon Landfill	
Site Address:	29201 Henry Mayo Drive, Castaic, CA 91384
Site Emergency Contact:	Steve Cassulo (661) 371 - 9214
Alternate Site Contact:	Nicole Ward (661) 425 - 4619
Chiquita Canyon Landfill	
Local Emergency Response:	911
Medical Facility:	Henry Mayo Newhall Hospital (661) 200 - 2000
Medical Facility Address:	Henry Mayo Newhall Hospital, 23845 McBean Parkway, Valencia, CA 91355

Smaller air horns may be utilized to provide warning to others in the vicinity, stop work, or evacuate the area. If the landfill main emergency horn is used, follow directions provided in the *Health and Safety Plan for ETLF Operations*.

WARNING: One short blast to provide warning or alert to workers in the vicinity.

STOP WORK: One long blast with signal stop work for toe drain installation.

EVACUATION: Three short blasts will signal evacuation to the rally points in the site map contained in Appendix A.

Due to changing traffic patterns, follow current patterns and evacuate to crosswind and upwind locations if driving is permitted. If evacuating by walking, move to an upwind and crosswind location, while being cognizant of heavy equipment, and proceed to the nearest safe muster point.

8.0 HASP Acknowledgement

CCL project team members who are performing work on the project and site must review, understand and comply with this plan before undertaking work. This plan must be available to employees for review, and a copy must be present at the site. CCL contractors must also review, understand, and comply with this plan. Review of this plan by each worker must be documented using the following form, or other method of documentation.

"I have read the attached Health and Safety Plan for the west slope toe drain work activities. I have discussed any questions and/or concerns that I have regarding the contents of this document with the designated CCL project safety representative, I understand its purpose and requirements, and consent to adhere to its policies, procedures and guidelines."

Name	Signature	Company	Date

9.0 Amendments to Site-Specific Health and Safety Plan

This plan is based on information available at the time of preparation. Unexpected conditions may arise which necessitate changes to this plan. Unplanned activities and/or changes in the hazard status should initiate a review of major changes in this plan.

Changes in the hazard status or unplanned activities are to be submitted on "Amendments to the Area-Specific Health and Safety Plan" which is included in this plan.

Amendments must be approved by site safety prior to implementation.

Version 1.0		
Description of Change (include sections and page numbers): *Initial Draft (Not Distributed)*		
	Name/Position	**Date**
Prepared By:	Jason Callahan - Senior Health Scientist	2024-06-17

Version 1.1		
Description of Change (include sections and page numbers): ***Updated*** *Section 4.1 Clarified site action level and instrument alarm set points.*		
	Name/Position	**Date**
Modified By:	Jason Callahan - Senior Health Scientist	2024-06-17

Version 2.0
Description of Change (include sections and page numbers): ***Added*** Section 2.0 Mandatory Safety Briefings Section 4.1 now contains figure 2 describing the process for site action level exceedances Section 4.2 was added to describe additional air monitoring in excavator cabs. Table 4 Site specific maximum use concentrations. Figure 3 Example map of initial scrim removal zones. Section 5.9 was added to describe the use of vapor suppression foam. Section 5.11 on decontamination Section 5.12 on Site Communication Appendix D to provide further details on rescue ***Updated*** Section 4.1 now contains additional detail on responding to exceedances of site action levels that was contained in the site wide HASP. Section 4.1 now specifies that site action levels should be compared to photoionization detectors equipped with 9.8-11.7 eV lamps and footnote stating Flame Ionization Detectors are not acceptable. Section 4.2 was updated to be section 4.3. Table 2 now contains a footnote explicitly granting contractors the ability to establish more stringent action levels. Section 5.2 now includes additional details on chemical resistant clothing and gloves. Section 5.4 contains additional information on maximum use concentrations. Section 5.5 contains additional details on site control zones and their requirements. Section 5.6 now contains requirement for enclosed cabs and carbon filtration when possible. Section 6.0 now includes additional guidance on contractor qualifications and training. Section 7.0 now contains warning signals. Table 6 was moved from page 2 to Section 7.0.

	Name/Position	**Date**
Modified By:	Jason Callahan - Senior Health Scientist	2024-08-06

Appendix A: Site Map and Scrim Headspace Sample Locations

CTEH

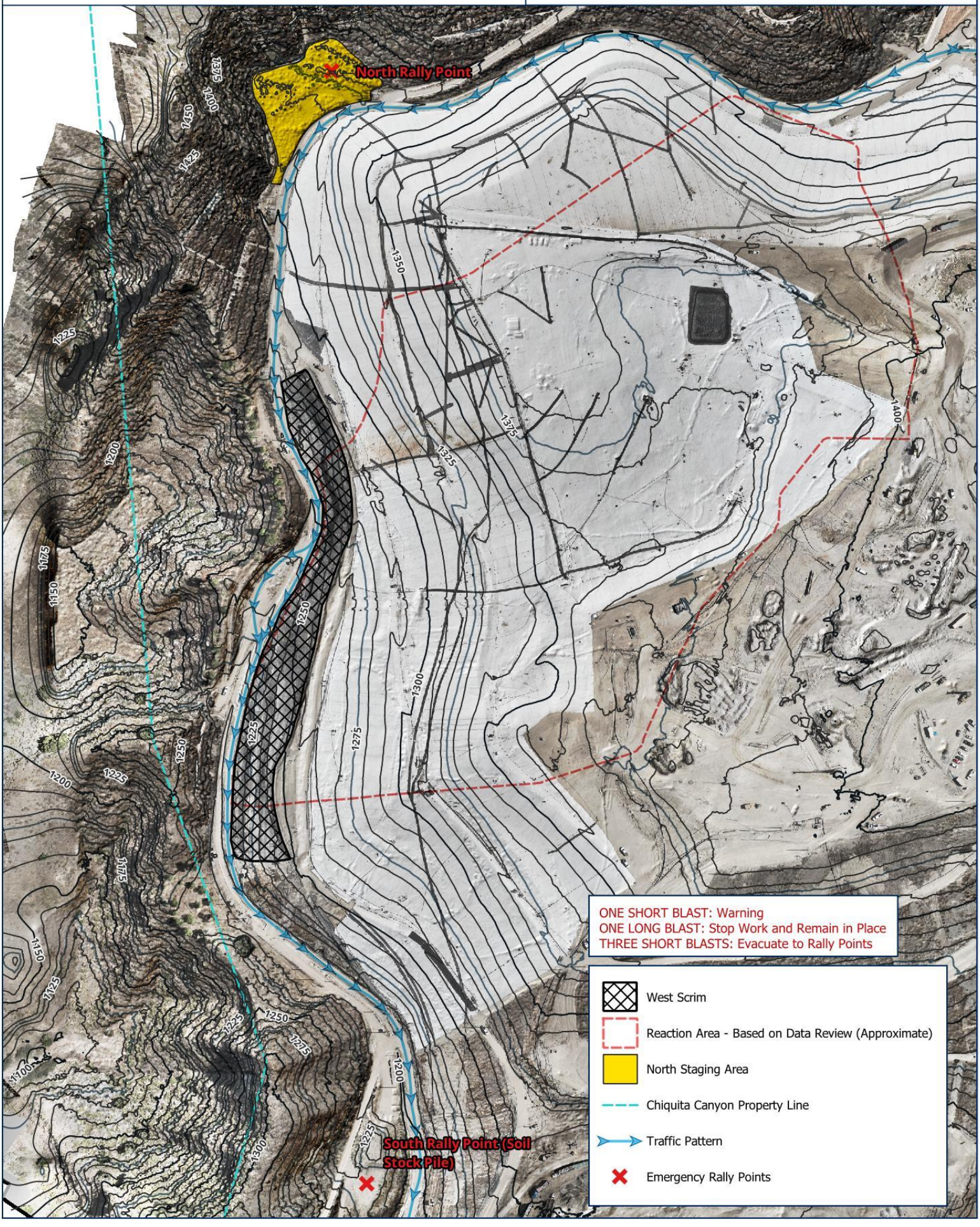
West Toe Drain Site

Chiquita Canyon Landfill

0 50 100 150 200 250 ft

N

City: Castaic
State: CA
CRS: NAD83(2011) / California zone 5 (ftUS)
Projection: Lambert Conformal Conic
Printed: 2024-08-02



CTEH

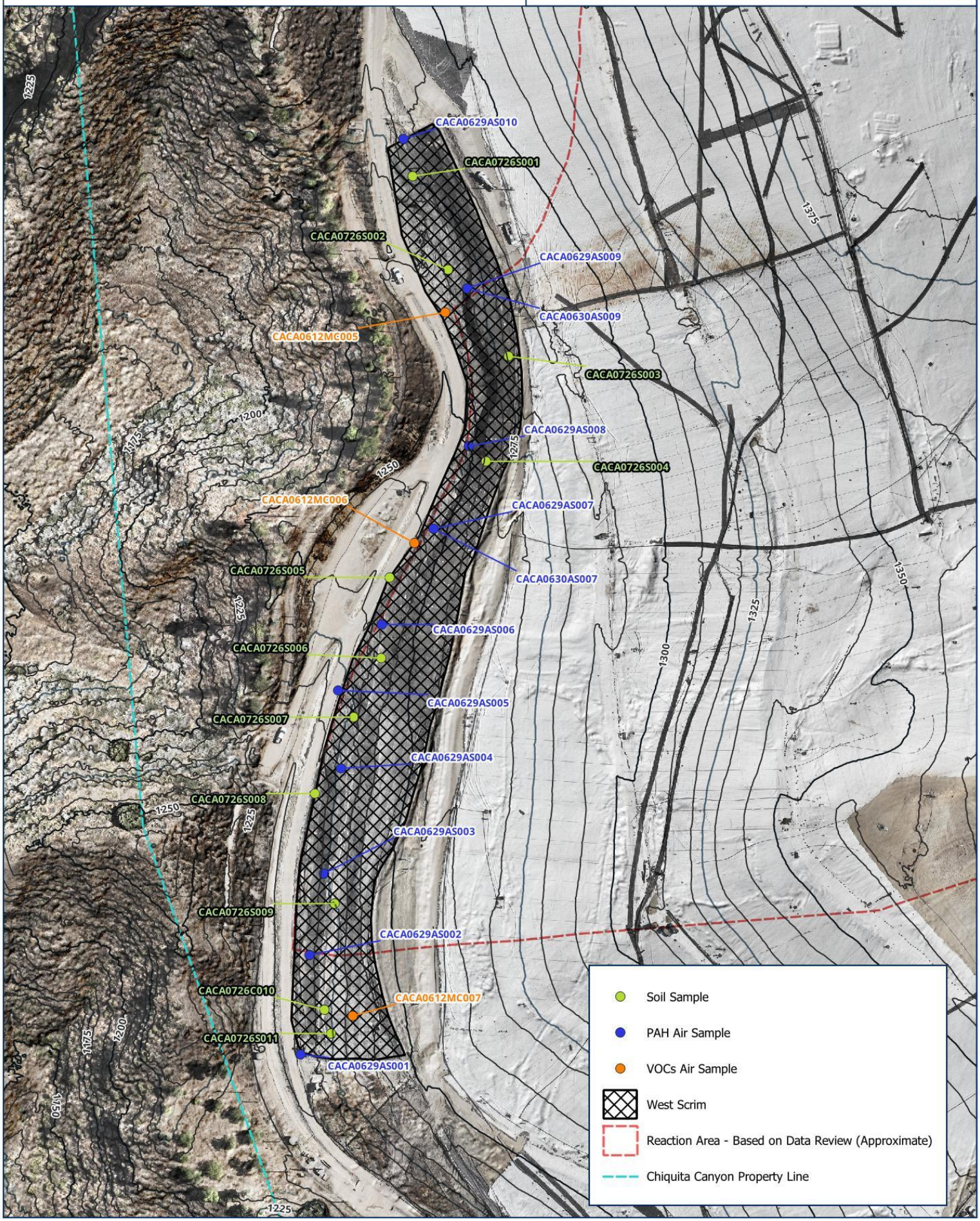
West Toe Drain Site Samples

Chiquita Canyon Landfill

0 25 50 75 100 ft

N

City: Castaic
State: CA
CRS: NAD83(2011) / California zone 5 (ftUS)
Projection: Lambert Conformal Conic
Printed: 2024-08-02



Appendix B: Scrim Vapor and Soil Sample Results

West Slope Scrim Headspace Sample Results

Chiquita Canyon Landfill - June 12, 2024

Analyte	North area of the skrim on the west slope toe ppmv	Middle area of skrim on the west slope toe ppmv	South area of the skrim on the west slope head ppmv
1,1-DICHLOROETHANE	< 7.23	< 0.000723	< 7.23e-05
1,1-DICHLOROETHENE	< 7.62	< 0.000762	< 7.62e-05
1,1,1-TRICHLOROETHANE	< 7.36	< 0.000736	< 7.36e-05
1,1,2-TRICHLOROETHANE	< 7.75	< 0.000775	< 7.75e-05
1,1,2-TRICHLOROTRIFLUOROETHANE	< 7.93	< 0.000793	< 7.93e-05
1,1,2,2-TETRACHLOROETHANE	< 7.43	< 0.000743	< 7.43e-05
1,2-DIBROMOETHANE	< 7.21	< 0.000721	< 7.21e-05
1,2-DICHLOROBENZENE	< 12.8	< 0.00128	< 0.000128
1,2-DICHLOROETHANE	< 7	< 0.0007	< 7e-05
1,2-DICHLOROPROPANE	< 7.6	< 0.00076	< 7.6e-05
1,2-DICHLOROTETRAFLUOROETHANE	< 8.9	< 0.00089	< 8.9e-05
1,2,4-TRICHLOROBENZENE	< 14.8	< 0.00148	< 0.000148
1,2,4-TRIMETHYLBENZENE	39.1	0.0289	0.00103
1,3-BUTADIENE	< 10.4	< 0.00104	< 0.000104
1,3-DICHLOROBENZENE	< 18.2	< 0.00182	< 0.000182
1,3,5-TRIMETHYLBENZENE	12.6	0.00862	0.000313
1,4-DICHLOROBENZENE	< 5.57	0.00494	0.000212
1,4-DIOXANE	< 8.33	< 0.000833	< 8.33e-05
2-BUTANONE (MEK)	251	0.513	0.0207
2-CHLOROTOLUENE	< 8.28	< 0.000828	< 8.28e-05
2-PROPANOL	659	0.544	0.00989
2,2,4-TRIMETHYLPENTANE	< 13.3	< 0.00133	< 0.000133
4-ETHYLTOLUENE	27.5	0.0209	0.000775
4-METHYL-2-PENTANONE (MIBK)	27.7	0.0427	0.00135
ACETONE	593	0.671	0.0326
ACETONITRILE	489	0.0373	< 0.000235
ACRYLONITRILE	< 22.6	< 0.00226	< 0.000226
ALLYL CHLORIDE	< 11.4	< 0.00114	< 0.000114
BENZENE	212	0.426	0.0224
BENZYL CHLORIDE	< 5.98	< 0.000598	< 5.98e-05
BROMODICHLOROMETHANE	< 7.02	< 0.000702	< 7.02e-05
BROMOETHANE	< 21.6	< 0.00216	< 0.000216
BROMOFORM	< 7.32	< 0.000732	< 7.32e-05
BROMOMETHANE	< 9.82	< 0.000982	< 9.82e-05
BUTANE	44.9	0.0364	0.0023

Results preceded by the '<' symbol are considered non-detections, and if present, are less than the limit of quantitation to the right. Samples were collected and analyzed by EPA Method TO-15.

Detected

No

Yes

West Slope Scrim Headspace Sample Results

Chiquita Canyon Landfill - June 12, 2024

Analyte	North area of the skrim on the west slope toe ppmv	Middle area of skrim on the west slope toe ppmv	South area of the skrim on the west slope head ppmv
CARBON DISULFIDE	< 10.2	0.00219	0.000374
CARBON TETRACHLORIDE	< 7.32	< 0.000732	0.000112
CHLOROBENZENE	< 8.32	< 0.000832	< 8.32e-05
CHLOROETHANE	< 9.96	< 0.000996	< 9.96e-05
CHLOROFORM	< 7.17	< 0.000717	< 7.17e-05
CHLOROMETHANE	< 10.3	0.00163	0.000527
CIS-1,2-DICHLOROETHENE	< 7.84	< 0.000784	< 7.84e-05
CIS-1,3-DICHLOROPROPENE	< 6.89	< 0.000689	< 6.89e-05
CYCLOHEXANE	< 7.53	< 0.000753	< 7.53e-05
DIBROMOCHLOROMETHANE	< 7.27	< 0.000727	< 7.27e-05
DICHLORODIFLUOROMETHANE	< 13.7	< 0.00137	0.000543
ETHANOL	472	1.13	0.0126
ETHYLBENZENE	54.4	0.0537	0.00226
HEPTANE	< 10.4	< 0.00104	< 0.000104
HEXACHLORO-1,3-BUTADIENE	< 10.5	< 0.00105	< 0.000105
ISOPROPYLBENZENE	38.7	0.0264	0.0011
M&P-XYLENE	58.5	0.0584	0.00251
METHYL BUTYL KETONE	< 13.3	< 0.00133	< 0.000133
METHYL METHACRYLATE	< 8.76	< 0.000876	< 8.76e-05
METHYLENE CHLORIDE	< 9.79	< 0.000979	0.000194
MTBE	< 6.47	0.000758	7.08e-05
N-DECANE	71.6	0.0476	0.00133
N-HEXANE	400	0.00246	< 0.000206
NAPHTHALENE	< 35	< 0.0035	< 0.00035
NONANE	21.4	0.0155	0.000662
O-XYLENE	28.6	0.0248	0.00104
PENTANE	150	0.00492	0.000403
PROPENE	< 9.32	0.132	0.00875
STYRENE	< 7.88	0.0075	0.000634
TETRACHLOROETHYLENE	< 8.14	< 0.000814	< 8.14e-05
TETRAHYDROFURAN	< 7.34	0.761	0.0265
TOLUENE	45.9	0.0634	0.00304
TRANS-1,2-DICHLOROETHENE	< 6.73	< 0.000673	< 6.73e-05
TRANS-1,3-DICHLOROPROPENE	< 7.28	< 0.000728	< 7.28e-05
TRICHLOROETHYLENE	< 6.8	< 0.00068	< 6.8e-05

Results preceded by the '<' symbol are considered non-detections, and if present, are less than the limit of quantitation to the right. Samples were collected and analyzed by EPA Method TO-15.

Detected

No

Yes

West Slope Scrim Headspace Sample Results

Chiquita Canyon Landfill - June 12, 2024

Analyte	North area of the skrim on the west slope toe ppmv	Middle area of skrim on the west slope toe ppmv	South area of the skrim on the west slope head ppmv
TRICHLOROFLUOROMETHANE	< 8.19	< 0.000819	0.000262
VINYL ACETATE	< 11.6	< 0.00116	< 0.000116
VINYL BROMIDE	< 8.52	< 0.000852	< 8.52e-05
VINYL CHLORIDE	< 9.49	< 0.000949	< 9.49e-05

Results preceded by the '<' symbol are considered non-detections, and if present, are less than the limit of quantitation to the right. Samples were collected and analyzed by EPA Method TO-15.

Detected

No

Yes

West Slope Scrim Headspace PAH Sample Results

Chiquita Canyon Landfill - June 30, 2024

Sample Number	Location Description	ANTHRACENE mg/m³	BENZO(A)PYRENE mg/m³	CHRYSENE mg/m³	PHENANTHRENE mg/m³	PYRENE mg/m³
CACA0629AS001	South edge of west scrim.	< 0.0018	< 0.0023	< 0.002	< 0.0018	< 0.0019
CACA0629AS002	About 100 feet north of south edge of west scrim.	< 0.0018	< 0.0023	< 0.002	< 0.0018	< 0.0019
CACA0629AS003	About 200 feet north of south edge of west scrim	< 0.0018	< 0.0023	< 0.002	< 0.0018	< 0.0019
CACA0629AS004	About 300 feet north of south edge of west scrim	< 0.0018	< 0.0024	< 0.002	< 0.0018	< 0.0019
CACA0629AS005	About 400 feet north of south edge of west scrim	< 0.0018	< 0.0024	< 0.002	< 0.0018	< 0.0019
CACA0629AS006	About 500 feet north of south edge of west scrim	< 0.0037	< 0.0048	< 0.0041	< 0.0037	< 0.0039
CACA0629AS007	About 600 feet north of south edge of west scrim	< 0.0037	< 0.0048	< 0.0041	< 0.0037	< 0.0038
CACA0629AS008	About 700 feet north of south edge of west scrim	< 0.0043	< 0.0056	< 0.0048	< 0.0043	< 0.0045
CACA0629AS009	About 800 feet north of south edge of West scrim	< 0.0034	< 0.0044	< 0.0037	< 0.0034	< 0.0035
CACA0629AS010	About 900 feet north of south edge of west scrim	< 0.0039	< 0.005	< 0.0043	< 0.0038	< 0.004
CACA0630AS007	About 600 feet north of southe edge of west scrim	< 0.006	< 0.0077	< 0.0066	< 0.0059	< 0.0062
CACA0630AS009	About 900 feet north of southe edge of west scrim	< 0.006	< 0.0078	< 0.0067	< 0.006	< 0.0063

Results preceded by the '<' symbol are considered non-detections, and if present, are less than the limit of quantitation to the right. Samples were collected and analyzed by NIOSH Method 5506

Detected

No

West Slope Scrim Headspace Direct Reading Results

Chiquita Canyon Landfill - June 12, 2024

Analyte	Units	North Area of Scrim on the West Slope Toe	South Area of Scrim on the West Slope Head
Carbon Monoxide	ppm	402.0	91.0
Hydrogen Sulfide	ppm	42.1	37.9
LEL	%	49.0	99.0
VOCs	ppm	415.6	119.0

Direct reading measurements collected with RAE Systems MultiRAE Pro

West Scrim Surface Soil and TCLP Samples

Chiquita Canyon Landfill - July 26, 2024

Data Updated at 8/2/2024 13:40:58

Analysis	Matrix	Analyte	West scrim 0-100 ft CACA0726S001	Scrim 100-200 ft CACA0726S002	Scrim 200-300 ft CACA0726S003	Scrim 300-400 ft CACA0726S004	Scrim 400-500 ft CACA0726S005	Scrim 500-600 ft CACA0726S006	Scrim 600-700 ft CACA0726S007	Scrim 700-800 ft CACA0726S008	Scrim 800-900 ft CACA0726S009	Scrim 900-1000 ft CACA0726C010	Scrim 900-1000 ft CACA0726S010	Scrim 1000-1100 ft CACA0726S011
Metals	Soil	Antimony	< 1.2 mg/Kg	< 1.2 mg/Kg	< 1.2 mg/Kg	< 1.2 mg/Kg	< 1.2 mg/Kg	< 1.2 mg/Kg	< 1.2 mg/Kg	< 1.2 mg/Kg	< 1.2 mg/Kg	< 1.2 mg/Kg	< 1.2 mg/Kg	< 1.1 mg/Kg
		Arsenic	15 mg/Kg	1.8 mg/Kg	3.1 mg/Kg	5.1 mg/Kg	1.1 mg/Kg	2.2 mg/Kg	3.5 mg/Kg	2.3 mg/Kg	3.1 mg/Kg	3.2 mg/Kg	3.2 mg/Kg	3.7 mg/Kg
		Barium	99 mg/Kg	54 mg/Kg	74 mg/Kg	94 mg/Kg	51 mg/Kg	72 mg/Kg	88 mg/Kg	66 mg/Kg	68 mg/Kg	95 mg/Kg	110 mg/Kg	140 mg/Kg
		Beryllium	0.56 mg/Kg	0.25 mg/Kg (J)	0.34 mg/Kg (J)	0.32 mg/Kg (J)	0.18 mg/Kg (J)	0.26 mg/Kg (J)	0.43 mg/Kg (J)	0.3 mg/Kg (J)	0.27 mg/Kg (J)	0.38 mg/Kg (J)	0.39 mg/Kg (J)	0.32 mg/Kg (J)
		Cadmium	< 0.051 mg/Kg	2.7 mg/Kg	0.068 mg/Kg (J)	0.079 mg/Kg (J)	< 0.052 mg/Kg	0.098 mg/Kg (J)	< 0.051 mg/Kg	0.075 mg/Kg (J)	0.094 mg/Kg (J)	< 0.053 mg/Kg	< 0.052 mg/Kg	< 0.05 mg/Kg
		Chromium	24 mg/Kg	14 mg/Kg	16 mg/Kg	16 mg/Kg	10 mg/Kg	17 mg/Kg	19 mg/Kg	15 mg/Kg	15 mg/Kg	17 mg/Kg	20 mg/Kg	17 mg/Kg
		Cobalt	9.7 mg/Kg	4.9 mg/Kg	6 mg/Kg	6.2 mg/Kg	3.7 mg/Kg	5.9 mg/Kg	7.1 mg/Kg	5.4 mg/Kg	5.7 mg/Kg	6.8 mg/Kg	7.6 mg/Kg	6.3 mg/Kg
		Copper	21 mg/Kg	12 mg/Kg	15 mg/Kg	15 mg/Kg	9.8 mg/Kg	14 mg/Kg	14 mg/Kg	18 mg/Kg	15 mg/Kg	14 mg/Kg	14 mg/Kg	12 mg/Kg
		Lead	4.6 mg/Kg	4.1 mg/Kg	4.6 mg/Kg	5.6 mg/Kg	4 mg/Kg	5.9 mg/Kg	3.7 mg/Kg	5 mg/Kg	5.3 mg/Kg	3.1 mg/Kg	3.3 mg/Kg	2.9 mg/Kg
		Mercury	< 0.061 mg/Kg	< 0.061 mg/Kg	2.1 mg/Kg	0.32 mg/Kg	< 0.057 mg/Kg	< 0.059 mg/Kg	< 0.053 mg/Kg	< 0.055 mg/Kg	0.061 mg/Kg (J)	< 0.057 mg/Kg	< 0.058 mg/Kg	< 0.054 mg/Kg
		Molybdenum	< 0.52 mg/Kg	< 0.55 mg/Kg	< 0.54 mg/Kg	< 0.55 mg/Kg	< 0.54 mg/Kg	< 0.53 mg/Kg	< 0.53 mg/Kg	< 0.54 mg/Kg	< 0.52 mg/Kg	< 0.55 mg/Kg	< 0.54 mg/Kg	< 0.52 mg/Kg
		Nickel	20 mg/Kg	10 mg/Kg	12 mg/Kg	13 mg/Kg	8.1 mg/Kg	12 mg/Kg	14 mg/Kg	11 mg/Kg	11 mg/Kg	13 mg/Kg	14 mg/Kg	12 mg/Kg
		Selenium	< 0.86 mg/Kg	< 0.9 mg/Kg	< 0.88 mg/Kg	< 0.9 mg/Kg	< 0.88 mg/Kg	< 0.87 mg/Kg	< 0.87 mg/Kg	< 0.89 mg/Kg	< 0.86 mg/Kg	< 0.9 mg/Kg	< 0.89 mg/Kg	< 0.86 mg/Kg
		Silver	< 0.17 mg/Kg	< 0.17 mg/Kg	< 0.17 mg/Kg	< 0.17 mg/Kg	< 0.17 mg/Kg	< 0.17 mg/Kg	< 0.17 mg/Kg	< 0.17 mg/Kg	< 0.17 mg/Kg	< 0.17 mg/Kg	< 0.17 mg/Kg	< 0.17 mg/Kg
		Thallium	< 0.91 mg/Kg	< 0.95 mg/Kg	< 0.93 mg/Kg	< 0.95 mg/Kg	< 0.93 mg/Kg	< 0.92 mg/Kg	< 0.92 mg/Kg	< 0.94 mg/Kg	< 0.91 mg/Kg	< 0.95 mg/Kg	< 0.94 mg/Kg	< 0.9 mg/Kg
		Vanadium	39 mg/Kg	24 mg/Kg	32 mg/Kg	33 mg/Kg	22 mg/Kg	30 mg/Kg	36 mg/Kg	26 mg/Kg	39 mg/Kg	37 mg/Kg	40 mg/Kg	34 mg/Kg
		Zinc	48 mg/Kg	54 mg/Kg	44 mg/Kg	51 mg/Kg	33 mg/Kg	43 mg/Kg	38 mg/Kg	48 mg/Kg	55 mg/Kg	34 mg/Kg	38 mg/Kg	32 mg/Kg
	TCLP	Antimony	0.029 mg/L (J)	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L
		Arsenic	0.31 mg/L	< 0.0024 mg/L	0.02 mg/L (J)	0.071 mg/L	< 0.0024 mg/L	0.031 mg/L	< 0.0024 mg/L	0.0029 mg/L (J)	< 0.0024 mg/L	< 0.0024 mg/L	< 0.0024 mg/L	< 0.0024 mg/L
		Barium	0.68 mg/L (J)	0.81 mg/L (J)	0.71 mg/L (J)	0.54 mg/L (J)	0.87 mg/L (J)	0.95 mg/L (J)	1.2 mg/L	0.69 mg/L (J)	0.76 mg/L (J)	0.4 mg/L (J)	0.32 mg/L (J)	0.31 mg/L (J)
		Beryllium	< 0.00063 mg/L	< 0.00063 mg/L	< 0.00063 mg/L	< 0.00063 mg/L	< 0.00063 mg/L	< 0.00063 mg/L	< 0.00063 mg/L	< 0.00063 mg/L	< 0.00063 mg/L	0.00077 mg/L (J)	0.00083 mg/L (J)	< 0.00063 mg/L
		Cadmium	< 0.00055 mg/L	< 0.00055 mg/L	< 0.00055 mg/L	< 0.00055 mg/L	< 0.00055 mg/L	< 0.00055 mg/L	0.00066 mg/L (J)	< 0.00055 mg/L	< 0.00055 mg/L	0.00072 mg/L (J)	0.00087 mg/L (J)	0.0012 mg/L (J)
		Chromium	< 0.0023 mg/L	0.015 mg/L (J)	< 0.0023 mg/L	< 0.0023 mg/L	0.012 mg/L (J)	< 0.0023 mg/L	0.0035 mg/L (J)	0.0085 mg/L (J)	0.0033 mg/L (J)	< 0.0023 mg/L	< 0.0023 mg/L	< 0.0023 mg/L
		Cobalt	0.0031 mg/L (J)	0.0071 mg/L (J)	0.01 mg/L (J)	0.0032 mg/L (J)	0.0039 mg/L (J)	0.02 mg/L	0.02 mg/L	0.0079 mg/L (J)	0.022 mg/L	0.0085 mg/L (J)	0.0084 mg/L (J)	0.0098 mg/L (J)
		Copper	0.0073 mg/L (J)	0.0086 mg/L (J)	< 0.0022 mg/L	0.0025 mg/L (J)	< 0.0022 mg/L	< 0.0022 mg/L	0.0024 mg/L (J)	0.0026 mg/L (J)	0.0027 mg/L (J)	0.0057 mg/L (J)	0.0057 mg/L (J)	0.0062 mg/L (J)
		Lead	< 0.0033 mg/L	< 0.0033 mg/L	< 0.0033 mg/L	0.0037 mg/L (J)	< 0.0033 mg/L	0.0054 mg/L (J)	< 0.0033 mg/L	0.0047 mg/L (J)	0.0048 mg/L (J)	< 0.0033 mg/L	< 0.0033 mg/L	0.0078 mg/L (J)
		Mercury	< 0.0017 mg/L	< 0.0017 mg/L	< 0.0017 mg/L	< 0.0017 mg/L	< 0.0017 mg/L	< 0.0017 mg/L	< 0.0017 mg/L	< 0.0017 mg/L	< 0.0017 mg/L	< 0.0017 mg/L	< 0.0017 mg/L	< 0.0017 mg/L
		Molybdenum	< 0.0048 mg/L	< 0.0048 mg/L	< 0.0048 mg/L	< 0.0048 mg/L	< 0.0048 mg/L	< 0.0048 mg/L	< 0.0048 mg/L	< 0.0048 mg/L	< 0.0048 mg/L	< 0.0048 mg/L	< 0.0048 mg/L	< 0.0048 mg/L
		Nickel	0.0042 mg/L (J)	0.013 mg/L (J)	0.015 mg/L (J)	< 0.0027 mg/L	0.012 mg/L (J)	0.025 mg/L (J)	0.024 mg/L (J)	0.016 mg/L (J)	0.035 mg/L (J)	0.0097 mg/L (J)	0.01 mg/L (J)	0.01 mg/L (J)
		Selenium	< 0.0057 mg/L	< 0.0057 mg/L	0.006 mg/L (J)	< 0.0057 mg/L	< 0.0057 mg/L	< 0.0057 mg/L	< 0.0057 mg/L	< 0.0057 mg/L	< 0.0057 mg/L	< 0.0057 mg/L	< 0.0057 mg/L	< 0.0057 mg/L
		Silver	0.0021 mg/L (J)	< 0.0016 mg/L	< 0.0016 mg/L	< 0.0016 mg/L	< 0.0016 mg/L	< 0.0016 mg/L	< 0.0016 mg/L	< 0.0016 mg/L	< 0.0016 mg/L	< 0.0016 mg/L	< 0.0016 mg/L	< 0.0016 mg/L
		Thallium	< 0.0033 mg/L	< 0.0033 mg/L	< 0.0033 mg/L	< 0.0033 mg/L	< 0.0033 mg/L	< 0.0033 mg/L	< 0.0033 mg/L	< 0.0033 mg/L	< 0.0033 mg/L	< 0.0033 mg/L	< 0.0033 mg/L	< 0.0033 mg/L
		Vanadium	0.011 mg/L (J)	0.034 mg/L	< 0.0031 mg/L	0.0083 mg/L (J)	0.021 mg/L	0.0057 mg/L (J)	< 0.0031 mg/L	0.013 mg/L (J)	0.0089 mg/L (J)	0.0039 mg/L (J)	0.0036 mg/L (J)	0.0035 mg/L (J)
		Zinc	0.01 mg/L (J)	0.07 mg/L	0.11 mg/L	0.033 mg/L (J)	0.06 mg/L (J)	0.076 mg/L	0.031 mg/L (J)	0.074 mg/L	0.23 mg/L	0.02 mg/L (J)	0.018 mg/L (J)	0.022 mg/L (J)
Physical Characteristic	Soil	Ignitability	< 0 mm/sec	< 0 mm/sec	< 0 mm/sec	< 0 mm/sec	< 0 mm/sec	< 0 mm/sec	< 0 mm/sec	< 0 mm/sec	< 0 mm/sec	< 0 mm/sec	< 0 mm/sec	< 0 mm/sec
Semivolatiles	Soil	1-Methylnaphthalene	< 0.087 mg/Kg	< 0.087 mg/Kg	< 0.086 mg/Kg	< 0.87 mg/Kg	< 0.087 mg/Kg	< 0.88 mg/Kg	< 0.087 mg/Kg	< 0.087 mg/Kg	< 0.087 mg/Kg	< 0.086 mg/Kg	< 0.086 mg/Kg	< 0.088 mg/Kg
		1,2-Dichlorobenzene	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 1.2 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.12 mg/Kg
		1,2-diphenylhydrazine (as azobenzene)	< 0.089 mg/Kg	< 0.089 mg/Kg	< 0.088 mg/Kg	< 0.89 mg/Kg	< 0.089 mg/Kg	< 0.89 mg/Kg	< 0.089 mg/Kg	< 0.089 mg/Kg	< 0.089 mg/Kg	< 0.088 mg/Kg	< 0.088 mg/Kg	< 0.089 mg/Kg
		1,2,4-Trichlorobenzene	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg
		1,3-Dichlorobenzene	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.11 mg/Kg	< 1.2 mg/Kg	< 0.12 mg/Kg	< 1.2 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.11 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg
		1,4-Dichlorobenzene	< 0.13 mg/Kg	< 0.13 mg/Kg	< 0.12 mg/Kg	1.5 mg/Kg (J)	< 0.12 mg/Kg	< 1.3 mg/Kg	< 0.13 mg/Kg	< 0.13 mg/Kg	< 0.13 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.13 mg/Kg
		2-Chloronaphthalene	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.098 mg/Kg	< 0.99 mg/Kg	< 0.099 mg/Kg	< 1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.098 mg/Kg	< 0.099 mg/Kg	< 0.1 mg/Kg
		2-Chlorophenol	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 1.2 mg/Kg	< 0.12 mg/Kg	< 1.2 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg
		2-Methylnaphthalene	< 0.093 mg/Kg	< 0.093 mg/Kg	< 0.092 mg/Kg	1.3 mg/Kg (J)	< 0.092 mg/Kg	< 0.93 mg/Kg	< 0.093 mg/Kg	< 0.093 mg/Kg	< 0.093 mg/Kg	< 0.092 mg/Kg	< 0.092 mg/Kg	< 0.093 mg/Kg
		2-Methylphenol	0.18 mg/Kg (J)	< 0.1 mg/Kg	0.49 mg/Kg	1.4 mg/Kg (J)	< 0.1 mg/Kg	< 1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	0.11 mg/Kg (J)	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg
		2-Nitroaniline	< 0.096 mg/Kg	< 0.096 mg/Kg	< 0.095 mg/Kg	< 0.96 mg/Kg	< 0.096 mg/Kg	< 0.97 mg/Kg	< 0.096 mg/Kg	< 0.096 mg/Kg	< 0.096 mg/Kg	< 0.095 mg/Kg	< 0.095 mg/Kg	< 0.097 mg/Kg

Laboratory non-detections are reported as less than ("<") the laboratory method detection limit.
Laboratory result qualifiers are reported to the right of corresponding detections (in parentheses). Definitions of reported qualifiers are below:
J: Result is estimated between the laboratory method detection limit and reporting limit.
E: Response Exceeds instrument's linear range

Detection
Detection
Non-Detection

West Scrim Surface Soil and TCLP Samples

Chiquita Canyon Landfill - July 26, 2024

Data Updated at 8/2/2024 13:40:58

Analysis	Matrix	Analyte	West scrim 0-100 ft CACA0726S001	Scrim 100-200 ft CACA0726S002	Scrim 200-300 ft CACA0726S003	Scrim 300-400 ft CACA0726S004	Scrim 400-500 ft CACA0726S005	Scrim 500-600 ft CACA0726S006	Scrim 600-700 ft CACA0726S007	Scrim 700-800 ft CACA0726S008	Scrim 800-900 ft CACA0726S009	Scrim 900-1000 ft CACA0726C010	Scrim 900-1000 ft CACA0726S010	Scrim 1000-1100 ft CACA0726S011
Semivolatiles	Soil	2-Nitrophenol	< 0.097 mg/Kg	< 0.097 mg/Kg	< 0.095 mg/Kg	< 0.96 mg/Kg	< 0.096 mg/Kg	< 0.97 mg/Kg	< 0.097 mg/Kg	< 0.097 mg/Kg	< 0.097 mg/Kg	< 0.095 mg/Kg	< 0.096 mg/Kg	< 0.097 mg/Kg
		2,4-Dichlorophenol	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg
		2,4-Dimethylphenol	< 0.08 mg/Kg	< 0.08 mg/Kg	0.21 mg/Kg (J)	2.2 mg/Kg (J)	< 0.08 mg/Kg	< 0.81 mg/Kg	< 0.08 mg/Kg	< 0.08 mg/Kg	0.14 mg/Kg (J)	< 0.079 mg/Kg	< 0.08 mg/Kg	< 0.081 mg/Kg
		2,4-Dinitrophenol	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 1.2 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.12 mg/Kg
		2,4-Dinitrotoluene	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.1 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.1 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg
		2,4,5-Trichlorophenol	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.089 mg/Kg	< 0.9 mg/Kg	< 0.09 mg/Kg	< 0.91 mg/Kg	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.089 mg/Kg	< 0.09 mg/Kg	< 0.091 mg/Kg
		2,4,6-Trichlorophenol	< 0.099 mg/Kg	< 0.099 mg/Kg	< 0.098 mg/Kg	< 0.99 mg/Kg	< 0.099 mg/Kg	< 1 mg/Kg	< 0.099 mg/Kg	< 0.099 mg/Kg	< 0.099 mg/Kg	< 0.098 mg/Kg	< 0.099 mg/Kg	< 0.1 mg/Kg
		2,6-Dinitrotoluene	< 0.094 mg/Kg	< 0.094 mg/Kg	< 0.093 mg/Kg	< 0.93 mg/Kg	< 0.093 mg/Kg	< 0.94 mg/Kg	< 0.094 mg/Kg	< 0.094 mg/Kg	< 0.094 mg/Kg	< 0.093 mg/Kg	< 0.093 mg/Kg	< 0.094 mg/Kg
		3-,4-Methylphenol	1.6 mg/Kg	13 mg/Kg (E)	12 mg/Kg (E)	50 mg/Kg	8.4 mg/Kg (E)	3.2 mg/Kg (J)	0.29 mg/Kg (J)	< 0.11 mg/Kg	0.35 mg/Kg (J)	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg
		3-Nitroaniline	< 0.089 mg/Kg	< 0.089 mg/Kg	< 0.088 mg/Kg	< 0.89 mg/Kg	< 0.089 mg/Kg	< 0.9 mg/Kg	< 0.089 mg/Kg	< 0.089 mg/Kg	< 0.089 mg/Kg	< 0.088 mg/Kg	< 0.088 mg/Kg	< 0.09 mg/Kg
		3,3′-Dichlorobenzidine	< 0.14 mg/Kg	< 0.14 mg/Kg	< 0.14 mg/Kg	< 1.4 mg/Kg	< 0.14 mg/Kg	< 1.4 mg/Kg	< 0.14 mg/Kg	< 0.14 mg/Kg	< 0.14 mg/Kg	< 0.14 mg/Kg	< 0.14 mg/Kg	< 0.14 mg/Kg
		4-Bromophenyl-phenylether	< 0.084 mg/Kg	< 0.084 mg/Kg	< 0.082 mg/Kg	< 0.83 mg/Kg	< 0.083 mg/Kg	< 0.84 mg/Kg	< 0.084 mg/Kg	< 0.084 mg/Kg	< 0.084 mg/Kg	< 0.082 mg/Kg	< 0.083 mg/Kg	< 0.084 mg/Kg
		4-Chloro-3-methylphenol	< 0.093 mg/Kg	< 0.093 mg/Kg	< 0.091 mg/Kg	< 0.92 mg/Kg	< 0.092 mg/Kg	< 0.93 mg/Kg	< 0.093 mg/Kg	< 0.093 mg/Kg	< 0.093 mg/Kg	< 0.091 mg/Kg	< 0.092 mg/Kg	< 0.093 mg/Kg
		4-Chloroaniline	< 0.068 mg/Kg	< 0.068 mg/Kg	< 0.067 mg/Kg	< 0.67 mg/Kg	< 0.067 mg/Kg	< 0.68 mg/Kg	< 0.068 mg/Kg	< 0.068 mg/Kg	< 0.068 mg/Kg	< 0.067 mg/Kg	< 0.067 mg/Kg	< 0.068 mg/Kg
		4-Chlorophenyl-phenylether	< 0.098 mg/Kg	< 0.098 mg/Kg	< 0.097 mg/Kg	< 0.98 mg/Kg	< 0.098 mg/Kg	< 0.99 mg/Kg	< 0.098 mg/Kg	< 0.098 mg/Kg	< 0.098 mg/Kg	< 0.097 mg/Kg	< 0.097 mg/Kg	< 0.099 mg/Kg
		4-Nitroaniline	< 0.067 mg/Kg	< 0.067 mg/Kg	< 0.066 mg/Kg	< 0.67 mg/Kg	< 0.067 mg/Kg	< 0.68 mg/Kg	< 0.067 mg/Kg	< 0.067 mg/Kg	< 0.067 mg/Kg	< 0.066 mg/Kg	< 0.067 mg/Kg	< 0.068 mg/Kg
		4-Nitrophenol	< 0.058 mg/Kg	< 0.058 mg/Kg	< 0.058 mg/Kg	< 0.58 mg/Kg	< 0.058 mg/Kg	< 0.59 mg/Kg	< 0.058 mg/Kg	< 0.058 mg/Kg	< 0.058 mg/Kg	< 0.058 mg/Kg	< 0.058 mg/Kg	< 0.059 mg/Kg
		4,6-Dinitro-2-methylphenol	< 0.051 mg/Kg	< 0.051 mg/Kg	< 0.051 mg/Kg	< 0.51 mg/Kg	< 0.051 mg/Kg	< 0.52 mg/Kg	< 0.051 mg/Kg	< 0.051 mg/Kg	< 0.051 mg/Kg	< 0.051 mg/Kg	< 0.051 mg/Kg	< 0.052 mg/Kg
		Acenaphthene	< 0.096 mg/Kg	< 0.096 mg/Kg	< 0.095 mg/Kg	< 0.96 mg/Kg	< 0.096 mg/Kg	< 0.97 mg/Kg	< 0.096 mg/Kg	< 0.096 mg/Kg	< 0.096 mg/Kg	< 0.095 mg/Kg	< 0.095 mg/Kg	< 0.097 mg/Kg
		Acenaphthylene	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.099 mg/Kg	< 1 mg/Kg	< 0.1 mg/Kg	< 1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.099 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg
		Aniline	< 0.072 mg/Kg	0.078 mg/Kg (J)	< 0.071 mg/Kg	< 0.71 mg/Kg	< 0.071 mg/Kg	< 0.72 mg/Kg	0.094 mg/Kg (J)	0.22 mg/Kg (J)	0.14 mg/Kg (J)	< 0.071 mg/Kg	< 0.071 mg/Kg	< 0.072 mg/Kg
		Anthracene	< 0.097 mg/Kg	< 0.097 mg/Kg	< 0.096 mg/Kg	< 0.97 mg/Kg	< 0.097 mg/Kg	< 0.98 mg/Kg	< 0.097 mg/Kg	< 0.097 mg/Kg	< 0.097 mg/Kg	< 0.096 mg/Kg	< 0.096 mg/Kg	< 0.098 mg/Kg
		Benzidine	< 0.16 mg/Kg	< 0.16 mg/Kg	< 0.15 mg/Kg	< 1.5 mg/Kg	< 0.15 mg/Kg	< 1.6 mg/Kg	< 0.16 mg/Kg	< 0.16 mg/Kg	< 0.16 mg/Kg	< 0.15 mg/Kg	< 0.15 mg/Kg	< 0.16 mg/Kg
		Benzo(a)anthracene	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.09 mg/Kg	< 0.91 mg/Kg	< 0.091 mg/Kg	< 0.92 mg/Kg	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.09 mg/Kg	< 0.091 mg/Kg	< 0.092 mg/Kg
		Benzo(a)pyrene	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.09 mg/Kg	< 0.91 mg/Kg	< 0.091 mg/Kg	< 0.92 mg/Kg	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.09 mg/Kg	< 0.091 mg/Kg	< 0.092 mg/Kg
		Benzo(b)fluoranthene	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 1 mg/Kg	< 0.1 mg/Kg	< 1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg
		Benzo(g,h,i)perylene	< 0.094 mg/Kg	< 0.094 mg/Kg	< 0.093 mg/Kg	< 0.93 mg/Kg	< 0.093 mg/Kg	< 0.94 mg/Kg	< 0.094 mg/Kg	< 0.094 mg/Kg	< 0.094 mg/Kg	< 0.093 mg/Kg	< 0.093 mg/Kg	< 0.094 mg/Kg
		Benzo(k)fluoranthene	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.09 mg/Kg	< 0.91 mg/Kg	< 0.091 mg/Kg	< 0.92 mg/Kg	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.09 mg/Kg	< 0.09 mg/Kg	< 0.092 mg/Kg
		Benzoic acid	< 0.25 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg	< 2.5 mg/Kg	< 0.25 mg/Kg	< 2.5 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg
		Benzyl alcohol	0.66 mg/Kg	< 0.1 mg/Kg	1.3 mg/Kg	4.4 mg/Kg	< 0.1 mg/Kg	< 1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.099 mg/Kg	< 0.099 mg/Kg	< 0.1 mg/Kg
		bis(2-Chloroethoxy)methane	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.098 mg/Kg	< 0.99 mg/Kg	< 0.099 mg/Kg	< 1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.098 mg/Kg	< 0.099 mg/Kg	< 0.1 mg/Kg
		bis(2-Chloroethyl)ether	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg
		bis(2-Chloroisopropyl) ether	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.11 mg/Kg	< 1.2 mg/Kg	< 0.12 mg/Kg	< 1.2 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.12 mg/Kg
		bis(2-Ethylhexyl)phthalate	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 1.2 mg/Kg	< 0.12 mg/Kg	7.8 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	1.5 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg
		Butylbenzylphthalate	< 0.088 mg/Kg	< 0.088 mg/Kg	0.19 mg/Kg (J)	3 mg/Kg	< 0.087 mg/Kg	< 0.88 mg/Kg	< 0.088 mg/Kg	< 0.088 mg/Kg	0.2 mg/Kg (J)	< 0.086 mg/Kg	< 0.087 mg/Kg	< 0.088 mg/Kg
		Carbazole	< 0.094 mg/Kg	< 0.094 mg/Kg	< 0.093 mg/Kg	< 0.94 mg/Kg	< 0.094 mg/Kg	< 0.95 mg/Kg	< 0.094 mg/Kg	< 0.094 mg/Kg	< 0.094 mg/Kg	< 0.093 mg/Kg	< 0.094 mg/Kg	< 0.095 mg/Kg
		Chrysene	< 0.092 mg/Kg	< 0.092 mg/Kg	< 0.091 mg/Kg	< 0.92 mg/Kg	< 0.092 mg/Kg	< 0.93 mg/Kg	< 0.092 mg/Kg	< 0.092 mg/Kg	< 0.092 mg/Kg	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.093 mg/Kg
		Di-n-butylphthalate	< 0.088 mg/Kg	< 0.088 mg/Kg	< 0.086 mg/Kg	< 0.87 mg/Kg	< 0.087 mg/Kg	< 0.88 mg/Kg	< 0.088 mg/Kg	< 0.088 mg/Kg	< 0.088 mg/Kg	< 0.086 mg/Kg	< 0.087 mg/Kg	< 0.088 mg/Kg
		Di-n-octylphthalate	< 0.06 mg/Kg	< 0.06 mg/Kg	< 0.059 mg/Kg	< 0.59 mg/Kg	< 0.059 mg/Kg	< 0.6 mg/Kg	< 0.06 mg/Kg	< 0.06 mg/Kg	0.52 mg/Kg	< 0.059 mg/Kg	< 0.059 mg/Kg	< 0.06 mg/Kg
		Dibenz(a,h)anthracene	< 0.094 mg/Kg	< 0.094 mg/Kg	< 0.093 mg/Kg	< 0.93 mg/Kg	< 0.093 mg/Kg	< 0.94 mg/Kg	< 0.094 mg/Kg	< 0.094 mg/Kg	< 0.094 mg/Kg	< 0.093 mg/Kg	< 0.093 mg/Kg	< 0.094 mg/Kg
		Dibenzofuran	< 0.093 mg/Kg	< 0.093 mg/Kg	< 0.092 mg/Kg	< 0.93 mg/Kg	< 0.093 mg/Kg	< 0.93 mg/Kg	< 0.093 mg/Kg	< 0.093 mg/Kg	< 0.093 mg/Kg	< 0.092 mg/Kg	< 0.092 mg/Kg	< 0.093 mg/Kg
		Diethylphthalate	< 0.076 mg/Kg	< 0.076 mg/Kg	< 0.075 mg/Kg	< 0.75 mg/Kg	< 0.075 mg/Kg	< 0.76 mg/Kg	< 0.076 mg/Kg	< 0.076 mg/Kg	< 0.076 mg/Kg	< 0.075 mg/Kg	< 0.075 mg/Kg	< 0.076 mg/Kg
		Dimethylphthalate	< 0.09 mg/Kg	< 0.09 mg/Kg	< 0.089 mg/Kg	< 0.9 mg/Kg	< 0.09 mg/Kg	< 0.9 mg/Kg	< 0.09 mg/Kg	< 0.09 mg/Kg	< 0.09 mg/Kg	< 0.089 mg/Kg	< 0.089 mg/Kg	< 0.09 mg/Kg
		Fluoranthene	< 0.098 mg/Kg	< 0.098 mg/Kg	< 0.096 mg/Kg	< 0.97 mg/Kg	< 0.097 mg/Kg	< 0.98 mg/Kg	< 0.098 mg/Kg	< 0.098 mg/Kg	< 0.098 mg/Kg	< 0.096 mg/Kg	< 0.097 mg/Kg	< 0.098 mg/Kg
		Fluorene	< 0.095 mg/Kg	< 0.095 mg/Kg	< 0.094 mg/Kg	< 0.95 mg/Kg	< 0.095 mg/Kg	< 0.96 mg/Kg	< 0.095 mg/Kg	< 0.095 mg/Kg	< 0.095 mg/Kg	< 0.094 mg/Kg	< 0.094 mg/Kg	< 0.096 mg/Kg
		Hexachlorobenzene	< 0.079 mg/Kg	< 0.079 mg/Kg	< 0.078 mg/Kg	< 0.78 mg/Kg	< 0.078 mg/Kg	< 0.79 mg/Kg	< 0.079 mg/Kg	< 0.079 mg/Kg	< 0.079 mg/Kg	< 0.078 mg/Kg	< 0.078 mg/Kg	< 0.079 mg/Kg

Laboratory non-detections are reported as less than ("<") the laboratory method detection limit.
Laboratory result qualifiers are reported to the right of corresponding detections (in parentheses). Definitions of reported qualifiers are below:
J: Result is estimated between the laboratory method detection limit and reporting limit.
E: Response Exceeds instrument's linear range

Detection

Detection

Non-Detection

West Scrim Surface Soil and TCLP Samples

Chiquita Canyon Landfill - July 26, 2024

Data Updated at 8/2/2024 13:40:58

Analysis	Matrix	Analyte	West scrim 0-100 ft CACA0726S001	Scrim 100-200 ft CACA0726S002	Scrim 200-300 ft CACA0726S003	Scrim 300-400 ft CACA0726S004	Scrim 400-500 ft CACA0726S005	Scrim 500-600 ft CACA0726S006	Scrim 600-700 ft CACA0726S007	Scrim 700-800 ft CACA0726S008	Scrim 800-900 ft CACA0726S009	Scrim 900-1000 ft CACA0726C010	Scrim 900-1000 ft CACA0726S010	Scrim 1000-1100 ft CACA0726S011
Semivolatiles	Soil	Hexachlorobutadiene	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.099 mg/Kg	< 1 mg/Kg	< 0.1 mg/Kg	< 1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.099 mg/Kg	< 0.099 mg/Kg	< 0.1 mg/Kg
		Hexachlorocyclopentadiene	< 0.23 mg/Kg	< 0.23 mg/Kg	< 0.22 mg/Kg	< 2.3 mg/Kg	< 0.23 mg/Kg	< 2.3 mg/Kg	< 0.23 mg/Kg	< 0.23 mg/Kg	< 0.23 mg/Kg	< 0.22 mg/Kg	< 0.23 mg/Kg	< 0.23 mg/Kg
		Hexachloroethane	< 0.13 mg/Kg	< 0.13 mg/Kg	< 0.12 mg/Kg	< 1.3 mg/Kg	< 0.13 mg/Kg	< 1.3 mg/Kg	< 0.13 mg/Kg	< 0.13 mg/Kg	< 0.13 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.13 mg/Kg
		Indeno(1,2,3-cd)pyrene	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 1.2 mg/Kg	< 0.12 mg/Kg	< 1.2 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg	< 0.12 mg/Kg
		Isophorone	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg
		N-Nitroso-di-n-propylamine	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg
		N-Nitrosodimethylamine	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 1.1 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg	< 0.11 mg/Kg
		N-Nitrosodiphenylamine	< 0.076 mg/Kg	< 0.076 mg/Kg	< 0.075 mg/Kg	< 0.76 mg/Kg	< 0.076 mg/Kg	< 0.77 mg/Kg	< 0.076 mg/Kg	< 0.076 mg/Kg	< 0.076 mg/Kg	< 0.075 mg/Kg	< 0.075 mg/Kg	< 0.077 mg/Kg
		Naphthalene	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.09 mg/Kg	2.2 mg/Kg (J)	< 0.091 mg/Kg	< 0.91 mg/Kg	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.091 mg/Kg	< 0.09 mg/Kg	< 0.09 mg/Kg	< 0.091 mg/Kg
		Nitrobenzene	< 0.3 mg/Kg	< 0.3 mg/Kg	< 0.3 mg/Kg	< 3 mg/Kg	< 0.3 mg/Kg	< 3.1 mg/Kg	< 0.3 mg/Kg	< 0.3 mg/Kg	< 0.3 mg/Kg	< 0.3 mg/Kg	< 0.3 mg/Kg	< 0.31 mg/Kg
		Pentachlorophenol	< 0.14 mg/Kg	< 0.14 mg/Kg	< 0.14 mg/Kg	< 1.4 mg/Kg	< 0.14 mg/Kg	< 1.4 mg/Kg	< 0.14 mg/Kg	< 0.14 mg/Kg	< 0.14 mg/Kg	< 0.14 mg/Kg	< 0.14 mg/Kg	< 0.14 mg/Kg
		Phenanthrene	< 0.099 mg/Kg	< 0.099 mg/Kg	< 0.098 mg/Kg	< 0.99 mg/Kg	< 0.099 mg/Kg	< 1 mg/Kg	< 0.099 mg/Kg	< 0.099 mg/Kg	< 0.099 mg/Kg	< 0.098 mg/Kg	< 0.098 mg/Kg	< 0.1 mg/Kg
		Phenol	6 mg/Kg	15 mg/Kg (E)	21 mg/Kg (E)	59 mg/Kg	11 mg/Kg (E)	5 mg/Kg	0.25 mg/Kg (J)	0.18 mg/Kg (J)	0.11 mg/Kg (J)	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.11 mg/Kg
		Pyrene	< 0.099 mg/Kg	< 0.099 mg/Kg	< 0.098 mg/Kg	< 0.99 mg/Kg	< 0.099 mg/Kg	< 1 mg/Kg	< 0.099 mg/Kg	< 0.099 mg/Kg	< 0.099 mg/Kg	< 0.098 mg/Kg	< 0.098 mg/Kg	< 0.1 mg/Kg
		Pyridine	1.1 mg/Kg	0.13 mg/Kg (J)	0.45 mg/Kg	< 0.89 mg/Kg	0.12 mg/Kg (J)	0.93 mg/Kg (J)	< 0.09 mg/Kg	< 0.09 mg/Kg	< 0.09 mg/Kg	< 0.088 mg/Kg	< 0.089 mg/Kg	< 0.09 mg/Kg
	TCLP	2-Methylnaphthalene	< 0.024 mg/L	< 0.024 mg/L	< 0.024 mg/L	< 0.017 mg/L	< 0.017 mg/L	< 0.0049 mg/L	< 0.0049 mg/L	< 0.024 mg/L	< 0.024 mg/L	< 0.017 mg/L	< 0.017 mg/L	< 0.017 mg/L
		2-Methylphenol	< 0.032 mg/L	< 0.032 mg/L	0.088 mg/L (J)	0.059 mg/L (J)	< 0.026 mg/L	< 0.0064 mg/L	< 0.0064 mg/L	< 0.032 mg/L	< 0.032 mg/L	< 0.016 mg/L	< 0.016 mg/L	< 0.016 mg/L
		2,4-Dinitrotoluene	< 0.031 mg/L	< 0.031 mg/L	< 0.031 mg/L	< 0.031 mg/L	< 0.031 mg/L	< 0.0062 mg/L	< 0.0062 mg/L	< 0.031 mg/L	< 0.031 mg/L	< 0.025 mg/L	< 0.025 mg/L	< 0.025 mg/L
		2,4,5-Trichlorophenol	< 0.027 mg/L	< 0.027 mg/L	< 0.027 mg/L	< 0.053 mg/L	< 0.053 mg/L	< 0.0055 mg/L	< 0.0055 mg/L	< 0.027 mg/L	< 0.027 mg/L	< 0.034 mg/L	< 0.034 mg/L	< 0.034 mg/L
		2,4,6-Trichlorophenol	< 0.022 mg/L	< 0.022 mg/L	< 0.022 mg/L	< 0.048 mg/L	< 0.048 mg/L	< 0.0045 mg/L	< 0.0045 mg/L	< 0.022 mg/L	< 0.022 mg/L	< 0.033 mg/L	< 0.033 mg/L	< 0.033 mg/L
		3-,4-Methylphenol	0.07 mg/L (J)	1.6 mg/L (E)	0.74 mg/L	2.2 mg/L	0.97 mg/L	0.05 mg/L	< 0.0053 mg/L	< 0.026 mg/L	< 0.026 mg/L	< 0.018 mg/L	< 0.018 mg/L	< 0.018 mg/L
		Hexachlorobenzene	< 0.024 mg/L	< 0.024 mg/L	< 0.024 mg/L	< 0.025 mg/L	< 0.025 mg/L	< 0.0049 mg/L	< 0.0049 mg/L	< 0.024 mg/L	< 0.024 mg/L	< 0.026 mg/L	< 0.026 mg/L	< 0.026 mg/L
		Hexachlorobutadiene	< 0.04 mg/L	< 0.04 mg/L	< 0.04 mg/L	< 0.022 mg/L	< 0.022 mg/L	< 0.0079 mg/L	< 0.0079 mg/L	< 0.04 mg/L	< 0.04 mg/L	< 0.03 mg/L	< 0.03 mg/L	< 0.03 mg/L
		Hexachloroethane	< 0.038 mg/L	< 0.038 mg/L	< 0.038 mg/L	< 0.027 mg/L	< 0.027 mg/L	< 0.0077 mg/L	< 0.0077 mg/L	< 0.038 mg/L	< 0.038 mg/L	< 0.022 mg/L	< 0.022 mg/L	< 0.022 mg/L
		Nitrobenzene	< 0.064 mg/L	< 0.064 mg/L	< 0.064 mg/L	< 0.025 mg/L	< 0.025 mg/L	< 0.013 mg/L	< 0.013 mg/L	< 0.064 mg/L	< 0.064 mg/L	< 0.12 mg/L	< 0.12 mg/L	< 0.12 mg/L
		Pentachlorophenol	< 0.026 mg/L	< 0.026 mg/L	< 0.026 mg/L	< 0.2 mg/L	< 0.2 mg/L	< 0.0051 mg/L	< 0.0051 mg/L	< 0.026 mg/L	< 0.026 mg/L	< 0.049 mg/L	< 0.049 mg/L	< 0.049 mg/L
		Pyridine	0.049 mg/L (J)	< 0.039 mg/L	< 0.039 mg/L	< 0.035 mg/L	< 0.035 mg/L	0.011 mg/L (J)	< 0.0077 mg/L	< 0.039 mg/L	< 0.039 mg/L	< 0.036 mg/L	< 0.036 mg/L	< 0.036 mg/L
Total Organics	Soil	DRO C10-C28	66 mg/Kg	47 mg/Kg	270 mg/Kg	6,700 mg/Kg	54 mg/Kg	190 mg/Kg	7.8 mg/Kg (J)	14 mg/Kg	7.9 mg/Kg (J)	< 3.4 mg/Kg	< 3.5 mg/Kg	< 3.4 mg/Kg
		GRO C8-C10	73 mg/Kg	29 mg/Kg	170 mg/Kg	4,300 mg/Kg	36 mg/Kg	160 mg/Kg	6.6 mg/Kg (J)	6 mg/Kg (J)	< 3.5 mg/Kg	< 3.4 mg/Kg	< 3.5 mg/Kg	< 3.4 mg/Kg
		ORO C28-C44	< 3.4 mg/Kg	< 3.4 mg/Kg	10 mg/Kg (J)	< 69 mg/Kg	5.1 mg/Kg (J)	9 mg/Kg (J)	< 3.4 mg/Kg	6.7 mg/Kg (J)	3.8 mg/Kg (J)	< 3.4 mg/Kg	< 3.5 mg/Kg	< 3.4 mg/Kg
Volatiles	Soil	1,1-Dichloroethane	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.03 mg/Kg	< 0.0007 mg/Kg	< 0.0006 mg/Kg	< 0.0008 mg/Kg	< 0.0006 mg/Kg
		1,1-Dichloroethene	< 0.04 mg/Kg	< 0.06 mg/Kg	< 0.05 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.06 mg/Kg	< 0.04 mg/Kg	< 0.0008 mg/Kg	< 0.0007 mg/Kg	< 0.0009 mg/Kg	< 0.0007 mg/Kg
		1,1-Dichloropropene	< 0.04 mg/Kg	< 0.06 mg/Kg	< 0.05 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.06 mg/Kg	< 0.04 mg/Kg	< 0.0006 mg/Kg	< 0.0005 mg/Kg	< 0.0006 mg/Kg	< 0.0005 mg/Kg
		1,1,1-Trichloroethane	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.001 mg/Kg	< 0.0009 mg/Kg	< 0.001 mg/Kg	< 0.0008 mg/Kg
		1,1,1,2-Tetrachloroethane	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.0005 mg/Kg	< 0.0005 mg/Kg	< 0.0006 mg/Kg	< 0.0005 mg/Kg
		1,1,2-Trichloroethane	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.02 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0004 mg/Kg	< 0.0003 mg/Kg
		1,1,2,2-Tetrachloroethane	< 0.03 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.03 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0004 mg/Kg	< 0.0003 mg/Kg
		1,2-Dibromo-3-Chloropropane	< 0.05 mg/Kg	< 0.07 mg/Kg	< 0.06 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.07 mg/Kg	< 0.05 mg/Kg	< 0.0009 mg/Kg	< 0.0008 mg/Kg	< 0.001 mg/Kg	< 0.0008 mg/Kg
		1,2-Dibromoethane	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.02 mg/Kg	< 0.02 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.0005 mg/Kg	< 0.0004 mg/Kg	< 0.0005 mg/Kg	< 0.0004 mg/Kg
		1,2-Dichlorobenzene	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0004 mg/Kg	< 0.0003 mg/Kg
		1,2-Dichloroethane	< 0.06 mg/Kg	< 0.09 mg/Kg	< 0.07 mg/Kg	< 0.07 mg/Kg	< 0.05 mg/Kg	< 0.07 mg/Kg	< 0.09 mg/Kg	< 0.06 mg/Kg	< 0.0008 mg/Kg	< 0.0007 mg/Kg	< 0.0009 mg/Kg	< 0.0007 mg/Kg
		1,2-Dichloropropane	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.02 mg/Kg	< 0.02 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.0006 mg/Kg	< 0.0005 mg/Kg	< 0.0007 mg/Kg	< 0.0005 mg/Kg
		1,2,3-Trichlorobenzene	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.0006 mg/Kg	< 0.0005 mg/Kg	< 0.0006 mg/Kg	< 0.0005 mg/Kg
		1,2,3-Trichloropropane	< 0.05 mg/Kg	< 0.06 mg/Kg	< 0.05 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.06 mg/Kg	< 0.05 mg/Kg	< 0.0009 mg/Kg	< 0.0009 mg/Kg	< 0.001 mg/Kg	< 0.0008 mg/Kg
		1,2,4-Trichlorobenzene	< 0.04 mg/Kg	< 0.06 mg/Kg	< 0.05 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.06 mg/Kg	< 0.04 mg/Kg	< 0.0004 mg/Kg	< 0.0004 mg/Kg	< 0.0005 mg/Kg	< 0.0004 mg/Kg
		1,2,4-Trimethylbenzene	< 0.03 mg/Kg	0.2 mg/Kg (J)	0.4 mg/Kg	3.4 mg/Kg	0.4 mg/Kg	1.1 mg/Kg	0.06 mg/Kg (J)	0.3 mg/Kg	0.003 mg/Kg (J)	0.0009 mg/Kg (J)	0.005 mg/Kg	0.001 mg/Kg (J)

Laboratory non-detections are reported as less than ("<") the laboratory method detection limit.
Laboratory result qualifiers are reported to the right of corresponding detections (in parentheses). Definitions of reported qualifiers are below:
J: Result is estimated between the laboratory method detection limit and reporting limit.
E: Response Exceeds instrument's linear range

Detection
Detection
Non-Detection

West Scrim Surface Soil and TCLP Samples

Chiquita Canyon Landfill - July 26, 2024

Data Updated at 8/2/2024 13:40:58

Analysis	Matrix	Analyte	West scrim 0-100 ft CACA0726S001	Scrim 100-200 ft CACA0726S002	Scrim 200-300 ft CACA0726S003	Scrim 300-400 ft CACA0726S004	Scrim 400-500 ft CACA0726S005	Scrim 500-600 ft CACA0726S006	Scrim 600-700 ft CACA0726S007	Scrim 700-800 ft CACA0726S008	Scrim 800-900 ft CACA0726S009	Scrim 900-1000 ft CACA0726C010	Scrim 900-1000 ft CACA0726S010	Scrim 1000-1100 ft CACA0726S011
Volatiles	Soil	1,3-Dichlorobenzene	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	0.03 mg/Kg (J)	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0002 mg/Kg
		1,3-Dichloropropane	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.0005 mg/Kg	< 0.0004 mg/Kg	< 0.0005 mg/Kg	< 0.0004 mg/Kg
		1,3,5-Trimethylbenzene	< 0.02 mg/Kg	0.04 mg/Kg (J)	0.1 mg/Kg (J)	0.8 mg/Kg	0.09 mg/Kg (J)	0.3 mg/Kg	< 0.03 mg/Kg	0.09 mg/Kg (J)	0.001 mg/Kg (J)	0.0003 mg/Kg (J)	0.002 mg/Kg (J)	0.0006 mg/Kg (J)
		1,4-Dichlorobenzene	< 0.03 mg/Kg	0.1 mg/Kg (J)	0.2 mg/Kg (J)	1 mg/Kg	0.1 mg/Kg (J)	0.3 mg/Kg	< 0.04 mg/Kg	0.1 mg/Kg (J)	0.001 mg/Kg (J)	0.0006 mg/Kg (J)	0.002 mg/Kg (J)	0.0008 mg/Kg (J)
		2-Butanone	18 mg/Kg	19 mg/Kg	10 mg/Kg	13 mg/Kg	11 mg/Kg (J)	9.1 mg/Kg	6.9 mg/Kg	15 mg/Kg	0.1 mg/Kg	0.02 mg/Kg (J)	0.06 mg/Kg (J)	0.008 mg/Kg (J)
		2-Chlorotoluene	< 0.03 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.03 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg
		2,2-Dichloropropane	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.002 mg/Kg	< 0.002 mg/Kg	< 0.002 mg/Kg	< 0.002 mg/Kg
		3-Chloropropene	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.03 mg/Kg	< 0.0009 mg/Kg	< 0.0008 mg/Kg	< 0.001 mg/Kg	< 0.0008 mg/Kg
		4-Chlorotoluene	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0002 mg/Kg
		4-Methyl-2-Pentanone	0.5 mg/Kg	0.6 mg/Kg	0.5 mg/Kg	0.9 mg/Kg	0.6 mg/Kg	0.4 mg/Kg	0.2 mg/Kg	0.5 mg/Kg	0.004 mg/Kg	0.004 mg/Kg	0.01 mg/Kg	< 0.001 mg/Kg
		Acetone	25 mg/Kg	23 mg/Kg	12 mg/Kg	11 mg/Kg	13 mg/Kg	7.9 mg/Kg	6.1 mg/Kg	13 mg/Kg	0.2 mg/Kg	0.03 mg/Kg (J)	0.06 mg/Kg (J)	0.2 mg/Kg
		Benzene	0.3 mg/Kg	0.2 mg/Kg (J)	0.7 mg/Kg	1.9 mg/Kg	0.7 mg/Kg	0.9 mg/Kg	0.2 mg/Kg (J)	0.6 mg/Kg	0.008 mg/Kg	0.004 mg/Kg	0.01 mg/Kg	0.001 mg/Kg (J)
		Bromobenzene	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0004 mg/Kg	< 0.0003 mg/Kg
		Bromochloromethane	< 0.04 mg/Kg	< 0.06 mg/Kg	< 0.05 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.06 mg/Kg	< 0.04 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0004 mg/Kg	< 0.0003 mg/Kg
		Bromodichloromethane	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.0008 mg/Kg	< 0.0008 mg/Kg	< 0.0009 mg/Kg	< 0.0007 mg/Kg
		Bromoform	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.0008 mg/Kg	< 0.0007 mg/Kg	< 0.0009 mg/Kg	< 0.0007 mg/Kg
		Bromomethane	< 0.1 mg/Kg	< 0.2 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.2 mg/Kg	< 0.1 mg/Kg	< 0.0008 mg/Kg	< 0.0008 mg/Kg	< 0.0009 mg/Kg	< 0.0007 mg/Kg
		Carbon Tetrachloride	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.0009 mg/Kg	< 0.0009 mg/Kg	< 0.001 mg/Kg	< 0.0008 mg/Kg
		Chlorobenzene	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	0.06 mg/Kg (J)	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg
		Chloroethane	< 0.08 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.09 mg/Kg	< 0.07 mg/Kg	< 0.09 mg/Kg	< 0.1 mg/Kg	< 0.08 mg/Kg	< 0.002 mg/Kg	< 0.002 mg/Kg	< 0.002 mg/Kg	< 0.002 mg/Kg
		Chloroform	< 0.05 mg/Kg	< 0.07 mg/Kg	< 0.06 mg/Kg	< 0.06 mg/Kg	< 0.04 mg/Kg	< 0.06 mg/Kg	< 0.07 mg/Kg	< 0.05 mg/Kg	< 0.0007 mg/Kg	< 0.0007 mg/Kg	< 0.0008 mg/Kg	< 0.0006 mg/Kg
		Chloromethane	< 0.1 mg/Kg	< 0.2 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.2 mg/Kg	< 0.1 mg/Kg	< 0.0006 mg/Kg	< 0.0006 mg/Kg	< 0.0007 mg/Kg	< 0.0005 mg/Kg
		cis-1,2-Dichloroethene	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.0006 mg/Kg	< 0.0005 mg/Kg	< 0.0007 mg/Kg	< 0.0005 mg/Kg
		cis-1,3-Dichloropropene	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.0008 mg/Kg	< 0.0007 mg/Kg	< 0.0009 mg/Kg	< 0.0007 mg/Kg
		cis-1,4-Dichloro-2-butene	< 0.03 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.001 mg/Kg	< 0.001 mg/Kg	< 0.002 mg/Kg	< 0.001 mg/Kg
		Dibromochloromethane	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.0004 mg/Kg	< 0.0004 mg/Kg	< 0.0005 mg/Kg	< 0.0004 mg/Kg
		Dibromomethane	< 0.03 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.0004 mg/Kg	< 0.0003 mg/Kg	< 0.0004 mg/Kg	< 0.0003 mg/Kg
		Ethylbenzene	< 0.03 mg/Kg	0.09 mg/Kg (J)	0.3 mg/Kg	1.6 mg/Kg	0.2 mg/Kg	0.5 mg/Kg	< 0.05 mg/Kg	0.3 mg/Kg	0.005 mg/Kg	0.001 mg/Kg (J)	0.007 mg/Kg	0.001 mg/Kg (J)
		Freon 12	< 0.08 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.09 mg/Kg	< 0.07 mg/Kg	< 0.09 mg/Kg	< 0.1 mg/Kg	< 0.09 mg/Kg	< 0.0007 mg/Kg	< 0.0007 mg/Kg	< 0.0008 mg/Kg	< 0.0006 mg/Kg
		Freon 113	< 0.04 mg/Kg	< 0.06 mg/Kg	< 0.05 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.06 mg/Kg	< 0.04 mg/Kg	< 0.0005 mg/Kg	< 0.0005 mg/Kg	< 0.0006 mg/Kg	< 0.0005 mg/Kg
		Hexachlorobutadiene	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.0005 mg/Kg	< 0.0004 mg/Kg	< 0.0005 mg/Kg	< 0.0004 mg/Kg
		Isopropylbenzene	< 0.03 mg/Kg	0.05 mg/Kg (J)	0.2 mg/Kg	1.4 mg/Kg	0.2 mg/Kg	0.4 mg/Kg	< 0.04 mg/Kg	0.2 mg/Kg	0.001 mg/Kg (J)	0.0005 mg/Kg (J)	0.003 mg/Kg (J)	0.0005 mg/Kg (J)
		m,p-Xylenes	< 0.08 mg/Kg	0.1 mg/Kg (J)	0.3 mg/Kg	1.8 mg/Kg	0.3 mg/Kg	0.6 mg/Kg	< 0.1 mg/Kg	0.3 mg/Kg	0.004 mg/Kg	0.001 mg/Kg (J)	0.007 mg/Kg	< 0.0005 mg/Kg
		Methylene Chloride	< 0.3 mg/Kg	< 0.3 mg/Kg	< 0.3 mg/Kg	< 0.3 mg/Kg	< 0.2 mg/Kg	< 0.3 mg/Kg	< 0.4 mg/Kg	< 0.3 mg/Kg	< 0.002 mg/Kg	< 0.002 mg/Kg	< 0.003 mg/Kg	< 0.002 mg/Kg
		MTBE	< 0.04 mg/Kg	< 0.06 mg/Kg	< 0.05 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.06 mg/Kg	< 0.04 mg/Kg	< 0.0007 mg/Kg	< 0.0007 mg/Kg	< 0.0008 mg/Kg	< 0.0007 mg/Kg
		n-Butylbenzene	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	0.4 mg/Kg	< 0.03 mg/Kg	0.07 mg/Kg (J)	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg
		Naphthalene	< 0.05 mg/Kg	0.2 mg/Kg (J)	0.5 mg/Kg	2.3 mg/Kg	0.2 mg/Kg	1 mg/Kg	< 0.06 mg/Kg	0.06 mg/Kg (J)	0.003 mg/Kg (J)	< 0.0008 mg/Kg	< 0.001 mg/Kg	< 0.0008 mg/Kg
		o-Xylene	< 0.03 mg/Kg	0.06 mg/Kg (J)	0.2 mg/Kg (J)	1 mg/Kg	0.2 mg/Kg	0.3 mg/Kg	< 0.05 mg/Kg	0.2 mg/Kg (J)	0.002 mg/Kg (J)	0.0009 mg/Kg (J)	0.005 mg/Kg	0.0005 mg/Kg (J)
		para-Isopropyl Toluene	0.2 mg/Kg	1.4 mg/Kg	4.1 mg/Kg	45 mg/Kg	2.8 mg/Kg	12 mg/Kg	0.7 mg/Kg	3.2 mg/Kg	0.04 mg/Kg	0.006 mg/Kg	0.04 mg/Kg	0.001 mg/Kg (J)
		Propylbenzene	< 0.03 mg/Kg	< 0.04 mg/Kg	0.07 mg/Kg (J)	0.5 mg/Kg	0.05 mg/Kg (J)	0.2 mg/Kg (J)	< 0.04 mg/Kg	0.05 mg/Kg (J)	0.001 mg/Kg (J)	< 0.0002 mg/Kg	0.001 mg/Kg (J)	0.0004 mg/Kg (J)
		sec-Butylbenzene	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	0.3 mg/Kg	< 0.02 mg/Kg	0.07 mg/Kg (J)	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0004 mg/Kg	< 0.0003 mg/Kg
		Styrene	< 0.03 mg/Kg	< 0.04 mg/Kg	0.05 mg/Kg (J)	0.08 mg/Kg (J)	0.06 mg/Kg (J)	0.08 mg/Kg (J)	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.0002 mg/Kg	< 0.0002 mg/Kg	< 0.0003 mg/Kg	< 0.0002 mg/Kg
		tert-Butylbenzene	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	0.1 mg/Kg (J)	< 0.02 mg/Kg	0.04 mg/Kg (J)	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0003 mg/Kg	< 0.0002 mg/Kg
		Tetrachloroethene	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.0004 mg/Kg	< 0.0004 mg/Kg	< 0.0004 mg/Kg	< 0.0003 mg/Kg
		Toluene	0.04 mg/Kg (J)	0.1 mg/Kg (J)	0.2 mg/Kg	0.7 mg/Kg	0.2 mg/Kg	0.3 mg/Kg	0.05 mg/Kg (J)	0.2 mg/Kg	0.009 mg/Kg	0.001 mg/Kg (J)	0.005 mg/Kg	< 0.0006 mg/Kg
		trans-1,2-Dichloroethene	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.0008 mg/Kg	< 0.0008 mg/Kg	< 0.0009 mg/Kg	< 0.0007 mg/Kg

Laboratory non-detections are reported as less than ("<") the laboratory method detection limit.
Laboratory result qualifiers are reported to the right of corresponding detections (in parentheses). Definitions of reported qualifiers are below:
J: Result is estimated between the laboratory method detection limit and reporting limit.
E: Response Exceeds instrument's linear range

Detection
Detection
Non-Detection

West Scrim Surface Soil and TCLP Samples

Chiquita Canyon Landfill - July 26, 2024

Data Updated at 8/2/2024 13:40:58

Analysis	Matrix	Analyte	West scrim 0-100 ft CACA0726S001	Scrim 100-200 ft CACA0726S002	Scrim 200-300 ft CACA0726S003	Scrim 300-400 ft CACA0726S004	Scrim 400-500 ft CACA0726S005	Scrim 500-600 ft CACA0726S006	Scrim 600-700 ft CACA0726S007	Scrim 700-800 ft CACA0726S008	Scrim 800-900 ft CACA0726S009	Scrim 900-1000 ft CACA0726C010	Scrim 900-1000 ft CACA0726S010	Scrim 1000-1100 ft CACA0726S011
Volatiles	Soil	trans-1,3-Dichloropropene	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.04 mg/Kg	< 0.03 mg/Kg	< 0.04 mg/Kg	< 0.05 mg/Kg	< 0.04 mg/Kg	< 0.001 mg/Kg	< 0.001 mg/Kg	< 0.001 mg/Kg	< 0.0009 mg/Kg
		trans-1,4-Dichloro-2-butene	< 0.01 mg/Kg	< 0.02 mg/Kg	< 0.02 mg/Kg	< 0.02 mg/Kg	< 0.01 mg/Kg	< 0.02 mg/Kg	< 0.02 mg/Kg	< 0.01 mg/Kg	< 0.0008 mg/Kg	< 0.0007 mg/Kg	< 0.0009 mg/Kg	< 0.0007 mg/Kg
		Trichloroethene	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.03 mg/Kg	< 0.03 mg/Kg	< 0.02 mg/Kg	< 0.0005 mg/Kg	< 0.0005 mg/Kg	< 0.0005 mg/Kg	< 0.0004 mg/Kg
		Trichlorofluoromethane	< 0.06 mg/Kg	< 0.09 mg/Kg	< 0.07 mg/Kg	< 0.07 mg/Kg	< 0.05 mg/Kg	< 0.07 mg/Kg	< 0.09 mg/Kg	< 0.06 mg/Kg	< 0.0006 mg/Kg	< 0.0006 mg/Kg	< 0.0007 mg/Kg	< 0.0005 mg/Kg
		Vinyl Chloride	< 0.05 mg/Kg	< 0.07 mg/Kg	< 0.06 mg/Kg	< 0.06 mg/Kg	< 0.04 mg/Kg	< 0.06 mg/Kg	< 0.07 mg/Kg	< 0.05 mg/Kg	< 0.0007 mg/Kg	< 0.0007 mg/Kg	< 0.0008 mg/Kg	< 0.0006 mg/Kg
		Xylene (total)	< 0.2 mg/Kg	0.2 mg/Kg (J)	0.4 mg/Kg	2.8 mg/Kg	0.4 mg/Kg	0.9 mg/Kg	< 0.2 mg/Kg	0.4 mg/Kg	0.006 mg/Kg	0.002 mg/Kg (J)	0.01 mg/Kg	0.0005 mg/Kg (J)
	TCLP	1,1-Dichloroethene	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.004 mg/L	< 0.004 mg/L	< 0.004 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L
		1,2-Dichloroethane	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L
		1,4-Dichlorobenzene	< 0.003 mg/L	0.003 mg/L (J)	0.007 mg/L (J)	0.04 mg/L (J)	0.005 mg/L (J)	0.01 mg/L (J)	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.003 mg/L	< 0.003 mg/L	< 0.003 mg/L
		2-Butanone	1 mg/L (J)	1.1 mg/L (J)	0.5 mg/L (J)	1.2 mg/L (J)	3.2 mg/L (J)	1.1 mg/L (J)	0.1 mg/L (J)	0.8 mg/L (J)	< 0.09 mg/L	< 0.1 mg/L	< 0.1 mg/L	< 0.1 mg/L
		Benzene	< 0.005 mg/L	< 0.005 mg/L	0.02 mg/L (J)	0.06 mg/L	0.02 mg/L (J)	0.04 mg/L (J)	< 0.006 mg/L	0.006 mg/L (J)	< 0.006 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L
		Carbon Tetrachloride	< 0.006 mg/L	< 0.006 mg/L	< 0.006 mg/L	< 0.006 mg/L	< 0.006 mg/L	< 0.006 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.006 mg/L	< 0.006 mg/L	< 0.006 mg/L
		Chlorobenzene	< 0.003 mg/L	< 0.003 mg/L	< 0.003 mg/L	0.006 mg/L (J)	< 0.003 mg/L	< 0.003 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.003 mg/L	< 0.003 mg/L	< 0.003 mg/L
		Chloroform	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L
		Tetrachloroethene	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L	< 0.005 mg/L
		Trichloroethene	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.008 mg/L	< 0.008 mg/L	< 0.008 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L
		Vinyl Chloride	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.007 mg/L	< 0.007 mg/L	< 0.007 mg/L	< 0.009 mg/L	< 0.009 mg/L	< 0.009 mg/L

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Laboratory result qualifiers are reported to the right of corresponding detections (in parentheses). Definitions of reported qualifiers are below:
J: Result is estimated between the laboratory method detection limit and reporting limit.
E: Response Exceeds instrument's linear range

Detection

Detection

Non-Detection

Appendix C: Job Hazard Analysis

Task A	**Resource Mobilization & Set-Up**
This phase of the operation will include the following steps (LIST EACH STEP REQUIRED TO COMPLETE THE TASK).	
A	Load and transport equipment / materials and vacuum truck to site from Compton FS.
B	Complete FSWP / JHA prior to setting-up and staging equipment, tools and supplies.
C	Offload equipment / supplies, and position vacuum truck; establish control zones.
D	Inspect all equipment, vacuum truck (DVIR), and hoses.
E	Stage vacuum truck to pull leachate from Frac Tanks.
F	Complete required safety checklists, where applicable.
G	Review HASP with crew and affix signatures to plan.

Hazard Identification

CHEMICAL HAZARDS associated with this task are anticipated to include:

- *Varies - see SDS / chemical profile: landfill leachate with trace compounds, chemical additives. Anticipate skin and mucous membrane irritant.*

PHYSICAL HAZARDS associated with this task are anticipated to include:

- *Potential slips / trips / falls*
- *Hand – extremity exposures and pinch points*
- *Backing up / maneuvering in tight quarters*
- *Strains / sprains*

BIOLOGICAL HAZARDS associated with this task are anticipated to include:

- *Possible vectors and/or poisonous plants (wildland interface).*

Work Practices / Engineering Controls

To reduce anticipated hazards described above, staff shall follow site-specific safe work practices (including Physical Hazard Control Sheets) and use of engineering controls, where applicable:

List other:

- *Proper ergonomics when lifting and moving equipment*
- *Fall Protection required when working over 6 ft.*

PPE Requirements

Clean Harbors Level	**D**	Personnel Protection shall be utilized and include the following:	
☐	Respirator (type):	☐	Filter Element:
☒	Coverall material: Tyvek 400 – standard white (optional)		
☒	Outer glove material: CH approved gloves	☐	Inner glove material:
☒	Sturdy leather work boots	☒	Hard Hat
☒	Eye Protection: ☒ Glasses w/ side shields ☐ Face shield ☐ Chemical splash goggles ☐ "Spoggles" (dust)		
☐	Additional equipment: ☐ Hearing protection (min. NRR29) – where necessary ☐ Waders ☐ Overboots		
☐	Misc:		

Task B	**Lockout / Tagout (LOTO) Verification**
This phase of the operation will include the following steps (LIST EACH STEP REQUIRED TO COMPLETE THE TASK).	
A	Identify energy sources and shut-down power supply, where needed. **Coordinate with client!**
B	Inform all affected personnel on site: CH staff and Chiquita Canyon Landfill representatives.
C	Lockout / tagout the equipment by affixing locks and/or tags to each energy control source.
D	Release any stored energy, e.g. springs, compressed air, steam, hydraulics, etc.
E	Verify isolation of energy has occurred by trying / testing ALL equipment. **CRITICAL**
F	Review scope-of-work with all parties prior to commencing work.

Hazard Identification:

CHEMICAL HAZARDS associated with this task are anticipated to include:

- *Varies - see SDS / chemical profile: landfill leachate with trace compounds, chemical additives. Anticipate skin and mucous membrane irritant.*

PHYSICAL HAZARDS associated with this task are anticipated to include:

- *Pinch points from valves or other connections.*
- *Slips, trips and falls (strains and sprains); potential falls when working at height.*
- *Contact with stored / potential energy sources, e.g. electricity, fluids under pressure, etc.*
- *Noise*

BIOLOGICAL HAZARDS associated with this task are anticipated to include:

- *Possible vectors and/or poisonous plants (wildland interface).*

Work Practices/Engineering Controls

To reduce anticipated hazards described above, staff shall follow site-specific safe work practices (including Physical Hazard Control Sheets) and use of engineering controls, where applicable:

List other:

- *Verify all LOTO points of isolation and understand process.*
- *Recognize energy potential of various components, piping, etc. (Frac Tank)*
- *Only authorized and trained employees are permitted to conduct LOTO operations.*
- ***Chiquita Canyon Landfill representative is required for any LOTO operation.***

Personal Protective Equipment

Clean Harbors Level	**D**	Personnel Protection shall be utilized and include the following:	
☐	Respirator (type):	☐	Filter Element:
☒	Coverall material: Tyvek 400 - standard white (optional)		
☒	Outer glove material: CH approved gloves	☐	Inner glove material:
☒	Steel-toed work boots	☒	Hard Hat
☒	Eye Protection: ☒ Glasses w/ side shields ☐ Face shield ☐ Splash goggles ☐ Dust goggles		
☐	Additional equipment: ☐ Hearing protection (min. NRR29) ☐ Waders ☐ Overboots		
☐	Misc:		

Task E	**Vacuum Truck / Air-Mover and Dewatering Operations**
This phase of the operation will include the following steps (LIST EACH STEP REQUIRED TO COMPLETE THE TASK).	
A	Coordinate with third-party contractor for removal of leachate (vacuum truck operations).
B	Once leachate is removed, stage and ground air-mover; chock and set traffic cones.
C	Perform vehicle safety checks. Power-up unit and check for proper vacuum.
D	Place end of suction hose into tank (vacuum point) and begin solids removal.
E	When air-mover is full, perform shut-down procedure.
F	Offload material into dewatering bin (remaining leachate will settle out and be removed).
G	Prepare removed material for waste disposal (see Task D).
H	Repeat process.

Hazard Identification

CHEMICAL HAZARDS associated with this task are anticipated to include:

- *Varies - see SDS / chemical profile: landfill leachate with trace compounds, chemical additives. Anticipate skin and mucous membrane irritant.*

PHYSICAL HAZARDS associated with this task are anticipated to include:

- *Equipment: High vacuum levels (hands pulled into suction hose); electrostatic build-up; hazardous vapor emissions; loud noise; pinch points; machinery or hose / connection failure; failure to observe defective equipment or components; improper control of engine emissions; missing or improper PPE; etc.*
- *Environment: Falls when working at height; traffic; failure to characterize confined spaces; unauthorized persons (security); poor housekeeping; trip hazards during material removal; etc.*

BIOLOGICAL HAZARDS associated with this task are anticipated to include:

- *Possible vectors and/or poisonous plants (wildland interface).*

Work Practices / Engineering Controls

To reduce anticipated hazards described above, staff shall follow site-specific safe work practices (including Physical Hazard Control Sheets) and use of engineering controls, where applicable:

List other:

- *Proper ergonomics when lifting and moving equipment / hoses.*
- *Vacuum breaker set between end of hose and air-mover (within reach of technicians - maximum distance of 25 feet).*

Personal Protective Equipment

Clean Harbors Level	**D / C***	Personnel Protection shall be utilized and include the following:	
☒	Respirator (type): FF APR, as needed*	☒	Filter Element: MSA GME (multi-gas);P100
☒	Coverall material: Tyvek 400 or Tychem 2000 – based on conditions		
☒	Outer glove material: PVC or rubber	☒	Inner glove material: nitrile (optional)
☒	Steel-toed work boots / chemical boots	☒	Hard Hat
☒	Eye Protection: ☐ Glasses w/ side shields ☒ Face shield ☒ Chemical splash goggles ☐ "Spoggles" (dust)		
☒	Additional equipment: ☒ Hearing protection (min. NRR29) ☐ Waders ☐ Overboots		
☐	Misc:		

Task H	**West Scrim Operation**
This phase of the operation will include the following steps (LIST EACH STEP REQUIRED TO COMPLETE THE TASK).	
A	Establish designated work area and set-up / stage equipment (SAR, Maruka, trucks, etc.)
B	Conduct tailgate safety meeting with crew (may include WC and other contract workers).
C	Isolate / barricade area to prevent access of unauthorized personnel (perimeter control).
D	Perform appropriate safety equipment checks - Maruka machine, trucks, backhoe, etc.
E	Activate Orchard fans for area ventilation (reduce health exposure to landfill gas).
F	Activate trailer-mounted fan with odor neutralizer.
G	Deploy CH staff to liner removal and emergency response (standby) work areas.
H	Clean-off liner / prepare sections for removal (includes ladder placement for steep slopes).
I	Cut scrim (black) and underlying liner (white) with straight edged tool or cutting shear.
J	Assess air conditions and point source readings after penetrating the liner (CTEH).
K	From perimeter, apply vapor suppressant foam from Maruka to exposed soil ("oatmeal").
L	Remove / collect soil (coordinate with Sukut Construction) for placement into roll-off bins.
M	Move bins with roll-off truck to staging area and transport offsite (soil management).

Hazard Identification

CHEMICAL HAZARDS associated with this task are anticipated to include:

- *Acute exposure to landfill gas (methane, hydrogen sulfide, benzene, and misc. VOCs)*

PHYSICAL HAZARDS associated with this task are anticipated to include:

- *Equipment: pinch points; line-of-fire (cutting tools); Maruka (machinery) failure; defective equipment; etc.*
- *Environment: Steep slopes (fall hazard); hot weather (heat illness); etc.*

BIOLOGICAL HAZARDS associated with this task are anticipated to include:

- *Possible vectors and/or poisonous plants (wildland interface).*

Work Practices / Engineering Controls

To reduce anticipated hazards described above, staff shall follow site-specific safe work practices (including Physical Hazard Control Sheets) and use of engineering controls, where applicable:

List other:

- ***West Toe Drain Rescue Plan (Appendix D)***
- *5-gas meters with benzene PID required for all workers.*
- *Proper ergonomics when lifting / moving equipment, repositioning extension ladders, etc.*
- *Fall protection (harness with attached safety rope) when working on steep slopes.*
- *Heat illness prevention measures and other appropriate safe work practices.*
- *"All Stop" horn controlled via remote controls (observer, air monitoring, QB, etc.)*
- *EPA and LACoFD - HAZMAT will be stationed at the top of the ridge for oversight.*

Personal Protective Equipment

Clean Harbors Level	**B**	Personnel Protection shall be utilized and include the following:	
☒	Respirator (type): SAR (cascade system)	☐	Filter Element: N/A
☒	Coverall material: Fire-resistive clothing (FRC) / work uniform		
☒	Outer glove material: Leather	☒	Inner glove material: Nitrile (optional)
☒	Steel-toed work boots / chem boots	☒	Hard Hat
☒	Eye Protection: ☒ Glasses w/ side shields ☐ Face shield ☐ Splash goggles ☐ Dust goggles		

ACTIVITY HAZARDS ANALYSIS

Overall Risk Assessment Code (RAC)H(Use highest code): H

Date: 25 July 2024

Project: Chiquita Cap

Activity: Chiquita Cap and Liner Repair

Activity Location: Chiquita Canyon Landfill

Prepared By: Dennis Shamoon, D&E Construction Corporate Safety Officer

Risk Assessment Code Matrix

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

Severity	Probability				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Installation of Geosynthetic Material	Injury or accident due to not knowing hazards of the site	Hold Daily Tailgate meeting and review AHAs Ensure that the operator has current certifications to operate the equipment. Prepare and Review Site Layout Plan Level C PPE – and remove any loose clothing. No loose hair or jewelry should be worn near the equipment	L
X	Installation of Geosynthetic material	Slip, trip, fall	Watch for uneven surfaces. Work areas will be visually inspected and pre-existing slip, trip, and fall hazards will be marked, barricaded, or eliminated as feasible. Work areas will be kept neat and orderly Proper illumination is expected – no work after day light hours	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Perform inspection of equipment Ensure inspection checklist is completed Do spot check of fire extinguishers and emergency shutdown switches Ensure that drivers/passengers use appropriate hand holds while embarking/disembarking from equipment Ensure operation manual is on equipment	Equipment is not maintained or in good condition (example, emergency stop buttons aren't working)	Ensure that the equipment and all associated equipment are inspected by a competent person and that the equipment is in safe operating condition Fire extinguishers present and inspected once a month. Tag and remove from service faulty or unsafe equipment. Verify that shutdown systems work properly when trip wires are pulled or pushed	L
X	Installation of Geosynthetic material	Damage to utilities or site structures.	During startup of engine all personnel should stand clear of the equipment, and wear ANSI Class II high-visibility vests Do not move equipment into any work area until site layout plan has been completed and route of travel to any work site has been assessed for hazards (overhead lines and stability of roads and ground). Set brake when equipment is not moving.	
X	Repair of Geosynthetic material currently covered by scrim. Scrim to be removed to expose area to excavate and clean. Waste and soil removed others. If necessary, temporary/sacrificial HDPE sheeting will be used to isolate the repair area from the waste. Exposed geomembrane will be cleaned for repair. Geomembrane patches will be field fit, and fusion bonded over large breaches in the liner system. Extruded HDPE beads will be used to repair small breached in the liner.	Injury due to exposure: Landfill waste Landfill gases Landfill chemicals Landfill leachate Possible slope instability	Level C PPE and chemical protective clothing, CPC, ***IF*** site monitoring indicates conditions require Level C PPE/CPC. Level D PPE will be otherwise used. Level C PPE/CPC required to mitigate injury due to exposure: Respirators with multi gas filters will be issued to and worn by workers in the hazard area. Chemical resistant gloves and boots and Tyvek/TyChem suits will be issued to and worn by workers in the hazard area. Safety glasses, safety googles, and face shields will be issued to the workers. The appropriate PPE for the site condition will be worn by the workers. PPE will be visually inspected after every work segment and will be replaced as needed. PPE will be replaced during work activity if needed. Slope stability: Workers are to be aware of their surroundings, and heed warnings if given by slope monitors. Use the “buddy system” keep in contact with co-workers and alert each other to possible dangers or breaches of PPE Sacrificial sheets of HDPE will be utilized when possible, to isolate the repair area to provide a clean work surface.	

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X		Worker may become impinged between pinch points of moving parts of equipment and other components, or worker could be pinned under if equipment must be serviced from under the equipment	When any part of the equipment is in motion, worker will stand far enough away from the moving parts so that the worker is not pinned between the moving parts. Workers will not manually guide any moving part of the equipment. Workers will not work under the equipment If work must be done under the equipment, the field crew supervisor will contact the SSHO to ascertain a safe method for lock-out of the equipment.	M
X	Installation of Geosynthetic material	High winds could lift material and anything placed can be displaced	Check weather conditions and forecasts to determine if conditions are acceptable for installation. Verify this factor and notify all workers in the daily tailgate safety meeting.	M
X	Installation of Geosynthetic material	Noise	Implement hearing conservation program to comply with OSHA standards including exposure monitoring, employee training, engineering/administrative controls, personal hearing protection, and audiometric testing. In general use hearing protection devices whenever the noise levels are such that normal conversation is impaired from a distance of 3 feet without raising the voice level Wear ear plugs or ear muffs. This includes all personnel, subcontractors, and any visitors that are on site.	L
X	Installation of Geosynthetic material	Geosynthetic Installation could involve hand cuts/abrasions	Avoid placing hands close to moving machinery. Wear leather gloves when handling broken, sharp, or rough objects. Operators and helpers should also wear all required PPE. No loose clothing is allowed. No long hair untied, dangling jewelry or loose sleeves are allowed.	M

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Installation of Geosynthetic material	Back and muscle strain from using tools	Wear Level D PPE with heavy leather work gloves Pre-employment back evaluations are recommended for craft workers, who may be at greater risk of developing low back pain or low back injury. Hand tools shall be selected to minimize the following stressors: chronic muscle contraction or steady force, extreme or awkward finger/ hand/arm positions, repetitive forceful motions, excessive gripping, pinching, and/or pressing with hand and fingers.	M
X	Installation of Geosynthetic material	Heat Stress	Heat stress prevention and monitoring techniques should be in effect (during ambient temperatures exceeding 80°F) Acclimate the body to the working environment. Drink cool water to replace body fluids. Take rest breaks in shade or air conditioning as frequently as necessary to prevent personal distress and heat-stress symptoms. Count pulse rate during a 30-second period as early as possible in the rest break. If heart rate exceeds 110 beats per minute at the beginning of the rest break, shorten the next work cycle by one-third and keep the rest break the same. If the heart rate still exceeds 110 beats per minute at the next rest break, shorten the following work cycle by one-third.	L

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Installation of Geosynthetic material	Pressurized hydraulic lines could rupture, causing release of hot hydraulic fluid. Hot fluid could ignite if contact is made with an engine. Hot fluid could burn workers. Fluid could cause environmental contamination	Inspect all hydraulic lines before placing equipment in service. Any damaged hoses or connections must be replaced before unit is used. Immediately shut down equipment if lines rupture. Ensure that first aid kit is readily available to treat injured workers. Ensure that a 20-lb dry chemical ABC fire extinguisher is readily available. Ensure that a spill control kit is available at a central and accessible on-site location. If rupture occurs, as quickly as possible, berm the liquid to minimize the area over which the liquid spreads.	L
X	Installation of Geosynthetic material	Musculoskeletal strains could result from manually moving materials, equipment, and drums.	Personnel will be directed to use proper lifting techniques such as keeping the back straight, lifting with legs, limiting twisting, and getting help in moving bulky/heavy materials and equipment. Use care when handling awkward or unbalanced loads. Avoid standing under any load. Do not lift more than 50 pounds without assistance of a second person.	M

ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Installation of Geosynthetic material	Working around Heavy Equipment	High-visibility vests shall be worn by workers Listen for backup alarms, and be aware of heavy equipment backing up in the vicinity Ground crew should avoid blind spots of the equipment. Eye contact and hand signals should be made with the equipment operator when moving into and through the work area utilized by equipment.	M

Add Items

	EQUIPMENT	TRAINING	INSPECTION
X	Cat 460B Forklift, Cat 257B Forklift	Personnel trained for each piece of equipment	Daily inspection, documented Only trained equipment operators may operate heavy equipment; only DMV licensed personnel will operate trucks.
X	Support vehicles, pickup trucks	All personnel are required to have valid DOT drivers licenses	Inspect vehicles daily
X	Hand and power tools	Hand and power tool training for affected personnel	Check that all hand tools are in good condition. If not they are to be tagged and not used for this work
X	PPE - Modified Level C	PPE training per APP	Inspect PPE before each use

Involved Personnel:

Dennis Kennedy/Fausto Bello - Site Superintendent

D&E Construction Installation Personnel

Acceptance Authority (digital signature): _____

CTEH Job Hazard Assessment

Date:	Location:	Project Manager:
8/6/2024	Chiquita Canyon West Scrim	Jason Callahan
Description:		
CTEH employees conducting air sampling and monitoring on behalf of the client during west scrim operations.		
Job Step:	Hazard:	Controls:*
Calibrate equipment	Calibrate using gas bottles	Use in a well-ventilated area
Worker Exposure Monitoring in various areas of the west slope during operations	Heavy equipment	Watch traffic, reflective vest, buddy system
	Slips, trips, falls	3-points of contact, eyes on path
	Chemical Inhalation	Use 5-gas meter and chemical specific monitoring equipment to evalute hazard. If necessary wear APR, SAR, or SCBA depending on conditions.
	Dermal contact	Skin exposure is not anticipated during work activities. If skin contact occurs wash area with soap an water. Contact PM if additional dermal protection is needed for work task.
	Unstable slopes	Slope stability may change in certain sections of the west slope. Be aware of chaning conditions and do not attempt to climb non-engineered slopes. Slope stability will be monitored by GLA
	Excavations	Shallow excavation will be conducted. Do not enter excavateded areas until excavation is complete and conditions are stable.
* Standard PPE: Hardhat, safety glasses with sideshields, FRC, reflective vest, steel-toed shoes, gloves (leather/chemical as needed).		

CTEH PPE Hazard Assessment Form

Name of workplace: Chiquita Canyon Landfill
Building Number:
Work area(s): West Scrim Toe Drain Installation

Assessment conducted by: Jason Callahan
Date of assessment: July 24, 2024
Job/Task(s): Worker Exposure Assessment

EYES

Work activities, such as:	Work-related exposure to:	Can hazard be eliminated without the use of PPE?
☐ abrasive blasting ☐ chopping ☐ cutting ☐ drilling ☐ welding ☐ punch press operations ☒ other: Wind blown dust ☐ sanding ☐ sawing ☐ grinding ☐ hammering ☐ riveting	☒ airborne dust ☐ flying particles ☐ blood splashes ☐ hazardous liquid chemicals ☐ intense light ☐ other:	Yes ☐ No ☒ If no, use: ☒ Safety glasses ☐ Safety goggles ☐ Shading/Filter (#) ☐ Welding shield ☐ Other: ☒ Side shields ☐ Dust-tight goggles

FACE

Work activities, such as:	Work-related exposure to:	Can hazard be eliminated without the use of PPE?
☐ painting ☐ riveting ☐ dip tank operations ☐ mixing ☐ drilling ☐ welding ☐ grinding ☐ abrasive blasting	☐ hazardous liquid chemicals ☐ extreme heat/cold ☐ potential irritants: ☐ other:	Yes ☐ No ☐ If no, use: ☐ Face shield: ☐ Shading/Filter (#) ☐ Welding shield ☐ Other:

HEAD

Work activities, such as:	Work-related exposure to:	Can hazards be eliminated without the use of PPE?
☐ drilling ☐ confined space operations ☒ construction ☐ electrical wiring ☐ walking/working under catwalks ☐ low beams ☐ walking/working under crane loads ☐ utility work ☐ other:	☐ beams ☐ pipes ☐ exposed electrical wiring or components ☒ falling objects ☐ machine parts ☐ other:	Yes ☒ No ☐ If no, use: ☒ Protective Helmet ☐ Type A (low voltage) ☐ Type B (high voltage) ☒ Type C ☐ Bump cap (not ANSI-approved) ☐ Other:

HANDS/ARMS

Work activities, such as:
- ☐ dip tanks
- ☐ painting
- ☐ grinding
- ☐ welding
- ☒ working with glass
- ☐ using computers
- ☐ pinch points
- ☐ sharp edges
- ☐ material handling
- ☐ sanding
- ☐ sawing
- ☐ hammering
- ☐ abrasive blasting
- ☐ other: Cuts and burns (face blade and hot plate)

Work-related exposure to:
- ☐ blood
- ☐ irritating chemicals
- ☒ tools or materials that could scrape, bruise, or cut
- ☐ extreme heat/cold
- ☐ other:

Can hazard be eliminated without the use of PPE?
Yes ☒ No ☐

If no, use:
- ☒ Gloves
  - ☐ Chemical resistance
  - ☐ Temperature resistance
  - ☒ Abrasion/cut resistance
  - ☐ Slip resistance
- ☐ Protective sleeves
- ☐ Other:

FEET/LEGS

Work activities, such as:
- ☐ building maintenance
- ☐ dip tanks
- ☒ construction
- ☐ demolition
- ☐ abrasive blasting
- ☐ sharp corners
- ☐ electrical
- ☐ corners
- ☐ use of highly flammable materials
- ☐ welding
- ☒ other: Uneven working surfaces, climbing onto equipment

Work-related exposure to:
- ☐ explosive atmospheres
- ☐ hot/corrosive substances
- ☐ exposed electrical wiring or components
- ☒ heavy equipment
- ☒ slippery surfaces
- ☐ tools/materials that could scrape, poke, bruise, or cut
- ☐ materials or processes creating crushing, falling, or penetrating actions
- ☐ other:

Can hazard be eliminated without the use of PPE?
Yes ☒ No ☐

If no, use:
- ☒ Safety shoes or boots
  - ☒ Toe protection
  - ☐ Electrical protection
  - ☒ Puncture resistance
  - ☐ Anti-slip soles
  - ☐ Metatarsal protection
  - ☐ Heat/cold protection
  - ☒ Chemical resistance
- ☐ Leggings or chaps
- ☐ Foot-Leg guards
- ☐ Other:

BODY/SKIN

Work activities such as:
- ☐ drilling
- ☐ heat/cold
- ☐ dip tank operations
- ☐ sharp materials
- ☐ irritating chemicals
- ☐ sawing
- ☒ other:
- ☐ abrasive blasting
- ☐ painting
- ☐ sanding

Work-related exposure to:
- ☐ chemical splashes
- ☐ extreme heat/cold
- ☐ sharp or rough edges
- ☐ ultraviolet radiation
- ☒ other:

Can hazard be eliminated without the use of PPE?
Yes ☒ No ☐ Establish working limits for equipment

If no, use:
- ☒ Vest, Jacket
- ☐ Coveralls, Body suit
- ☒ FRC
- ☐ Apron
- ☐ Welding leathers
- ☐ Abrasion/cut resistance
- ☐ Other:

BODY/WHOLE		
Work activities such as: ☐ drilling ☒ construction ☐ repair ☐ utility work ☐ other:	Work-related exposure to: ☒ Heavy equipment/drilling equipment – Struck by and/or caught between ☐ Well head and/or line failure – Exposure to high heat and pressure ☐ other:	Can hazard be eliminated without the use of PPE? Yes ☐ No ☒ Establish working limits around equipment, use high visibility clothing If no, use: ☐ Fall Arrest/Restraint: Type: ☐ PFD: Type: ☐ Other:
LUNGS/RESPIRATORY		
Work activities such as: ☐ drilling ☐ extreme heat/cold ☐ mixing ☐ sawing ☐ painting ☐ grinding ☐ welding ☐ compressed air or gas operations ☒ other: Leachate vapor	Work-related exposure to: ☐ irritating dust or particulate ☒ irritating or toxic gas/vapor ☐ other:	Can hazard be eliminated without the use of PPE? Yes ☐ No ☒ 5-gas monitor to determine potentially hazardous atmospheres If no, use: ☒ Full Face Respirator-APR ☐ Half Face Respirator-APR ☒ Supplied Air Respirator-SAR ☐ Other: Is current respiratory protection maintained in a sanitary condition? Yes ☒ No ☐
EARS/HEARING		
Work activities such as: ☒ pneumatic equipment ☒ generator ☐ media blasting ☐ grinding ☒ ventilation fans ☐ machining ☒ motors ☐ routers ☐ sanding ☐ sawing ☐ punch or brake presses ☐ other:	Work-related exposure to: ☒ loud noises ☒ loud work environment ☒ noisy machines/tools ☐ punch or brake presses ☐ other: Impact	Can hazard be eliminated without the use of PPE? Yes ☒ No ☐ If no, use: ☒ Ear Plugs ☐ Ear Muffs ☐ Other: Is current hearing protection maintained in a sanitary condition? Yes ☒ No ☐

Process Description:
Engage in worker chemical exposure assessments, primarily air monitoring/sampling.

Observations:

Recommended PPE:
Modified level D with FRC

JOB HAZARD ASSESSMENT (JHA)
Fill out JHA – Review JHA (everyone) – Sign JHA (everyone)

Mgmt Review Date:_____
Signature:_____

Geo-Logic ASSOCIATES

DATE: 8/2/24
TIME: 1335

Name: Russell Grandgeorge
Location (Work Site/Job Name): Chiquita Landfill
Task/Activity Description:
CQA site observation
Emergency Response Planning: -
Safe Haven Location: [X] Yes [ ] No Wind Direction: N (S) E W Evacuation Route: [X] Yes [ ] No Assembly Point: [X] Yes [ ] No
Secure Scene, Isolate Equipment, Request Assistance - Notification: Supervisor, Manager, HSE
Standard PPE [X] Hard Hat [X] Eye Protection [X] Protective Footwear

- **DOCUMENT REVIEW**
  - [X] Project/HSE Requirements
  - [X] Job procedures or practices
  - [X] Job Safety Analysis (JSA)
  - [ ] Safety Data Sheets
  - [ ] Other_____
- **EMERGENCY EQUIPMENT**
  - [X] Fire Extinguishers
  - [X] Eyewash
  - [ ] Safety Shower
  - [X] First Aid Kit
  - [ ] Spill Control Kit
- **HAZARDS - BODY**
  - [X] Fall Potential
  - [ ] Overexertion/repetitive (lifting, pulling, pushing, reaching, twisting, etc.)
  - [X] Pinch Points
  - [X] Struck by/against
  - [X] Slip-Trip-Fall Potential
  - [ ] Excessive Vibration
  - [ ] Awkward loads
  - [ ] Awkward body positioning
  - [ ] Other_____
- **HAZARDS – BIOLOGICAL/CHEMICAL**
  - [ ] Chemical Burn – Skin/Eyes
  - [X] Absorption/Ingestion/Inhalation
  - [ ] Flammable (propane, etc.)
  - [ ] Sewage
  - [ ] Mold/bacteria/viruses
  - [X] Insect/Animal Bite
  - [ ] Other_____
- **HAZARDS - ENVIRONMENTAL**
  - [ ] Spill/Release of Contaminants
  - [ ] Liquid/Soil Disposal
  - [ ] Electrical Shock
  - [X] Heat Stress
  - [ ] Heavy Objects
  - [X] Hot/Cold Surface or Material
  - [ ] Inadequate Lighting
  - [X] Noise
  - [ ] Ventilation
  - [ ] Poor Access/Egress
  - [X] Penetrating/Sharp Objects
  - [ ] Other_____
- **HAZARDOUS ENERGY (LOTO)**
  - [ ] Hydraulic
  - [ ] Pneumatic
  - [ ] Electrical
  - [ ] Chemical
  - [ ] Thermal
  - [ ] Other_____
- **HEAVY EQUIPMENT**
  - [ ] Forklift
  - [ ] Drill Rig
  - [X] Backhoe
  - [X] Bulldozer
  - [ ] Other_____
- **MISCELLANEOUS**
  - [ ] Break-up of Surface Material (asphalt, concrete, etc.)
  - [ ] Demolition (manual/mechanized)
  - [ ] Drilling (any materials)
  - [ ] Equipment Handling & Dismantling
  - [ ] Excavation
  - [ ] Pressure Testing
  - [ ] Nuke Gauge
  - [ ] Stored Pressure Systems (Propane, Chlorine)
  - [ ] Work Affecting Integrity Of Critical Control Systems
  - [ ] Work In Designated Hazardous Area(s)
  - [ ] Other_____
- **PERMITS**
  - [ ] Required
  - [ ] Hot Work (cutting, grinding, welding, etc.)
  - [ ] Confined Space Entry
  - [X] All Conditions Met
  - [ ] Signed Off When Complete
  - [ ] Other_____
- **PEOPLE**
  - [X] Competence/Training
  - [ ] Medical Limitations
  - [ ] Pedestrian Control
  - [ ] Security of Work Site
  - [ ] Other_____
- **ADDITIONAL PPE**
  - [X] High Visibility Clothing
  - [ ] Arc Flash Clothing
  - [ ] Tyvek Suit
  - [ ] Types of Gloves (leather, rubber, nitrile, cut-resistant, etc.)
  - [ ] Rubber Boots
  - [ ] Chemical Goggles
  - [ ] Spoggles
  - [ ] Face Shield
  - [ ] Respirator
  - [X] Hearing Protection
  - [ ] Safety Harness
  - [ ] Other_____
- **TOOLS**
  - [ ] Hand
  - [ ] Power
  - [ ] Current Inspection
  - [ ] Proper Tools for the Job
  - [ ] Good Tool Condition
  - [ ] Other_____
- **TRAFFIC CONTROL**
  - [ ] Spot Vehicles
  - [ ] Loads In-Out of Site
  - [X] Mobile Equipment
  - [X] Roadway
  - [ ] Other_____
- **OTHER WORK IN AREA**
  - [ ] Type Work Others Doing
  - [ ] PPE Due to Other Work
  - [ ] Other_____
- **UTILITIES**
  - [ ] Underground (gas, water, sewer, electric, communication, etc.)
  - [ ] Overhead Power Lines
  - [ ] Other_____
- **WORK AT HEIGHTS**
  - [ ] Manual (Scaffold, Ladder, Roof)
  - [ ] Mechanized (Aerial device, etc.)
  - [ ] Requires Engineered Approval
  - [ ] Other_____
- **VISITORS & CONTRACTORS**
  - [ ] Job Site Walk-Through
  - [ ] Other_____

Ensure that all items identified are addressed in the JHA process below

JOB HAZARD ASSESSMENT (JHA)

Fill out JHA – Review JHA (everyone) – Sign JHA (everyone)

Job Steps	Potential Hazards/Aspects	Controls to Eliminate or Manage Hazards
Drive to the site location	Struck by heavy equipment Strike object	No use of cell phones while driving. Make sure you are well rested. Give your full attention to the driving task.
Set up equipment and paperwork	Slip, Trip, Fall Struck by heavy equipment	Check your surrounding upon arrival. Wear proper PPE. Always have eye contact with equipment operators.
Monitor construction acitivies	Struck by heavy equipment Slip, Trip, Fall Environmental Stress (ie. Heat Stress)	Eye contact with equipment operators. Wear proper PPE. Make sure your are dressed for the weather. Carry 2 gallons of drinking water.

JHA Site Acknowledgment (All Crew Members, Visiting Employees, and/or Contractors Required to Place Signatures Below)

Name	Signature	Date
Russell Granfors	Russell Granfors	8/7/24

Post-job Debriefing

Did any problems or issues occur today? No	Did we work safely and in an environmentally responsible manner? ☒ Yes ☐ No
Did any incidents or near misses occur today? If yes, specify No	Was a report completed? ☐ Yes ☐ No
Was anyone injured today? If yes, specify No	Was it reported? ☐ Yes ☐ No

Comments: _____

Activity Hazard Analysis

Activity: Clearing Operations

Analyzed By: Gabriel Sollano Date: 1/11/2024

Principal Job Steps	Potential Safety or Health Hazards	Recommended Controls
Traffic control	Activity should be limited to essential personnel and equipment only	• Post warnings to limit traffic into the work area • Establish entry and exit points, interior haul routes, loading and turn-around areas • Use flagger as required to control conflicting traffic within the job site
Work area survey	Overhead electrical can cause contact shock hazard	• When working within 20 feet of an electrical line, have a ground spotter to assist the excavator operator • Maintain a 10 ft minimum safe separation distance from electrical lines while performing removals • Post overhead signs
	Underground Utilities	• Contact Underground alert services and mark utilities prior to work
	Check areas for bees, poison oak, snakes, and wildlife	• Restrict workers allergic to bees from area • Exterminate bees if required • Reduce or eliminate exposure to poison oak • Check the area for wildlife before beginning task • Wear gaiters to protect from snake bites
Brush Site & Stockpile Brush	Equipment operations	• Keep ground personnel clear • Machine's back-up alarm must be operable • Good communication between operators and ground personnel
	Branches can crack, causing flying object hazards	• Level D PPE worn by all in the area • Stay clear of equipment performing clearing operations • Use equipment with enclosed cabs
	Fire hazard	• Keep all ignitable sources away from brush pile. • Fire suppression equipment at the work area, water trucks, water buffalo, fire extinguishers
Laborers Pick Roots	Heavy Equipment Operations Environmental Hazards	• Eye to eye contact with operator with hand signal confirmation • PPE to protect skin from poison oak • Use Ivy Block as barrier cream • Rattlesnake awareness • Watch for trip hazards
Load debris into trucks	Falling debris	• Truck driver remains in truck during loading • Ground personnel loading side only
Prepare load for on-road trip	Debris can fly out of the trailer causing vehicle and personal injury for motorists	• Clean debris from trailer sides prior to going on-road • Tarp Loads • Dust control
Waste disposal	Loaded trucks with a high center of gravity can tip over during dumping	• At dump site keep ground personnel clear of trailer during dump sequence • Dumping should be directed to level ground

	Uneven ground	• Spotter for dumping may be required

Equipment Required	Inspections Required	Training Required
Traffic signage	Daily inspection prior to operations to ensure signage is properly posted	Daily site safety briefing
Flagger stop paddle and cone	Check flagger to ensure compliance with safe practices briefed	Flagger training
Heavy equipment	Equipment pre-op inspection	New Hire Orientation Pre task plan
Over the road trucks	Equipment pre-op inspection	DMV license
Water Truck	Foreman Inspects and Maintains Daily SCAQMD Rule 403 Fugitive Dust Log	Rule 403 Dust Supervisor Certification

Activity Hazard Analysis

Activity: Concrete Demolition Equipment Breaker

Analyzed By: Gabriel Sollano Date: 1/11/2024

Principal Job Steps	Potential Safety or Health Hazards	Recommended Controls
Survey work area	Underground and overhead utilities	• Location service(s) mark all known utilities • Coordinate with power utilities to move or shield live lines that could be struck by equipment working • Route pedestrian traffic and stop street traffic as required to protect the general public • Post signs and erect fencing to keep public from entering the demo area
Break concrete	Flying debris Hearing protection Silica Dust	• Establish a safe zone to keep people and property clear of flying debris • Rock guard on the cab to protect from injury & equipment damage • Move all vehicles from the demo area to minimize risk of glass damage • Wear proper PPE • Daily silica exposure control plan, dust control.
Load trucks	Exposed rebar	• Keep workers clear of the loading area • Workers wear level D PPE to include leather work gloves when handling rebar
	Falling debris during loading process	• Keep workers clear of the loading area • Truck drivers remain in their trucks during loading • Truck drivers cover load to prevent dust blowing from bed
Cutting rebar	Fire Hazard Impalement hazards	• Fire extinguisher • Cut rebar close to concrete to prevent impalement hazard or stored energy

Equipment Required	Inspections Required	Training Required
Heavy equipment used for breaking and loading	Daily pre-op inspection and Look at quick coupler for all attachments used	Daily briefing of what's required
Ladders	Visual inspection before use	New Hire Orientation
Hand Tools	Visual inspection before use	New Hire Orientation
	Silica Control Plan Hot Work Permit	Silica Training

Activity Hazard Analysis

Activity: Dewatering Operations

Analyzed By: Gabriel Sollano Date: 1/11/2024

Principal Job Steps	Potential Safety or Health Hazards	Recommended Controls
Cut pipe sections to length	Extreme hazard when chain saw is used improperly	• Special PPE includes safety glasses with face shield, leg chaps and hearing protection • Employees must receive training for chain saw safe practices prior to first use
Set portable generator	Moving generator	• Proper rigging when lifting is required • Qualified rigger supervises activity • Keep workers clear around suspended load • Use tagline as required if suspended below boom • Secondary containment • Clear the generator's area of vegetation to reduce the risk of fire • Set the generator on level ground, and if it is trailer mounted, secure the unit from inadvertent movement • Install secondary containment
Routing power cables to electrically powered pumps	Electrical shock potential from handling damaged cables	• Develop a circuit plan for each pump and controller with separate legs to provide independent shutdown of each • Locate the generator as close to the pump location as possible to minimize the length of cable required • Protect cables that are run across the ground from damage • Test GFI • Inspect the entire length of the cable, looking for cuts, kinks or other evidence that the cable may be damaged • When damage is found, immediately take the cable out of service and have it replaced with a serviceable cable • Be sure to keep power cables elevated above grade and clearly marked to avoid damage • Ensure junction boxes and pump controllers are secured vertically on a post or wall and marked; note: mounting vertically will provide protection and prevent rain from entering the cabinets • **Never energize a circuit with connectors or controllers lying on the ground** • **Wet conditions increase hazards** • **Use buddy system**
	Electrical shock hazard from portable generator	• Generators providing power through pig-tail connections wired to the terminal strip must be externally grounded • Install a ground stake 8 feet deep and clean the rod's surface of corrosion before mounting the grounding lead • Use stranded copper 10 AWG wire for the ground

		and ensure connections at the generator and the ground rod are secure • Check the generator's 120 Volt GFI outlets by performing a test and reset daily before first use; if the test fails, cover the receptacles and mark DO NOT USE
	Portable generator engine exhaust	• Place generator down wind from personnel and confined spaces
	General fire hazard	• Position portable generator on level ground, clear of vegetation to reduce risk of wildfire • Place a 5 lb ABC fire extinguisher in the immediate area of the generator for emergency use • Use approved Type 2 safety can for flammable fuel storage • Turn off when fueling • Tag out for service
Installation and relocation of electrically powered pumps, generators and cables	Electrical shock hazard from handling damaged cables	• Only designated crew members are allowed to install, maintain and move electrically powered pumps and wiring circuits • Those authorized must be trained in the procedures for installation and use of the generator and wiring • Circuits will be de-energized prior to installation, maintenance or movement • De-energize circuits by physically unplugging the cable at the pig-tail twist lock connector and securing the plug with a locking cover • **NO INSTALLATION, MAINTENANCE OR MOVEMENT WILL BE PERFORMED ON AN ENERGIZED CIRCUIT . . . IT MUST BE SECURED AS DESCRIBED** ABOVE • Workers handling de-energized electrical circuits will wear rubber boots and rubber gloves as an additional measure of safety
Daily maintenance of electrically powered pumps, generators, and cables	Electrical shock hazard from handling damaged electrical equipment	• Trained crew members will conduct daily routine inspections of all generators, grounds, pumps, and power cables • All maintenance will be performed after all generators are turned off and power cables unplugged • All GFI's on generators to be tested daily before first use • All power cables must be inspected daily to ensure damage to jacket or insulation is identified • When defective components of an electrical circuit are found, immediately de-energize the circuit and tag it out of service until repairs have been made • All power cables inspected daily to ensure that they are properly elevated above grade and marked to avoid damage
Operate Engine Driven Pumps	Fire Hazard	• When fueling pump, shut down the engine and allow a cool down period before servicing • Use approved Type 2 safety can or have Oiler fuel from bulk system using safe practices

Equipment Required	Inspections Required	Training Required
Hand tools	Daily inspection for tools used	New Hire Orientation
	Daily pre-op inspection	Task specific training
Portable generator	Daily GFCI test for outlets & ground	Task specific training
Power cables	Daily pre-op inspection	Task specific training
Chain and rigging	Daily rigging inspection	Task specific training
Submersible pump	Daily pre-op inspection	Task specific training

Plug Lockouts,
First Aid for Electrocution &
Task Specific Training for Crews Setting Up Portable Power

(see attached pages)

Towing pumps, signal lights, safety chains on trailer hitch connections

Activity Hazard Analysis

Activity: Earthmoving – Mass Grading & Finish Work

Analyzed By: Gabriel Sollano Date: 1/11/2024

Principal Job Steps	Potential Safety or Health Hazards	Recommended Controls
Establish and brief crew on haul road, cut and fill area locations	Crossing traffic increases risk of collisions Changing hauls Site conditions	• Use left hand traffic when possible and eliminate crossing patterns; Foreman ensures all Operators are briefed prior to starting work • Inform everyone on the site of haul road changes and conditions, prior to change
Cut and Fill Operations	Ground personnel working around heavy equipment	• Ensure all ground personnel wear a safety vest to increase visibility • Brief ground personnel to make eye to eye contact and use hand signals for verification when working near equipment Operators • Monitor workers on the ground to keep a safe distance from scrapers in the event a tire fails • Soils tech should block test pit with a truck while performing test, and scrapers should give adequate clearance
	Personnel in vehicles around heavy equipment	• All vehicles should display a Sukut Safety Flag to increase visibility- Safe distance • Do not follow to close • Stay back from Equipment
	Visitors to the work area who have not been briefed on site specific hazards	• Attempt to stop the visitor and direct them to the Grading Foreman • Do not release into the work area until they have been briefed on hazards and are compliant with PPR (PPE) requirements
Finish Grade Operations	Ground personnel working near finish equipment	• Ground personnel must never attempt to work behind an operating machine • Approach operating equipment from the front or side and use eye-to-eye contact with hand signal verification to ensure the machine Operator sees you • Spotter when backing up • Stay away from slope boards of any attachment that can fall
Equipment emergencies	Equipment roll-over can cause injury and damage machinery	• Brief crews on what to do if a machine is stuck on a slope or encounters an emergency • Just stop & wait; don't make it worse • Foreman should have safety cables & shackles staged at the water tower for immediate use

	Visibility issues / Haul speeds vs. conditions	• Brief the operators to run accordingly to the haul road and weather conditions

Principal Job Steps	Potential Safety or Health Hazards	Recommended Controls
Equipment emergencies (continued)	Equipment fire or fires that may be started in vegetated areas	• Operator should stop the equipment, exit and use the on- board fire extinguisher as required; if necessary, use a water truck for additional fire suppression **Note**: <u>If the fire is too intense, never risk your personal safety; back away and summon help from the Grading Foreman</u>
	Striking unmarked utilities	• In the event underground utilities are struck, the Operator should move the machine well clear of the area and summon immediate help from the Grading Foreman (not if striking electrical or gas line) • If a gas line is struck, move personnel upwind and restrict smoking or open flames • Electrical strike procedures • Water strike procedure

Equipment Required	Inspections Required	Training Required
Heavy equipment used in cut and fill operations	Daily pre-op inspection	Daily briefing of what's required
Fire suppression equipment	Inspect monthly	New Hire Orientation
Rescue equipment	Inspect before / after each use	Task specific training

Activity Hazard Analysis

Activity: Control Access Work Zone

Analyzed By: Gabriel Sollano Date: 1/11/2024

Principal Job Steps	Potential Safety or Health Hazards	Recommended Controls
Survey Work Area	Fall Hazard when working within 6 feet of a ledge with a height of 6 feet or more	Designate a Competent Person to ensure a qualified safety monitor watches all work near the leading edge Competent person is responsible to ensure a Safety Monitor is assigned, and takes care of the following: • Briefs all workers assigned to the control access zone • Monitor is able to recognize fall hazards • A warning device is present and the crew has been briefed in its use • Monitor stays within visual distance of all employees working near the ledge • Monitor stays in constant communication with workers near the ledge • Monitor Is not assigned other responsibilities that would cause a distraction while monitoring • Monitor stops and removes any unauthorized worker(s) from entering the control access zone
Mark Control Access Zone		Install a control line with at least a 200 lb breaking strength, 6 – 25 feet from the unprotected leading edge along the entire hazard area to restrict access Post DO NOT ENTER warning signs at all entrances to the control access zone **Note: when installing precast members, distance is limited to 6 – 60 feet from the edge**

Principal Job Steps	Potential Safety or Health Hazards	Recommended Controls
Mark Control Access Zone (continued)		Anchor control lines securely at both ends and support the line so it maintains a height of 39 – 45 inches above the ground Ensure the control line is marked at not more than 6 foot intervals using a high visibility material Ensure the control line follows the approximate contour of the unprotected leading edge
Housekeeping	Slip & Trip hazards	• Neatly stack building materials in the control access zone to reduce the risk of trip hazards • Police construction debris from the unprotected leading edge to reduce the chance of a worker falling over the edge

Equipment Required	Inspections Required	Training Required
Control Line (rope, wire or tape) with marking at 6 foot intervals	Inspect control lines for secure installation and ensure they are supported to prevent sagging	Control access zone plan
Warning signs for each entrance	Inspect to ensure signs are placed prior to work	Control access zone plan
Air horn or other suitable alarm for Safety Monitor	Monitor checks signal before entering the control access zone to ensure it works	Control access zone plan

Competent Person: _____

Safety Monitor: _____

Control Zone Workers: _____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Activity Hazard Analysis

Activity: Equipment Maintenance

Analyzed By: Gabriel Sollano Date: 01/11/24

Principal Job Steps	Potential Safety or Health Hazards	Recommended Controls
Inspect equipment	Equipment parked on sloped terrain can roll	• Check to make sure ground engagement tools have been lowered, with a good bite to prevent roll-away • On wheeled equipment, ensure parking brake is set and chock or berm as required to eliminate unplanned movement • Do not walk between parked equipment
	Release of stored energy presents extreme hazard	• Utilize Lock-Out, Tag-Out procedures prior to starting any equipment repair • Disconnect batteries, bleed accumulators, hydraulic circuits, air receivers and other mechanical systems that may present a hazard to personnel attempting repairs • Remove the key and place a “Do Not Start” tag while equipment is out of service
	Electrical hazards	• Mechanics should remove all jewelry from fingers and wrists to reduce the risk of shock • Check cords on power tools; if frays or loose ends are found, repair or replace as required
	Rotating components present extreme hazards	• Ensure pulleys, fans and other rotating components are properly guarded • Mechanics should not wear loose fitting clothing, and remove rings, bracelets, watches and other jewelry that could contact rotating components during repair
	Pinch points can cause crushing injuries	• Stay clear of frame articulation points until lock-out, tag-out is completed
	Component fluid spills **Note: refer to MSDS for First Aid if fluids contact skin, eyes or otherwise cause pain**	• Use caution when uncapping radiators; release of hot fluid can cause serious burns • Wash hands to remove used oils, grease and other petroleum-based products that can be absorbed into the skin • Whenever opening components, catch, contain and dispose of waste fluids to protect the environment
Inspect equipment (continued)	Fire hazard from petroleum based products and accumulated grease on frame, components and in the belly pan	• Have fire suppression equipment at the ready and on hand for immediate use in the event there is a fire. • Wash equipment when possible **Note: never attempt to fight an oil or fuel fire with a water fire extinguisher**
	Slip and fall	• Take care when walking across uneven ground • Use caution in walking on fenders and platforms that have an oil film; clean as required to prevent slips and falls

		• Ensure ladders are properly set and secured; if using an A Frame ladder, the base must be spread and locked • Ladders must extend 3 feet above the level you wish to step onto • When climbing ladders, use 3 point contact and never attempt to carry tools to a higher level; use a rope to hoist tools • use fall restraints or fall protection systems when working at heights > 6 ft
	Tire Failure	• Check sidewalls for cuts with exposed cord; park the machine if found and notify the tire vendor for further inspection • Check for cracks in wheels and hub assemblies; loose wheel nuts are an early sign a more serious problem exists • Deflate tires whenever performing maintenance requiring removal of the wheel or final drive assembly • Based on tire type, inflate to proper PSI • Tire should be completely removed prior to weld repair **Note: never use a torch on a wheel unless the tire has been deflated and the valve stem is removed**
	Noise	• Mechanics must wear ear plugs in the work area above 85 db; *air compressors cycle on and off
Night Maintenance	Darkness increases risks and applies to all equipment maintenance performed during the hours of darkness	• It is important for mechanics working at night to use the buddy system and communicate with each other; always know where your coworkers is in the event he needs assistance • Illuminate the work area as required. Mechanics should supplement area lighting with headlamps or flashlights to illuminate work Properly graded yard • When stepping down onto the ground, light the surface to prevent stepping into a rut or onto a loose rock
Prepare Machinery for Major Repair	Raised equipment falling	• Chock, jack, block and crib equipment as required to prevent the load from falling • Inspect cribbing prior to use • Ensure the surface is adequate to support the load; if necessary, crib or build a mat to distribute the weight, and make sure jacks used are rated for the load lifted • Pin aprons, beds, booms, steering, articulating joints and other components that may collapse causing injury
Component Repair and Major Breakdowns	General hazard applies to all major repairs	• Refer to the OEM Service Manual and adhere to all warnings and use recommended repair procedures to ensure safety • Catch, contain and dispose of all spilled fluids during the repair process

		• Good housekeeping is critical to reduce trip hazard exposure in the work area

Equipment Required	Inspections Required	Training Required
Do Not Start Tag	Lockout/Tagout before performing repairs	New Hire Orientation
Mechanic's hand tools	Visual inspection before use	New Hire Orientation
Mechanic's power tools	Visual inspection before use	New Hire Orientation
Welding machine	See Hot Work AHA	Task specific training
Air compressor	Air receiver permitted	Task specific training
Truck mounted crane	Crane annual and quad cert	Task specific training

Activity Hazard Analysis

Activity: Equipment Parking

Analyzed By: Gabriel Sollano Date: 01/11/24

Principal Job Steps	Potential Safety or Health Hazards	Recommended Controls
Park heavy equipment	Equipment roll-aways	• Select an area that is as level and flat as possible for equipment parking • Park equipment with separation from adjacent machines, and lower all ground engaging tools to prevent roll-aways (scraper cans, dozer blades and slope boards). • Haul trucks and other wheeled vehicles without ground engaging tools must be chocked or otherwise secured when parked
	Equipment crushing ground personnel	• When crossing the line of scrapers, always walk under the goose-neck, never between the front and rear of parked scrapers • Never approach a machine from the rear; always make eye-to-eye contact with the Operator and confirm with a hand signal
	Heavy equipment running over people on the ground or vehicles parked in blind spots	• Operators must perform a walk-around to ensure no one is under, inside or on top of the machine, and ensure blind spots are checked clear
	Rough surface presents trip hazard	• Smooth the boneyard with a Bee-Gee before equipment returns at end of shift
	Excessive engine emissions – idling restriction	• Equipment shall not be idled for more than 5 minutes except when maintenance is performed, or extended idling is required to bring cold engines up to minimum operating temperatures

Equipment Required	Inspections Required	Training Required
Heavy equipment used for earthmoving	Walk-around pre-op inspection	Daily briefing of what's required

Activity Hazard Analysis

Activity: Hot Work

Analyzed By: Gabriel Sollano Date: 01/11/24

Principal Job Steps	Potential Safety or Health Hazards	Recommended Controls
Prepare for Hot Work Design area for hot work Wet area / place in recommended controls -	Fire hazards apply to all types of hot work performed	• Submit a Hot Work Permit for approval prior to performing hot work; ensure work is performed in accordance with safe practices outlined in the permit • Survey the work area and remove vegetation and other combustibles that could ignite within 35 ft of the work area or water down area • Time monitoring work after work is complete. • Depending wind speed • Position fire suppression equipment with fire watcher (when required), and ensure all involved understand emergency actions in the event a fire is observed • Keep a water truck on site.
Advise surrounding workers of hot work	Special PPE required for hot work	• When performing hot work, wear apparel made from cotton, wool, leather or other material that is resistant to burning or melting; • First aid kit specific to the hot work performed. **Note: never wear nylon, polyester or other synthetics that can melt into your skin** • Leather bibs, gauntlets and chaps are worn to prevent sparks from contacting and igniting apparel • Welding gloves with gauntlets are worn to prevent shock, and thermal burns • Full face welding helmets with #10 or darker shaded lens are required for electric arc work • Tight fitting goggles with #5 shade or darker are required for work with a gas torch • When grinding, removing scale or doing other work where flying debris is produced, wear safety glasses with a protective face shield • Ear plugs or ear muffs must be used to control high noise exposures • Steel toed boots are required to prevent foot injuries
	Special PPE required for hot work (continued)	• If weld surfaces cannot be cleaned prior to heating, respirator protection using an N-95 mask is required; **Note: only employees who have been medically screened, fit tested and trained may wear a mask under these conditions**

Hot Work Performed on Closed Tanks and Vessels that Contain Combustible Substances Include dust, coal, & dirt	Explosion hazard	**Note: never perform hot work on fuel or oil tanks until the work has been authorized by the Maintenance Superintendent** • Only trained and designated Welders shall perform work of this nature • Closed tanks must be drained, cleaned and inerted, or filled with water; if the tank is disassembled and exposed to the open air, it must be cleaned before performing hot work • Inspect area for standing water • Tanks inerted shall be constantly monitored with an approved gas meter to ensure lower explosion limits are not exceeded
Electric Arc Welding or Carbon Arc Gouging	Electric shock Eliminate wet conditions No aluminum ladders	• Inspect cables, connection and electrode holders; defective items shall be replaced prior to performing work • Ensure welding machine is set to match amperages required by the electrode used • Apply ground lead to work prior to striking arc; ensure the mating surface is free of rust, scale or other non-conductive coatings • Put ground as close to weld as possible • Install anti zap on batteries
	Arc flash	• Isolate the work area to prevent stray arc flash exposures to others in the work area • Put up danger signs, warning • Use shielding to block arc flash when working in open areas with close proximity of others
Use proper P.P.E.	Thermal burns	• Use caution when handling heated metal even if gloves are worn; pick up items with a tool to reduce the heat exposure
	Flying debris	• Isolate the work area and keep others clear when welding, gouging or grinding to reduce the risk of injury
	Noise	• Isolate the work area and keep others clear when welding, gouging or grinding to reduce the risk of injury • Ear plugs
	Fumes and gases generated when heating metal surfaces	• Prepare work by removing paint, oils, solvents, rust, scale or other coatings that can produce fumes or gases at least 4” from the area being heated • Use adequate ventilation in the work area to move fumes and gases away from the worker’s breathing zone
Gas Cutting and Welding	Fire hazards Cylinders should be stored with regulators not on the cylinders in case of leak.	• Gas cylinders must be stored in an upright position and secured to prevent tipping; fuel and oxidizers must be separated by at least 20 ft • Check to ensure gas cylinders are capped, and if cylinders are stored with regulators attached, they must be placed in storage bays to accommodate this condition

		• Prior to using a gas cylinder, inspect the surface for any burned or peeling paint indicating prior exposure to extreme heat; if found do not use the cylinder and notify the vendor • Also inspect cylinders for oil on the surface or valve assembly; thoroughly clean prior to use; **Note: never use oil to clean or lubricate a gas regulator or torch** • **Never exceed 15 psi on the acetylene regulator,** and set oxygen pressure to match the tip size used • Inspect hoses, regulator and torch connections to ensure there is no gas leakage; if leaks are found, repair or replace gear as required • Flashback arrestors must be used at both the torch and regulator; **Note: Victor torches are manufactured with arrestors built into the torch handle**
	Thermal burns, flying debris and noise exposures	• Same as outlined in electric arc operations above

Equipment Required	Inspections Required	Training Required
Mechanic's hand tools	Visual inspection before use	New Hire Orientation
Mechanic's power tools	Visual inspection before use	New Hire Orientation
Welding machine and leads	Visual inspection before use	Task specific training
Air compressor	Visual inspection before use	New Hire Orientation (Air receiver permit required)
Truck mounted crane and rigging	Visual inspection before use	Crane and rigging training (Annual and quad certificates)

Activity Hazard Analysis

Activity: Loading/Unloading Trucks

Analyzed By: Gabriel Sollano Date: 01/11/24

Principal Job Steps	Potential Safety or Health Hazards	Recommended Controls
Unbinding/binding load	Crush or smashed by load that rolls or tips off of truck	• Communication with hauler – prior to delivery • Inspect load prior to releasing binding straps for "load shift" or any other signs of the potential for rolling or tipping during un-strapping. • If the load looks questionable, consider putting equipment in position or hooking up the rigging before releasing the straps / binders. • Even if the load looks secure, be aware of the potential for rolling or tipping and stand clear during the strap removal • Make sure the other side of the truck is clear before beginning to release the straps. (no one standing on back side of truck) Use flags & signs to keep area clear. • As much as possible, pull the truck onto a level area before unbinding/binding the load. • Never get between the load and an immovable object. Keep an escape route available. • During the un-strapping, continue to watch for signs of "load shift". • As you undo straps, you may hear or see movement. Re-evaluate the situation before proceeding. • No personnel on the blind side of you, lose sight – stop use loading flags. • If possible, have a spotter, don't off load into traffic if possible. • Survey work area • High winds
Accessing truck to hook up/release rigging	Slip or fall off of bed of truck	• Climb up onto the bed of the truck just behind the cab on the designed steps or use a ladder that is secured. Do not jump from trailer. • Wait for instruction to access truck from signal person. • Make sure mud, dirt, or oil is cleaned off of work boots and the steps of the truck. • Use designed hand hold points on the truck to maintain balance. 3 Points of contact • If the access point to hook up the load is 6' or higher above the ground, do not proceed. Instead contact the supervisor to evaluate the procedure. • If at all possible, load/unload this type of load using equipment with forks, thus not requiring someone from climbing up on load. • If after consulting with the supervisor, no other way to rig the load is possible to reduce the height, the load can be rigged without fall protection devices, provided the foreman is present during the unloading and the hazards are clearly addressed to the employee with a fall protection plan.

		• If there is not a safe walk route along the bed next to the load, use a ladder to attach/release the rigging. • Do not climb on the load unless the load is a positive bearing type like steel beams or similar. • Sukut certified forklift operators
Positioning equipment to pick and set load	Knock load over possibly crushing someone or damaging property	• Be sure the operator is approved by the company to operate equipment. • Make sure the area on all sides of the truck is clear of personnel prior to the equipment beginning to get into position. Don't off load into traffic if possible • Make sure the area on the opposite side of the equipment is clear of any property that can be damaged, should the load tip over the truck. • It is not uncommon for the truck drivers to be wandering around the truck during the load/unload procedure. Instruct driver to stay clear or remain in truck. • If unloading/loading in heavily traveled areas or adjacent to public traveled ways, barricade off the area and use a "flag person" to be sure the barrier is not breached. • Use a "signal" person to observe the forks as they are inserted under the load to be sure the forks won't push the load over or catch the load behind it thus knocking it off of the truck. (one signal man) • Eye or radio contact • Proper equipment
	Smashed or crushed by equipment	• Never get under the boom or forks of the equipment • Never stand or work between the equipment that is going to hoist the load and the truck. • Be sure the back up alarm is functioning properly. • Make sure all personnel not directly related with the unloading/loading, stay clear of the work area. • Never walk behind or into a blind area of the equipment without first notifying the operator. • Make sure there is eye contact and that the operator acknowledges your presence. • Always know the weight of the load • Always follow spotters Instructions
Lifting load off/onto truck	Load failure or tip	• Monitor the load as it is raised. If it doesn't react as expected, stop raising the load and re-evaluate the situation. • Mark center of pipe for loader • Gradually apply the controls to begin the hoist mode. Avoid "jerking" or "bouncing" the load.
Setting the load	Crush or smashed by the load	• Stay out from under the load. • Never get between the load and an immovable object. • Keep an escape route available. • When setting dunnage under load, make sure hands are positioned in a manner that, should the load abruptly drop, hands cannot be caught or pinched. • Do not begin to place or adjust dunnage until equipment has suspended movement and operator is ready for you to set dunnage. • Make sure the load is set on dunnage that provides "full" bearing. • Stack the load on level ground.

		• Be sure the load is stabilized. • Check by trying to rock the load while standing clear. • Stand clear while the equipment backs out from beneath the load. • Stand clear while the rigging is released from the load. • Remove by hand and not with the hoisting action of the equipment. • Do not begin hoisting with the rigging attached until the entire rigging is clear. • If stacking the load onto another stack of materials, make sure the load doesn't hang over the stack below it. • Do not over stack. Stacks must remain stable. • Utilize a tag line • Wear gloves when handling dunnage and wire rope. • Do not exceed vehicle gross vehicle weight • Chalk pipe after it is placed on ground

Equipment Required	**Inspections Required**	**Training Required**
Various hoisting Equipment	Rigging	Rigging
• Radio (if possible)	Visual Truck Bed	Signal Person
	Equipment inspection	Ladder Safety
	Visual Ladder Inspection	PPE
		New Hire orientation
		• Have a pre-task with who ever is doing the off load
		• Check Dunnage
		• Secure ladder or use a step ladder
		• Know weight of load being picked

Activity Hazard Analysis

Activity: Landfill Gas Collection Line Modification & Lechate Removal in Open Air

Analyzed By: _____Gabriel Sollano_____ Date: ___3/18/2024_____

Principal Job Steps	Potential Safety or Health Hazards	Recommended Controls
Due Diligence Review of Landfill Gas	Landfill gas – potential flammable and toxic hazards	• Assume all landfill gas contains levels of methane which present fire hazards and comply with Sukut's Fire Prevention Safety Plan • In the event the landfill operator reports excessive values of toxic constituents in the gas, Sukut Safety shall set appropriate action levels and designate special PPE to protect workers • In the event excessive toxic levels are reported, do not proceed until Sukut Safety has conducted a thorough review and established specific procedures for the work to be conducted
Shut off gas supply before opening lines	Landfill gas contains high levels of methane which present a fire hazard & potential inhalation hazard	• Coordinate with the landfill facility manager to identify the valve(s) upstream that must be closed • Comply with the facility's lock/out & tag/out procedure when the valve(s) are closed
Open gas collection line	Landfill gas trapped in the line downstream of the shutoff valve will escape creating potential fire and inhalation hazards	• Have fire extinguisher(s) and other appropriate fire suppression gear readily available in the event a fire occurs • Establish continuous air monitoring using a gas detector prior to opening lines • Use ventilation and/or purge lines as required to ensure gases remain below established action levels (10% LEL & 5 ppm Hydrogen Sulfide) during the conduct of work
Collect & contain any liquid lechate that spills from the gas collection line when it is opened	Splash hazard	• Outfit workers with prescribed PPE to prevent splash hazard • Use a bucket or other container to catch liquid as it escapes from the gas collection line **Note:** lechate does not normally contain toxic substances in liquid or gas form that exceed established PEL's; it is, however, very odorous, and care should be taken so workers do not get lechate splashed onto their work garments and take it home
	Lechate that contacts skin or soaks into work garments	Use the following procedures • Wash the affected area with soap and water • Remove any soiled items of clothing, and launder before wearing again • In the event a skin rash appears, the workers should be examined at the designated medical clinic for the site
Lechate disposal	Splash hazard	• Dump liquid lechate collected in an approved area within the landfill

Decontaminate gear	Splash hazard	• Rinse all reusable garments and tools that were splashed with lechate with clear water; use soap if oily film is present • Disposable items should be bagged in plastic and discarded in an approved area of the landfill

Equipment Required	**Training Required**	**Inspections Required**
Fire extinguishers and other appropriate fire suppression gear	Annual training	Monthly fire extinguisher check for good gauge pressure, safety tab present on the pull pin and current annual recharge date
Minimum PPE Required: • Head protection – hard hat • Eye Protection – tight sealing goggles or safety glasses with face shield • Respiratory Protection – N95 disposable mask with charcoal liner to reduce nuisance odors • Body Protection – Vinyl rain suit with jacket and pants or Tyvex coveralls • Hand Protection – Neoprene or Viton protective gloves • Foot Protection – rubber rain boots	Pre-task safety briefing	Check with facility operator to see if they require any special on-site inspections when lines are opened Ensure workers exposed to lechate are current in HAZWOPER and have current medical clearance
Fans, blowers or other appropriate ventilation equipment when required	Pre-task safety briefing	Visual inspection for guard around fan and check wiring and plug for proper insulation
Gas detector (4 gas for normal operations or PID when toxic gases are determined to be present)	Designated monitor must be familiar with gas detector used	Record readings on Sukut's Air Monitor log
Hand tools required to cut gas collection lines	Pre-task safety briefing	Visual inspection of hand tools used to ensure serviceable condition

Activity Hazard Analysis

Activity: Working in High Heat Conditions

Analyzed By: _____ Date: _____

Principal Job Steps	Potential Safety or Health Hazards	Recommended Controls
Assessment of work environment	Ambient temperature forecast to exceed 80°F	• Have an adequate supply of cool potable water on hand at all times and provide it to workers • Place emphasis on practicing good hydration to prevent heat stress • Provide shade, artificial or natural to accommodate all workers on break • Implement Sukut's Heat Illness Injury Prevention Program, ensuring all workers are briefed (see attached info that follows AHA) • Closely supervise newly assigned workers for the first 14 days to ensure they are sufficiently acclimatized; provide additional water and rest breaks as required
	Ambient temperature reaches or exceeds 95°F	• Ensure workers can contact their Foreman in the event a heat casualty occurs; use radio, cell phone or other means as required • Assign workers using the "buddy system" to observe one another during high heat conditions • Periodically check workers to ensure they are drinking enough water (1 quart per hour during high intensive labor activities)
	Regardless of ambient temperature, if work requires the wear of appliances or garments that do not breathe (Full face respirators, Tyvek, etc)	• Monitor employees and provide routine breaks to allow cool down periods • Ensure hydration is increased to prevent heat stress
Identifying heat stress	Heat cramps (least severe form of heat stress with symptoms of cramping in major muscle groups)	• Victim should take a break and move to a shaded, cool area • Hydrate by sipping a quart or more of water • Return worker to task when cramps subside, but monitor symptoms to see if they return
Identifying heat stress (continued)	Heat exhaustion (next level of heat stress with symptoms of profuse sweating, possible syptoms ofheadache, dizziness, nausea)	• Victim should take a break and move to a shaded, cool area • Allow victim to lie down; treat for shock elevating feet • Remove over garments to expose skin or first layer of clothing • Fan victim or allow breeze to naturally cool down body • Apply cool compress across forehead and under armpits if necessary • Hydrate victim by letting him/her sip water

		• After the victim recovers and has consumed at least one quart of water, return to work, but assign a less strenuous task • Monitor for recurring symptoms and remove from work if they recur
Identifying heat stress (continued)	Heat stroke (most serious form of heat stress that can lead to permanent internal organ damage or death; potential symptoms may include dry skin with ashen or reddish color (hot to the touch), unconsciousness, dizziness, nauseau **Note: victim may not lapse into unconscious state; nevertheless, if they are not sweating, it is extremely serious**	• **When heat stroke is diagnosed, Call 911** • While waiting for the ambulance, move the victim to a shaded, cool area and place on back in a prone position, elevating feet like treating for shock • Remove all layers of clothing on the torso • Apply cool compress to forehead and under armpits and wipe body with wet towels to increase evaporative cooling • Do not attempt to let conscious victim drink water; it could induce vomiting • If unconscious victim vomits, turn head, clear mouth and check airway; roll the victim to a resting position • Monitor victim's condition, applying first aid and perform CPR if the heart stops
Identify Heat Wave Periods	Heat Stress	• When temperatures reach 80 degrees and are at least 10 degrees higher than the previous 5 day average, monitor all employee for signs of heat stress • Ensure they are drinking plenty of water

Note: document all employee training related to heat stress using the Jobsite Training Report

Equipment Required	Inspections Required	Training Required
If a facility potable water source is not available, a minimum of 1 quart per man hour per daily shift is required for each worker during the shift; when a local alternate source like a corner market where additional water may be replenished, on-hand quantities of water stocked at the project may be reduced	Visual	Heat stress
If natural shade is not available, shade tents accessible must be available as close as practicable to the work area, and must be sufficient to let all workers take a break	Visual	Heat stress

See Attachment for Cal-OSHA Heat Stress Prevention Info

High Heat Information for Workers

Heat Kills

Heat illness includes heat cramps, fainting, heat exhaustion, and heatstroke.

Workers have died or suffered serious health problems from these conditions.

Heat illness can be prevented.

Preventing Heat Illness

Know the symptoms of heat illness

Watch for symptoms in yourself and your coworkers. *If you feel any symptoms, tell your coworkers and supervisor immediately because you may need medical help. Know who to talk to and how to get help before you start each workday.*

Early symptoms

Fatigue
Heavy sweating
Headache
Cramps
Dizziness
High pulse rate
Nausea/vomiting

GET MEDICAL HELP

Life-threatening symptoms

High body temperature
Red, hot, dry skin
Confusion
Convulsions
Fainting

Tell your supervisor if you are new to working in the heat or have had heat illness before.

Stay alert to the weather During a heat wave you are at greater risk of getting sick. You need to watch yourself and coworkers more closely, and may need to drink more water, take more breaks, and use other measures.

Drink enough cool, fresh water Drink at least one 8-ounce cup (3 cones) every 15 minutes during your entire work shift. *Do not wait until you are thirsty to drink water.*

Do not drink alcohol.
Avoid coffee.
Choose water over soft drinks.

Take rest breaks in the shade to cool down.

Wear proper clothing Loose fitting, light-weight and light-colored cotton clothes, a wide-brimmed hat or cap, and a bandana.

Talk to your doctor if you have illnesses like diabetes, are taking medicines or are on a low salt diet.

Know Your Rights

If you work outdoors, by law, your employer must provide you:

- Enough cool, fresh drinking water throughout the day.
- Access to shade or an equally cool spot for at least 5 minutes at a time.
- Training on how to prevent heat illness and how to call for emergency services.

For more information call the worker hotline at 1-866-924-9757

California Department of Industrial Relations

CAL OSHA

Illustrations by Kate Oliver and Adria Wells

El Calor Puede Matar

Las enfermedades causadas por el calor incluyen los calambres musculares, el desmayo, el agotamiento debido al calor y la insolación.

Los trabajadores han muerto o sufrido problemas graves de salud debido a éstas condiciones.

Las enfermedades causadas por el calor pueden ser prevenidas.

Previniendo las Enfermedades Causadas por el Calor

Conozca los síntomas de las enfermedades causadas por el calor.

Esté alerta a estos síntomas en sí mismo y en sus compañeros de trabajo. Si usted siente cualquiera de estos síntomas, informe de inmediato a sus compañeros de trabajo y supervisor porque pede ser que usted necesite atención médica. Antes del comienzo de cada día de trabajo sepa con quien debe hablar y cómo obtener ayuda en caso de emergencia.

Síntomas iniciales

Fatiga
Sudor abundante
Dolor de cabeza
Calambres
Mareos, Pulso alto
Nausea/vómito

BUSCA ATENCIÓN MEDICA

Síntomas de emergencia

Temperatura de cuerpo alta
Piel seca, enrojecida y caliente
Confusión mental
Convulsiones, Desmayo

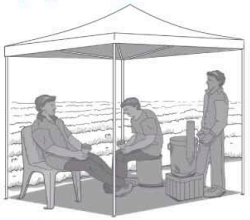
Informe a su supervisor si usted está comenzando a trabajar en el calor o si ya ha sufrido de las enfermedades causadas por el calor.

Esté alerta al tiempo. Durante la ola de calor usted está a mayor riesgo de enfermarse. Usted necesita estar muy atento a sí mismo y a sus compañeros de trabajo, necesita beber más agua, tomar más descansos y usar otras medidas preventivas.

Tome suficiente agua fresca

Tome por lo menos una taza de 8 onzas (3 conos) cada 15 minutos durante toda la jornada de trabajo. *No espere hasta sentir con sed para tomar agua.*

No tome bebidas alcohólicas.
Evite el café.
Elija agua en lugar de sodas.



Descanse en la sombra para tomar alivio del calor.

Use ropa apropiada. Ropa de algodón liviana, suelta y de color claro, gorra o sombrero de ala ancha y un pañuelo.

Consulte con su doctor si usted tiene enfermedad como la diabetes, está tomando medicinas o está en una dieta baja de sal.

Conozca sus Derechos

Si trabaja al aire libre, por ley, su patrón debe proveer:

- Suficiente agua fresca para beber durante todo el día
- Acceso a la sombra o un lugar igualmente fresco por un periodo mínimo de cinco minutos para que pueda refrescarse.
- Entrenamiento sobre cómo prevenir las enfermedades causadas por el calor y cómo llamar a los servicios de emergencia.

Para más información llame gratis al 1-866-924-9757

(Oprima el "1" para escuchar los mensajes en español)

Departamento de Relaciones Laborales de California

CAL OSHA

Ilustraciones por Kate Oliver y Adria Wells

Job Task Safety Analysis and PPE Assessment Form-18A

(This document is a template for use as guidance in creating JTSAs specific to a particular site. All items highlighted in yellow require modification prior to finalizing site specific JTSA)

<table>
<tr><th colspan="4">Job Task Safety Analysis Form-18A</th></tr>
<tr><td rowspan="3">Task Type (Check all that apply)

☒ FS-OM&M/Construction
☐ Construction
☐ Energy
☐ Engineering</td><td rowspan="3">Task Description (include estimate of task duration in hours/day): Ambient Air Monitoring with FID (TVA 2020) or similar; Up to 12 hrs./day</td><td colspan="2">Location or Project: Chiquita Canyon LF</td></tr>
<tr><td colspan="2">Date Revised: 08/02/2024</td></tr>
<tr><td colspan="2">Project #/Revision #: 0721407.90, Rev. 1</td></tr>
<tr><th>Analysis Team Member</th><th>Position Title</th><th>Acknowledged by</th><th>Position Title</th></tr>
<tr><td>Brian Morrison</td><td>Senior H&S Specialist</td><td></td><td></td></tr>
<tr><td>Saulo Diaz</td><td>H&S Specialist</td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>Special Training/Certification Required (In Addition to IIPP and Site Specific Health & Safety Plan)</td><td colspan="3">1) On-the-job training for Calibration & Operation of TVA 2020 or similar FID.
2) On-the-job training on calibrating, operating and using Blackline 5 gas air monitor, and associated Gas Alarm Action Levels.</td></tr>
<tr><td>Applicable SAFE Checklist(s): Specify type and category number</td><td colspan="3">OM&M SAFE Observation Report & Employee Suggestions</td></tr>
</table>

Job Task Safety Analysis and PPE Assessment Form-18A Cont.			
Job Task Step	**Potential Environmental and Personnel Hazards[1,2]**	**Critical Actions**	**PPE Required**
1. Review & Sign SSHSP/JTSA	• None	• None	None
1. Fill with hydrogen and calibrate the TVA 2020 meter to 500 ppm CH4 (Modify all steps specific to site, operational & environmental conditions)	• Compressed hydrogen gas • Compressed methane calibration gas	• Avoid any ignition sources (including static electricity generated by sitting in a vehicle – ground yourself) • Calibrate in a well-ventilated area • Calibrate in a clean area • Ensure that hydrogen cylinder is properly secured during storage • Open hydrogen cylinder valve slowly to avoid automatic ignition	Head: None Body: None Foot: ANSI/ASTM-approved Hand: None Respiratory: None Hearing: As-needed Eye/Face: Safety glasses

Job Task Safety Analysis and PPE Assessment Form-18A Cont.			
Job Task Step	**Potential Environmental and Personnel Hazards[1,2]**	**Critical Actions**	**PPE Required**
2. Walk work area and collect/log air monitoring data with TVA 2020 or similar FID	• Slip/trip/fall hazards • Weather-related stress hazards • Heavy equipment hazards • Ergonomic hazards • Potential for leachate on walking surfaces • Potential for unstable walking surfaces due to settlement/subsidence and slope instability • Potential for inhalation hazards	• Take frequent breaks to avoid heat stress, hydrate frequently • Stay clear of moving equipment • Wear proper clothing for the climate/conditions • Use caution when walking on liner, wet surfaces, uneven surfaces, around debris, piping, and wear proper slip-resistant footwear appropriate for the terrain and conditions • Take frequent breaks to avoid ergonomic strain • Respond immediately to any 5 gas personal monitor alarms	Head: Hardhat Body: Hi-vis shirt/vest Foot: ANSI/ASTM-approved work boots NOTE: Where potential for exposure to leachate - chem boots are required Hand: High dexterity gloves Respiratory: APR as necessary, per air monitoring data or personal monitor alarms Hearing: As-needed Eye/Face: Safety glasses
End of Form 18A			

[1] See SCS Injury Illness and Prevention Plan *Table SOP 4-1* for examples of Environmental Hazards.

[2] See SCS Injury Illness and Prevention Plan Table SOP 4-2 for examples of Personal Hazards.

Appendix D: Rescue Plan

WEST TOE DRAIN RESCUE PLAN

ON-SITE RESCUE PROCEDURES

The attached West Toe Drain Rescue Plan is associated with *Task H - West Scrim Operation* under the Site Health & Safety Controls (this procedure may be used for other operations).

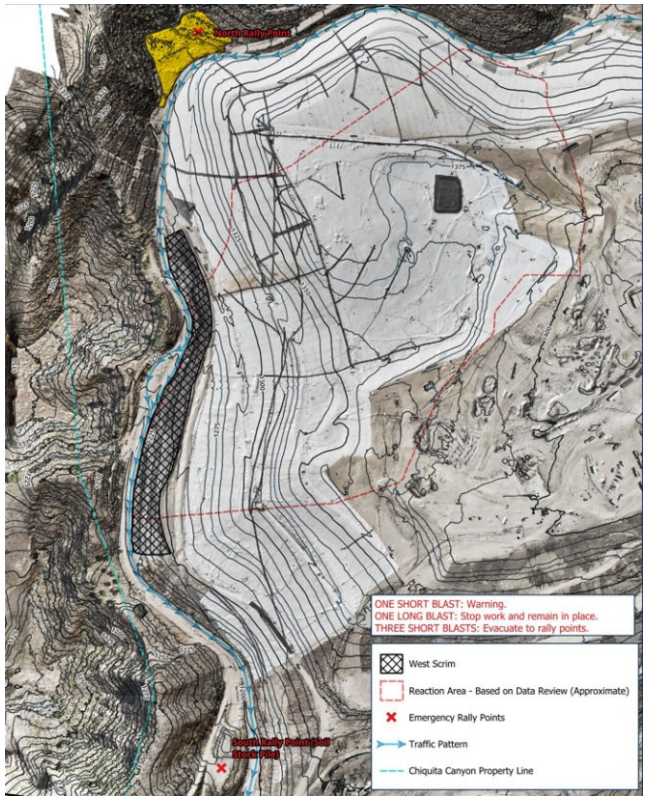
Prior to Rescue

1. The rescue lead will ensure that the preparation for the West Toe Drain Rescue Plan has been completed, including the following:
   - ✓ Selection of four (4) qualified personnel.
   - ✓ Appropriate rescue equipment is present (inspected) and emergency radio communication has been established.
   - ✓ Area / task (scrim removal) has been fully assessed for hazards. Plan accordingly.
2. Stage personnel and equipment within 300' of work area (will remain in place at all times).
3. Rescue crew will conduct a separate tailgate safety meeting prior to work commencement.

Emergency Response

1. Maintain close observation of work to detect unusual actions, unsafe acts, and indications of exposure and/or distress of workers; if warranted, **initiate rescue measures.**
2. Make radio contact, as defined under Section 5.12 of primary safety plan, to inform operations that rescue efforts are underway.
3. Connect to fresh air and check all PPE.
4. Carefully assess conditions and ensure personal safety of rescue team – do not become part of the problem!
   - ✓ Assess immediate threat to protect personnel, e.g., fire, slope instability, contact with leachate, etc.
5. Cautiously approach downed worker(s) and initiate extrication (removal):
   - ✓ Protect injured worker(s) against further harm by maintaining spinal precautions: stabilize heat/neck and affected limb(s) against further movement, which may worsen injuries. This does not apply to medical conditions; in this case, move without delay. Take injured / ill worker to safe area away from immediate hazard.
6. Follow standard first aid assessment:
   - ✓ Ensure airway / breathing is present
   - ✓ Control bleeding and manage shock
   - ✓ Maintain ongoing assessment
7. Transport worker(s) to landfill entrance for handoff to Fire / EMS or to an occupational medical clinic if stable (non-life threatening).

AREA MAP



RESCUE EQUIPMENT / RESOURCES

- ☐ Medical response equipment (first aid kit / AED)
- ☐ Backboard or stokes basket (packaging device) with rescue line, where required.
- ☐ Fire Extinguisher: multipurpose dry chemical (Class ABC).
- ☐ Radios
- ☐ Designated vehicle for emergency transport
- ☐ Supplied air respirator or SCBA
- ☐ Sufficient potable water supply

PPE Requirements

- ☐ Fire resistive clothing (FRC) / work uniform
- ☐ Tychem 6000 FR
- ☐ CH approved work gloves
- ☐ Safety-toe work or chemical boots
- ☐ 5-Gas air monitor

Appendix E: Available Safety Data Sheets

Inspection

SECTION 1: IDENTIFICATION

1.1 Product Identifier

Product Form

Aqueous Solution

Product Name

Landfill Leachate - Primary Canyon

Synonyms

Landfill Leachate
Landfill Wastewater

1.2 Intended Use of the Product

Use of the substance/mixture

None

1.3 Name, Address, and Telephone of the Responsible Party/Company

Chiquita Canyon Landfill
29201 Henry Mayo Dr
Castaic, CA 91384
USA
Phone number: (661) 257-3655

Emergency Telephone Number

Steve Cassulo 661-371-9214
Nicole Ward 661-425-4619
IF MEDICAL EMERGENCY, DIAL 911

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture (GHS-US Classification)

Skin irritation (Category 2), H313
Hazard Not Otherwise Classified (HNOC)
For the full text of the Hazard Statements mentioned in this Section, see Section 16.

2.2 Label Elements (GHS-US Labeling)

Hazard Pictograms (GHS-US)

Photo 1

Signal Word (GHS-US)

WARNING

Hazard Statements (GHS-US)

H303 May be Harmful if swallowed.
H313 May be harmful in contact with skin.
H333 May be harmful if inhaled.
Hazard Not Otherwise Classified (HNOC)

Precautionary Statements (GHS-US)

P220 Keep away from clothing and other combustible materials
P262 Do not get in eyes, on skin, or on clothing .
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink, or smoke while using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves, protective clothing, eye protection, face protection.
P301+P312+P330 IF SWALLOWED: Call a Poison Center/ doctor if you feel unwell. Rinse mouth.
P301+P330+331 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.
P353 Rise skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other Hazards

May cause eye irritation.

2.4 Unknown Acute Toxicity (GHS-US)

None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Landfill Leachate, Landfill Wastewater

3.2 Mixture (Include percentage of components)

No chemicals in excess of 0.1% have been detected. If leachate exhibits a change in characteristics described in Section 9, contact a supervisor and reevaluate PPE. Below table shows the detected compounds from analytical lab testing and the % of each detected compound (percent by weight assuming 1 liter of solution weighs 1000 grams):

Antimony: 0.0000073 - 0.000024 %
Arsenic: 0.000008 - 0.000046 %
Barium: 0.0000025 - 0.0006 %
Copper: 0.000015 - 0.00015 %
Zinc: 0.000023 - 0.00038 %

1,4 - Dichlorobenzene: 0.000002 - 0.000003 %
2-Butanone: 0.00031-0.00078 %
Benzene: 0.0000008 - 0.0000009 %
3-,4-Methylphenol: 0.000091 - 0.00019 %
Pyridine: 0.000031 - 0.00006 %

These compounds are assumed to be present in trace amounts in the leachate: Beryllium, Chromium, Cobalt, Lead, Molybdenum, Nickel, Vanadium, 2-Methylphenol. Analytical testing did not confirm detection of the analytes across all samples tested.

Component (include percentage & GHS-US classification)

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1 Description of First-aid Measures

Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact, wash off with soap and plenty of water. Consult a physician.

In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to medical treatment.

4.2 Most Important Symptoms and Effects Both Acute and Delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

No data available.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Suitable extinguishing media.
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special Hazards Arising From the Substance or Mixture

No data available.

5.3 Advice for Firefighters

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment (see section 8.2.2). Avoid becoming contaminated; do not touch your face of body; do not smoke, eat, or drink unless you have washed your hands and face thoroughly with soap and water; clean all exposed wounds, however small, and cover with a sterile, waterproof dressing; change out of contaminated clothing before eating, drinking, or smoking. Avoid breathing vapors, mist or gas.

Ensure adequate ventilation. Evacuate personnel to safe areas. If skin contact occurs, wash thoroughly with soap and water.

6.1.1 For Non-Emergency Personnel

See section 6.1.

6.1.2 For Emergency Personnel

See section 6.1 and section 8.2 for proper PPE requirements for any clean up of spills.

6.2 Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and Materials for Containment and Cleaning Up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed and labeled containers for disposal. Don proper PPE as described in section 8.2.

6.4 Reference to Other Sections

For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. For precautions see section 2.2.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Keep container closed in a well-ventilated space.

7.3 Specific End Use(s)

None.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

8.2 Exposure Controls

8.2.1 Appropriate Engineering Controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

8.2.2 Personal Protective Equipment (PPE)

Avoid dermal (skin) contact with leachate by using appropriate chemical-resistant gloves, boots, and/or body protection constructed from a material that is fire resistant and has a chemical permeation time sufficient to prevent dermal contact during the task. Benzene will permeate PPE constructed of nitrile, butyl rubber, and neoprene in less than one hour and should be removed and replaced if contaminated. Cloth, leather, and

other glove materials that do not afford any chemical protection cannot be used for connecting/disconnecting transfer lines or other tasks where sufficient leachate contact may occur to permeate the glove material. For work tasks requiring extended contact with leachate (>1 hr.), chemical protective clothing such as Tychem 6000 FR must be worn. Chemical protective boots must be worn if required to walk through spilled or pooled leachate. To prevent dermal absorption, non-chemical protective clothing which has become contaminated with leachate should not be worn and may need to be discarded depending on the amount of contamination.

Fire resistant clothing must be worn when conducting leachate transfers, working near open tank hatches, and when in the vicinity of spilled leachate, seeps, and other exposed leachate sources.

When conducting transfer of leachate by hose or other method where splash or spray hazard is present, a face shield must be worn at minimum. If transfer hoses were under sufficient pressure during transfer that an improperly depressurized line, or line failure, could result in heavy soaking spray face shield and/or goggles must be worn during line disconnect. If an overhead hazard exists (e.g., transferring from an elevated container) goggles must be worn with face shield.

Include photos or pictograms of PPEs

8.2.3 Materials for Protective Clothing

Eye/face protection: Safety glasses with side shields or safety goggles worn at all times. If conducting a leachate transfer, safety face shield also must be worn. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH or EN 166.

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws. Wash and dry hands. Use Nitrile Rubber gloves, minimum layer thickness 0.2mm with break through time of 60 min. IF GLOVES BECOME CONTAMINATED, REMOVE AND REPLACE.

Body protection: Full Tychem 6000 FR chemical protective clothing suit plus chemical resistant boots.

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi- purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH.

8.2.4 Environmental Exposure Controls

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

8.2.5 Other Information

OSHA PEL for reliably detected Chemicals in Material:
Antimony: 0.5 mg/m^3 8 hour TWA
Arsenic: 0.01 mg/m^3 8 hour TWA
Barium: 0.5 mg/m^3 8 hour TWA
Copper: 1 mg/m^3 8 hour TWA
Zinc: 10 mg/m^3 8 hour TWA
1,4 - Dichlorobenzene: 10 ppm 8 hour TWA
2-Butanone: 200 ppm 8 hour TWA
Benzene: 1 ppm 8 hour TWA
3-,4-Methylphenol: 5 ppm 8 hour TWA
Pyridine: 5 ppm 8 hour TWA

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Physical State

Liquid

Appearance

Clear/colorless to light brown

Odor

Light Leachate odor

pH

5.05-5.78

Evaporation Rate

Similar to water.

Melting Point

Similar but likely above water.

Freezing Point

Similar but likely below water.

Boiling Point

No data available.

Flash Point

212 deg F.

9.2 Other Information

No other data available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Potentially reactive with strong acids or strong oxidizers.

10.2 Chemical Stability

Stable under recommended storage conditions.

10.3 Possibility of Hazardous Reactions

No data available.

10.4 Conditions to Avoid

No data available.

10.5 Incompatible Materials

No data available. Do not mix Leachate with any other materials.

10.6 Hazardous Decomposition Products

Hazardous decomposition products formed under fire conditions. - Nitrogen oxides, Sulfur Oxides (SOx), (NOx) Other decomposition products – Under acidic conditions – Hydrogen Sulfide (H2S), Basic conditions- Ammonia (NH3)
In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Acute toxicity: Leachate may contain waterborne pathogens that could cause infections and disease.

Inhalation: No data available
Dermal: No data available
Skin corrosion/irritation: No data available
Serious eye damage/eye irritation: No data available
Respiratory or skin sensitization: No data available
Germ cell mutagenicity: No data available

Carcinogenicity
IARC: No known component of this material present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No known component of this material present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No known component of this material present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Note that the material does contain carcinogenic components, but not at sufficient percentages for the material itself to be classified as carcinogenic.

Reproductive toxicity
No data available
Specific target organ toxicity - single exposure
No data available
Specific target organ toxicity - repeated exposure
No data available
Aspiration hazard
No data available

Additional Information
RTECS: Not available

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

T22 Fish Toxicity Test - No fatalities.

12.2 Persistence and Degradability

No data available.

12.3 Bioaccumulative Potential

No data available.

12.4 Mobility in Soil

No data available.

12.5 Other Adverse Effects

An environmental hazard cannot be excluded in the event of improper handling or disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Provide wastewater treatment in a licensed facility.

SECTION 14: TRANSPORT INFORMATION

14.1 In Accordance with DOT

Proper Shipping Name

Not regulated as dangerous goods.

Hazard Class

NA

Identification Number

NA

Label Codes

NA

Packing Group

NA

ERG Number

NA

14.2 In Accordance with IMDG

Proper Shipping Name

NA

Hazard Class

NA

Subsidiary Risk(s)

NA

Identification Number

NA

Packing Group

NA

Label Codes

NA

EmS-No. (Fire)

NA

EmS-No. (Spillage) S-C

NA

MFAG Number

NA

14.3 In Accordance with IATA

Proper Shipping Name

Not regulated as dangerous goods IATA.
Not regulated as dangerous goods.

Packing Group

NA

Identification Number

NA

Hazard Class

NA

Label Codes

NA

Subsidiary Risk(s)

NA

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
No components are subject to reporting levels established by SARA Title III, Section 313.

SARA 311/312
If reporting thresholds are exceeded.

15.2 US State Regulations

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Other Information

Revision Date: Rev 1, 3/18/2024

License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the material with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the material. Chiquita Canyon Landfill shall not be held liable for any damage resulting from the handling or from contact with the above material.

HMIS Rating
Health hazard: 1
Flammability: 1
Physical Hazard 0

NFPA Rating
Health hazard: 1
Fire Hazard: 1
Reactivity Hazard: 0

GHS Full Text Phrases

H303 May be harmful if swallowed.
H313 May be harmful in contact with skin.
H333 May be harmful if inhaled.
Hazard Not Otherwise Classified (HNOC).
P220 Keep away from clothing and other combustible materials
P262 Do not get in eyes, on skin, or on clothing.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink, or smoke while using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves, protective clothing, eye protection, face protection.
P301+P312+P330 IF SWALLOWED: Call a Poison Center/ doctor if you feel unwell. Rinse mouth.
P301+P330+331 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.
P353 Rise skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Media summary

Photo 1

ATMOS

Alternative Daily Cover for Odor & VOC Control

ATMOS

Pioneering Environmental Solutions

FEATURES

- Biodegradable
- Non-hazardous
- Non-combustible
- No ambient temperature limits
- Consumes no valuable airspace
- Withstands moderate rainfall
- Maintains integrity up to 72 hours
- No leachate interference
- No clean-up necessary
- Easy to use
- Scavengers cannot see or smell the trash

FROM INDUSTRY LEADING TECHNOLOGY TO ON-SITE SERVICE, ATMOS' FOAM TECHNOLOGY IS THE MOST ADVANCED AND COST EFFECTIVE ALTERNATIVE DAILY COVER AND ODOR CONTROL SOLUTION

Atmos Cover ADC

Atmos Technologies' Alternative Daily Cover is a highly engineered system of aqueous foam and application equipment that effectively meets the performance criteria of Subtitle D. The cover material, Atmos Cover ADC, is a non-hardening protein based foam that can be adjusted to last from overnight to over a weekend.

Atmos Cover ADC forms a barrier between the waste and the atmosphere to provide both an immediate and effective barrier to minimize odors, VOC's, disease vectors and blowing litter. It can also be applied directly to liquid surfaces such as lagoons and retention ponds.

Pneumatic Foam Unit (PFU) 2500

Big, Quick & Powerful

The self-propelled unit is ideal for sites where quick coverage of large areas is important. The PFU 2500 is self-contained and designed to meet the rugged demands of solid waste landfills and environmental remediation sites. The Atmos Cover ADC is applied by our 12 foot wide, rear-mounted, bi-directional spray bars, hose reels, or front monitor system. A climate controlled safety cab provides the operator with superior safety and comfort while applying the cover. The Atmos ADC system is built for a quick, one-person operation.

The unit includes diesel driven hydraulics, air compressor, rubber tracks and drive assemblies, pump, hoses, solution storage tank, freeze protection and our proprietary foam-generating technology. This unit is designed to operate with Atmos' Bulk Storage & Dilution System (BSD).

ATMOS

Pioneering Environmental Solutions

17 Campus Boulevard, Suite 100, Newtown Square, PA 19073

Phone: 610-436-4314 atmos-technologies.com

FEATURES

Durable, rubber tracks

CAT ® C-7 Engine
Maintenance free

SPECIFICATIONS

Solution Tank
2500 Gallons

Coverage Rate
400-800 Sq. Ft./Min.

Size
Length: 29'6"
Width: 8'6"W
Height: 10'9"H

Weight
40,000 Lbs

Application
Spray bars, hose reel, monitor nozzle

Freeze Protection
120 VAC or 230 VAC, 30A, single phase

Atmos Cover ADC
The Best Solution for Odor and VOC Control

The Turn Key Solution

The Atmos setup includes foam concentrate, application equipment, bulk storage, mixing center training and a full maintenance program.

Cost Effective

No capital investment and no rental fees for equipment. Overall cost lower than other ADCs.

Zero Lost Airspace

Improves the value of the landfill by extended the useful life and maximizes the return on investment

Superior Coverage

The foam layer provides superior performance versus other products. The multi-directional spray bars ensure no gaps or shadowing for odors to escape.

Quick & Easy to Use

Atmos Cover ADC can be applied effectively by a single trained employee; simple daily setup and no clean-up is required

Apply in All Temperatures

Improves site operations even under the harshest, cold weather conditions. Withstands snow, moderate rainfall, extreme temperatures, and wind.

Atmos Cover performs as a soil equivalent cover

CONTROL FOUL ODORS
Atmos Cover ADC forms a complete barrier to odors. The foam forms an impenetrable barrier around the working face .

CONTROL BLOWING LITTER
Atmos Cover ADC is holds down the waste to prevent blowing trash.

CONTROL FIRE HAZARDS
Atmos Cover ADC is non-combustible. Sites often write it into their fire prevention plan. Our combustibility testing is available upon request.

CONTROL DISEASE VECTORS
Atmos Cover ADC forms a barrier that prevents odors or visual attraction. Vectors will not land on, peck at or move into the foam covered area.

CONTROL SCAVENGERS
Atmos Cover ADC prevents scavengers' sight or smell of the trash

Technical Data Sheet

ATMOS

Atmos Cover ADC

The Alternative Daily Cover

Atmos Cover ADC foam concentrate is a patented formulation that produces a thick, long lasting foam barrier for immediate control of blowing litter, disease vectors, and scavengers when applied to landfills as a daily cover. Atmos Cover ADC is specifically designed for use with Atmos' Bulk Storage and Dilution Center (BSD) and Moroo-ka-based Pneumatic Foam Unit (PFU). The system provides a Daily Cover capable of lasting 72 hours.

Features

Zero PFOS / PFAS
Biodegradable
Non-Hazardous
Non-Combustible
Use at any ambient temperature

Benefits

Consumes zero airspace
Repels scavengers
Withstands moderate rainfall
No clean-up
No leachate interference

Applications

The primary application for Atmos Cover ADC is for use as a Daily Cover for Solid Waste Landfills replacinging soil, tarps and other ineffective and labor-intensive materials. Atmos Cover ADC provides an immediate and effective barrier between the waste and the atmo-sphere to minimize working face odors. The product adheres to near-vertical surfaces such as balefills or liquid surfaces such as lagoons and retention ponds.

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Pioneering Environmental Solutions

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Newtown Square, PA 19073
Phone: 610-436-4314
atmostechnologies.com

Technical Data Sheet

ATMOS

Bulk Storage & Dilution Center (BSD)

The All-In-One System

Atmos' Bulk Storage & Dilution system is designed to handle bulk tank truck quantities of foam concentrate. The system allows for the foam concentrate to be automatically diluted, metered, and transferred into the on-board solution storage tank of Atmos' Pneumatic Foam Unit. The BSD is designed for use at a solid waste landfill or environmental remediation site. The system is freeze protected and insulated allowing for optimum use of our Foam Products year-round in any ambient temperature.

Features

Insulated and Freeze Protected
Eliminates drum handling
One-touch control panel
Auto on/off

Benefits

Easy-to-operate
Skid-Mounted for easy setup
Fast product transfer
No monitoring required during fill time

Specifications

Capacity	7,000 Gallons
Transfer Rate	0 - 60 Gallons per Minute (gpm)
Products	Atmos Foam Products
Uses	Sanitary Landfills / Remediation sites
Electrical System:	240 V, 100 amp, single phase

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Phone: 610-436-4314
atmos-technologies.com

Daily Cover

Superior Alternative Daily Cover System

Atmos lowers your risks, protects your workers and improves your profit where it counts, at the landfill site. We do this by providing you the most comprehensive daily cover program, highly engineered and field proven application equipment and world class technical service.

Atmos' ADC System is a highly engineered system of cover material, application equipment and storage and dilution equipment that effectively meets the performance criteria of Subtitle D. The cover material, Atmos Cover ADC, is a non-hardening protein based foam that can be adjusted to last from overnight to over a weekend by changing the dilution ratio and the depth of coverage. The PFU2500 is a self- propelled, single operator, Caterpillar based application unit that will cover a 28,000 ft² working face with a single fill in 40 minutes. The BSD7000 storage and dilution system is designed for bulk deliveries of Atmos Cover ADC and connects to the PFU2500 with a single hose. The

BSD7000 automatically dilutes the Atmos Cover ADC concentrate and pumps the desired volume of diluted material to the PFU2500. The PFU2500 uses compressed air to generate 50,000 gallons of foam per fill.

In addition to the PFU2500, Rusmar fabricates trailer mounted foam generations units of various sizes designed to meet the needs of smaller landfills. These units come fitted with either hose reels or turrets for ease of application.

Program Benefits	Value Provided to Landfill Operator
Superior Coverage	Meets or exceeds all Subtitle D performance criteria
All-Weather Performance	Improves site operations even under the harshest cold weather conditions
Superior Odor Control	Reduces risk of non-compliance fines and enhances "good neighbor" image
Consumes Zero Airspace	Improves value of landfill, extends landfill life and maximizes return on capital
Improves Operator Safety	Creates a safer work environment, minimizes lost time accidents and minimizes workman's compensation exposures
Enhances Litter Control	Reduces risk of non-compliance fines and enhances "good neighbor" image
Quick Application Time	Reduces overtime, equipment maintenance and improves profitability

Exceptional Dust Control	Reduces risk of noncompliance fines and improves working conditions and worker safety	
Simple, Easy to Use	Reduces waste, enhances profitability	

SAFETY DATA SHEET

SOIL EQUIVALENT FOAM
ATMOS COVER ADC

Section 1. Identification

GHS product identifier : ATMOS COVER ADC

Chemical name : Proprietary Surfactant.

Other means of identification : Aqueous anionic surfactant mixture.

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Aqueous Surfactant. Spray application for VOC and Odor control.

Area of application : Industrial applications.

Supplier/Manufacturer : CCR Specialty Chemicals (Subs: Rusmar, Inc.)
17 Campus Blvd., Suite 100
Newtown Square, PA 19073
Phone: 1-800-733-3626 or
610-436-4314

E-mail : info@atmos-technologies.com
Website: www.atmos-technologies.com

Emergency telephone number (with hours of operation) : CHEMTREC 800 424 9300

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : Proprietary Surfactant.

Other means of identification : Aqueous anionic surfactant mixture.

CAS number/other identifiers

CAS number : Not available.

Product code : Not available.

Ingredient name	Other names	%	CAS number
Proprietary Surfactant.	-	100	-

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Section 4. First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Clear viscous liquid.]

Color : Translucent. White.

Odor : Odorless.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : 99°C (210.2°F)

Flash point : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Not applicable.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : 3.3 kPa (25 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.01 to 1.06

Solubility : Easily soluble in the following materials: cold water and hot water.

Solubility in water : Easily soluble.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : Keep away from heat.

Incompatible materials : No specific data.

Hazardous decomposition products : Low levels of sulfur oxides on exposure to high temperatures (concentrate).

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Conclusion/Summary : Not expected.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Section 11. Toxicological information

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

United States

Section 12. Ecological information

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	-	-	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: Not determined.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

No products were found.

SARA 313

Not applicable.

State regulations

Massachusetts : This material is not listed.

New York : This material is not listed.

New Jersey : This material is not listed.

Pennsylvania : This material is not listed.

California Prop. 65

None of the components are listed.

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	0
Flammability	0
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
Not classified.	

History

Date of issue/Date of revision : 11/23/2020

Date of previous issue : No previous validation

Version : 1

Prepared by : IHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Section 16. Other information

References : HCS (U.S.A.)- Hazard Communication Standard
International transport regulations

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

HOLIDAY TIER 3 ECO FRIENDLY

Version number: GHS 3.0
Replaces version of: 2024-03-19 (GHS 2)

Revision: 2024-03-19

SECTION 1: Identification

1.1 Product identifier

Trade name **HOLIDAY TIER 3 ECO FRIENDLY**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses General use

1.3 Details of the supplier of the safety data sheet

O&E SOLUTIONS
813 Harbor Blvd #292
West Sacramento, CA 95691

Phone: 570-236-0750

1.4 Emergency telephone number If swallowed, call your poison control center @ (800) 222-1222

Emergency information service

InfoTrac contract number: H7V9634012.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This mixture does not meet the criteria for classification.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word not required
- Pictograms not required

2.3 Other hazards

There is no additional information.

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0.1%.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of ≥ 0.1%.

HOLIDAY TIER 3 ECO FRIENDLY

Version number: GHS 3.0
Replaces version of: 2024-03-19 (GHS 2)

Revision: 2024-03-19

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

IUPAC name	Identifier	Wt%	Classification acc. to GHS
2-methoxy-4-(prop-2-en-1-yl)phenol	CAS No 97-53-0	1 – < 5	Acute Tox. 4 / H302

Remarks

For full text of abbreviations: see SECTION 16

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

HOLIDAY TIER 3 ECO FRIENDLY

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO2)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

not required

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Control of the effects

Protect against external exposure, such as

frost

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)
this information is not available

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Color	colorless - clear
Particle	not relevant (liquid)
Odor	Comparable to standard

Other safety parameters

pH (value)	not determined
Melting point/freezing point	not determined
Initial boiling point and boiling range	≥309.2 °F at 1,013 hPa
Flash point	200 °F
Evaporation rate	Not determined
Flammability (solid, gas)	not relevant, (fluid)

Vapor pressure	2,600 Pa at 25 °C
Density	not determined
Vapor density	this information is not available
Relative density	Information on this property is not available

Solubility(ies)

- Water solubility	miscible in any proportion

Partition coefficient

- n-octanol/water (log KOW)	this information is not available

Auto-ignition temperature	518 °F
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

9.2 Other information

Liquid content	99.93 %
Solid content	0.071 %
Temperature class (USA, acc. to NEC 500)	T2B (maximum permissible surface temperature on the equipment: 260°C)

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidizers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This mixture does not meet the criteria for classification.

Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4: May be harmful if inhaled.

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as toxic to the aquatic environment.

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0.1%.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of ≥ 0.1%.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**Transport hazard class(es)**	none
14.4	**Packing group**	not assigned
14.5	**Environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Not subject to transport regulations.

International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) not all ingredients are listed (ACTIVE)

Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

- Specific Toxic Chemical Listings (EPCRA Section 313)

none of the ingredients are listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

none of the ingredients are listed

Clean Air Act

none of the ingredients are listed

Right to Know Hazardous Substance List

- Cleaning Product Right to Know Act Substance List (CA-RTK)

Name of substance	CAS No	Functionality	Authoritative Lists
2-methoxy-4-(prop-2-en-1-yl)phenol	97-53-0		EU Fragrance Allergens

- Toxic or Hazardous Substance List (MA-TURA)

none of the ingredients are listed

- Hazardous Substance List (NJ-RTK)

none of the ingredients are listed

- Hazardous Substance List (Chapter 323) (PA-RTK)

none of the ingredients are listed

- Hazardous Substance List (RI-RTK)

none of the ingredients are listed

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	0	no significant risk to health
Flammability	1	material that must be preheated before ignition can occur

Category	Rating	Description
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	1	material that must be preheated before ignition can occur
Health	0	material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information, including date of preparation or last revision

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
1.3	Details of the supplier of the safety data sheet: Alpha Aromatics 294 Alpha Dr Pittsburgh PA 15238 United States Telephone: 412-252-1012 Telefax: 412-252-1014 e-mail: info@alphaaromatics.com Website: http://www.alphaaromatics.com/	Details of the supplier of the safety data sheet: O&E SOLUTIONS 813 Harbor Blvd #292 West Sacramento, CA 95691 Phone: 570-236-0750	yes
1.3	e-mail (competent person): info@alphaaromatics.com		yes

HOLIDAY TIER 3 ECO FRIENDLY

Version number: GHS 3.0
Replaces version of: 2024-03-19 (GHS 2)

Revision: 2024-03-19

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
1.4	Emergency information service: (800) 535-5053 This number is only available during the following office hours: Mon-Fri 08:00 AM - 05:00 PM InfoTrac contract number: H7V9634012.	Emergency information service: InfoTrac contract number: H7V9634012.	yes
12.1	Toxicity: Test data are not available for the complete mixture.	Toxicity: Shall not be classified as toxic to the aquatic environment.	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
Acute Tox.	Acute toxicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
ED	Endocrine disruptor
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
IUPAC	International Union of Pure and Applied Chemistry
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Appendix D

West Toe Drain Installation Work Plan

Slope Stability Recommendations

Geo-Logic ASSOCIATES

Memorandum

To: Steve Cassulo **Date:** July 19, 2024

From: Rick Mitchell – Geo-Logic Associates

Subject: West Toe Drain Installation Work Plan – Slope Stability Recommendations

This memorandum was prepared by Geo-Logic Associates (GLA) and provides recommendations for the slope excavations that will be required to implement the West Toe Drain Work Plan (Work Plan) that was prepared by Tetra Tech (TT) on behalf of Chiquita Canyon Landfill (Landfill). The Project will include installation of approximately 1,070 linear feet of new 18-inch diameter high density polyethylene (HDPE) perforated pipe near the toe of the western slope of the Landfill along an approximately 1.8-acre area that is currently covered with a temporary scrim liner. Installation of the toe drain will require temporary excavations near the bottom of the western slope that are currently planned to be cut at an inclination of about 1H:1V (horizontal:vertical) and will result in slopes that are about 13- to 23-feet high. The cuts are expected to be backfilled within about one day to final slope configurations that will be determined by conditions encountered in the field and that are expected to have backfill slopes that vary from approximately 1.5H:1V to approximately 2H:1V.

PURPOSE AND SCOPE

The purpose of this memorandum is to provide recommendations for the temporary and final slopes that will be associated with the project. The scope of work performed to meet this objective included:

- Review of the project design and planned construction procedures.
- Review of western slope performance and Propeller drone aerial topographic survey information for the period of May 2023 and June 2024.
- Comparison of western slope conditions following remediation work performed in November 2023 with the 1H:1V excavation slopes shown in the TT Work Plan.
- Comparative limit equilibrium stability analyses to assess the relative effects of cutting the existing slopes to 1H:1V and then backfilling the excavation following

installation of the drain to the configuration shown in TT Detail 5 on Sheet C-501 in Appendix B of the Work Plan.

- Development of excavation and backfill recommendations for the project.

PROJECT DESCRIPTION

In accordance with the TT project description in the main body of this Work Plan and with the TT drawings in Appendix B, the project will include:

- Placing steel plates over the top of the length of the existing concrete perimeter channel that is along the western perimeter of the work zone.
- Placing about 1- to 5-feet of earth fill over the top of the steel plates to widen the existing perimeter access road and provide a working area for the excavation and equipment and haul trucks that will be used for the Project.
- Removing the black scrim geosynthetic cover that is present on the slope.
- Excavation of along the toe of the western slope sufficient to: (i) allow inspection and repair of portions of the Landfill base liner that were damaged during previous slope repair work in October 2023, and (ii) install the toe drain in accordance with TT Detail 5.
- Backfilling the excavation in general accordance with TT Detail 5 in Appendix B. As shown in this detail, the backfill will include (from bottom to top): drainage gravel, 4-in to 9-in washed stone drain rock; a 6-oz/yd^2 nonwoven geotextile; a 60-mil double-side textured HDPE geomembrane; general soil backfill; and a final 30-mil HDPE geomembrane.
- Removing the earthfill and steel plates previously placed on the concrete channel and removing all debris from the channel.

As shown in the drawings, the toe drain alignment will be parallel to the western slope and will be set on top of the existing side slope liner about 10 feet inboard from the crest (or hinge) of the underlying liner. The excavation slopes shown in the TT drawings are 1H:1V and vary in vertical height from about 13 feet (Section D) to 23 feet (Section A). The excavation and installation work will be performed in segments, whereby each segment will be excavated and backfilled before moving to the next segment. Landfill personnel estimate about three days will be required to excavate and backfill each segment.

WESTERN SLOPE PERFORMANCE AND CONDITIONS

Slope topographic conditions between May 31, 2023 and May 8, 2024 for the four cross sections shown in TT Drawing C-101 in Appendix B were evaluated based on drone aerial survey information and are summarized in Table 1. As indicated in this table, on May 31, 2023, the slope inclinations along the section lines varied from about 4H:1V along Section D to a maximum of about 3.3H:1V along Section A. Lateral bulging was noted along all section lines between about July and September 2024 and by early October, the displaced material had affected the access road and drainage at the toe of the slope.

Beginning on or about October 10, the displaced material was removed by excavating it back about 20 to 40 feet from the toe of the slope. This excavation resulted in east-facing cut slopes that varied from about 1H:1V to about slightly more than 2H:1V (the vertical heights of these slopes are summarized in Table 1). The excavated material was covered with the black geosynthetic scrim in early November, and although direct observation of the slope area has been limited since it was covered, the topographic profiles indicate limited lateral deformation and an overall flattening of the covered slope between December 2023 and May 8, 2024.

The profiles for the period of May 31, 2023 to May 8, 2024 show no evidence of movement consistent with a slope failure or slide. This interpretation is supported by periodic GLA site observations that have shown no evidence of the surface features that would be expected if the slope had been affected by a slide. The Landfill Weekly Cover Reports for 2024 have not identified significant tension cracks on or at the crest of the western slope that would be expected if significant sliding occurred or was imminent along the scrim covered portion of the western slope in 2024. The Landfill Weekly Cover Reports also have not identified any evidence of slope instability in the areas covered by the 30-mil geomembrane. Considering the slope profiles and these observations, it is our opinion that the lateral displacement along this portion of the western slope is consistent with settlement-related “squeezing” of the waste mass where it is not constrained from lateral movement along the free face of the western slope.

RECOMMENDATIONS

Excavations

Comparative stability analysis indicates excavating a 23-ft high 1H:1V back cut decreases the static safety factor of the slope by about 0.1 compared to existing conditions at the toe of the western slope. The analysis indicates backfilling the excavation in general

accordance with the profile shown in TT Detail 5 increases the safety factor by about 0.3 compared to existing conditions. In other words, if the current static safety factor is 1.2 (for example), the analyses indicate the stability of the temporary 1H:1V cut would be about 1.1 and the stability of the final slope would be about 1.5.[1]

Although the current safety factor of the toe of the western slope is uncertain due to the variability and uncertainties regarding the waste shear strength and the leachate levels in the, the existing cut has stood since it was excavated in November 2023, there is no site evidence that the slope has failed by rotational or translational sliding, and the results of the analysis indicate the planned excavation will have limited effect on stability of the slope. Accordingly, it is our opinion that the planned temporary 1H:1V cut slopes up to about 23 vertical feet high are feasible for temporary slopes that will be backfilled within 24 hours of excavation subject to the following recommendations:

1. The excavation should be performed in segments. GLA understands that the currently planned segment widths are 75 to 150 feet, depending on conditions that are encountered. It is possible that the width may need to be decreased if weak materials or significant fluids are encountered. We recommend that relatively small widths be considered for the initial excavations and that the widths be adjusted as the project is implemented.
2. Placement of the leachate pipe and drain rock should be initiated as soon as practicable, but no more than 12 hours after excavation.
3. Each segment should be completed to the top of the engineered soil backfill before excavation on the next segment starts. Placement of the 30-mil geomembrane can be deferred until excavation and backfilling has been completed.

It is recommended that the excavation work be monitored, and that the slope recommendations and procedures be modified if necessary or appropriate based on the conditions that are encountered. Non-structural modifications that could be implemented to increase excavation stability, if necessary, could include decreasing the width of the

[1] It is important to note that there is appreciable variation and uncertainty associated with degraded MSW shear strengths, leachate levels, and the degree of leachate saturation in the project area. This means that a calculated safety factor will vary and may overestimate or underestimate the stability of a slope at different locations. Accordingly, the purpose of this analysis was not to calculate a specific safety factor for the proposed temporary cuts. Rather, it was to assess the relative effect of the planned excavation on existing conditions.

excavation; "hopscotching" or "checkerboarding" the excavations; and/or flattening the excavation slope.[2] It is possible that site observations and the conditions encountered during construction will allow the width of the excavation segments to increase beyond the 75-foot recommended maximum.

Earthfill Slopes

As shown in TT Sections A, B, C, and D (Drawings C-301 and C-302) and Detail 5 on Drawing C-501, the toe of the cut will be backfilled with drain rock following placement of the 18-inch pipe. The drain rock will be placed near the crest (hinge) of the underlying side slope liner and it will placed to catch the slope of the excavation. As currently shown in the Drawings, the drain rock will be covered by nonwoven geotextile and 60-mil HDPE geomembrane, that in turn, will be covered with general soil backfill. GLA recommends that the side slope liner geomembrane that is exposed and repaired during the work be covered by protective soil as soon as practicable. The slope of the general soil backfill should be no steeper than 1.5H:1V to 2H:1V and it should catch and conform to the grade of the access road at or beyond the existing anchor trench on the west and catch and conform to the grade of the existing slope approximately at the top of the excavation on the east. These slope recommendations should be reviewed and modified, if necessary, based on conditions encountered during the work.

Safety

GLA understands that the work will be performed under the procedures and protocols in the Health and Safety Plans (HASPs) in Appendix C of this Work Plan. We recommend that the following excavation-specific safety considerations be addressed or otherwise incorporated in project if not already included:

- The project should address the relevant Occupational Safety and Health Administration (OSHA) Excavation standards in 29 Code of Federal Regulations (CFR) Part 1926, Subpart P.
- It is assumed that construction personnel will be required to place and join the sections of perforated pipe at the base of the excavation cut slope. The number of

[2] Hopscotching or checkerboarding refers to a procedure where a segment of a slope is excavated and backfilled and the next segment is located one or more segment widths away and then excavated and backfilled. This procedure is repeated until the un-excavated segments are supported on both sides by relatively stronger engineered backfill. The un-excavated segments are then excavated and backfilled.

personnel and time working within the excavation should be limited to the extent practicable.

- A competent spotter is recommended during excavation and whenever personnel are working within the excavation near the toe of the excavation slope to monitor for slope movements, bulging, seepage, or other indications of possible slope movements that could jeopardize the safety of personnel and equipment or that could compromise the integrity of the excavation and/or surrounding areas.[3]
- An audio-visual warning system that will allow a spotter to communicate observations that may require immediate protective actions should be developed and implemented. We understand that radios will be used for audio communications during the work. Typical visual warning systems include flags, hand signals, warning lights, and air horns.
- Materials that could fall or roll into the excavation should be removed from the top of the excavation and/or scaled from the excavation walls. Heavy equipment should not be used or parked above the active excavation area.

GLA recommends that the excavation and backfill safety and monitoring protocols be reviewed regularly and revised as needed.

*****

[3] In accordance with 29 CFR Part 1926, Subpart P, a competent person is a designated individual who can identify existing and conditions in the surroundings or working conditions that are potentially hazardous to workers, and who is authorized to take prompt corrective measures to eliminate them.

Table 1
SUMMARY OF WESTERN SLOPE TOPOGRAPHIC CONDITIONS
(May 31, 2023 - May 8, 2024)
West Toe Drain Installation Work Plan
Chiquita Canyon Landfill

DATE OF TOPOGRAPHIC PROFILE	CONDITION	OVERALL SLOPE (Toe to Top of Slope or End of Section)			MAXIMUM INCLINATION WITHIN OVERALL SLOPE			LATERAL MOVEMENT RELATIVE TO PRECEDING DATE	
		Horizontal Length (ft)	Vertical Height (ft)	Slope Ratio (H:V)	Horizontal Length (ft)	Vertical Height (ft)	Slope Ratio (H:V)	Deformation (ft)	Note
TETRA TECH SECTION A									
5/31/2023	Evaluation Baseline	91	28	3.3 :1	23	11	2.1 :1		
10/9/2023		94	31	3.0 :1	24	15	1.6 :1	5	
10/23/2023	Toe Grading and Debris Removal	60	31	1.9 :1	23	25	0.9 :1	-35	Toe Cut Back
11/6/2023		66	34	1.9 :1	28	29	1.0 :1	0	Cut Deepened 5 Ft
11/7/2023	Scrim Placement								
11/22/2023									
12/13/2023		52	33	1.6 :1	12	14	0.9 :1	3	
1/2/2024		54	33	1.6 :1	13	14	0.9 :1	3	
5/8/2024	TT Design Section Date	61	32	1.9 :1	14	13	1.1 :1	10	
TETRA TECH SECTION B									
5/31/2023	Evaluation Baseline	156	38	4.1 :1	25	13	1.9 :1		
10/9/2023		157	37	4.2 :1	25	14	1.8 :1	6	
10/23/2023	Toe Grading and Debris Removal	158	38	4.2 :1	22	14	1.6 :1		Upper Debris Removed
11/6/2023		130	40	3.3 :1	20	17	1.2 :1	-37	Toe Cut Back
11/7/2023	Scrim Placement								
11/22/2023									
12/13/2023		54	28	1.9 :1	20	14	1.4 :1	4	
1/2/2024		60	29	2.1 :1	20	14	1.4 :1	<1	
5/8/2024	TT Design Section Date	60	28	2.1 :1	15	12	1.3 :1	14	
TETRA TECH SECTION C									
5/31/2023	Evaluation Baseline	168	43	3.9 :1	38	17	2.24 :1		
10/9/2023		170	44	3.9 :1	20	15	1.33 :1	12	
10/23/2023	Toe Grading and Debris Removal	170	44	3.9 :1	20	15	1.33 :1	1	
11/6/2023		121	39	3.1 :1	14	16	0.9 :1	-66	Toe Cut Back
11/7/2023	Scrim Placement								
11/22/2023									
12/13/2023		99	37	2.7 :1	24	15	1.6 :1	24	
1/2/2024		102	38	2.7 :1	22	16	1.4 :1	1	
5/8/2024	TT Design Section Date	109	35	3.1 :1	27	14	1.93 :1	10	
TETRA TECH SECTION D									
5/31/2023	Evaluation Baseline	101	27	3.7 :1	33	10	3.3 :1		
10/9/2023		107	30	3.6 :1	11	6	1.83 :1	11	
10/23/2023	Toe Grading and Debris Removal							1	No Excavation
11/6/2023		87	30	2.9 :1	32	17	1.88 :1	-21	Toe Cut Back
11/7/2023	Scrim Placement								
11/22/2023									
12/13/2023		85	32	2.7 :1	20	10	2.0 :1	10	
1/2/2024		82	31	2.6 :1	22	10	2.2 :1	1	
5/8/2024	TT Design Section Date	86	29	3.0 :1	22	8	2.75 :1	13	

Appendix E

Atmos Aqueous Foam Application for Odor Control

ATMOS

Alternative Daily Cover for Odor & VOC Control

ATMOS

Pioneering Environmental Solutions

FEATURES

- Biodegradable
- Non-hazardous
- Non-combustible
- No ambient temperature limits
- Consumes no valuable airspace
- Withstands moderate rainfall
- Maintains integrity up to 72 hours
- No leachate interference
- No clean-up necessary
- Easy to use
- Scavengers cannot see or smell the trash

FROM INDUSTRY LEADING TECHNOLOGY TO ON-SITE SERVICE, ATMOS' FOAM TECHNOLOGY IS THE MOST ADVANCED AND COST EFFECTIVE ALTERNATIVE DAILY COVER AND ODOR CONTROL SOLUTION

Atmos Cover ADC

Atmos Technologies' Alternative Daily Cover is a highly engineered system of aqueous foam and application equipment that effectively meets the performance criteria of Subtitle D. The cover material, Atmos Cover ADC, is a non-hardening protein based foam that can be adjusted to last from overnight to over a weekend.

Atmos Cover ADC forms a barrier between the waste and the atmosphere to provide both an immediate and effective barrier to minimize odors, VOC's, disease vectors and blowing litter. It can also be applied directly to liquid surfaces such as lagoons and retention ponds.

Pneumatic Foam Unit (PFU) 2500

Big, Quick & Powerful

The self-propelled unit is ideal for sites where quick coverage of large areas is important. The PFU 2500 is self-contained and designed to meet the rugged demands of solid waste landfills and environmental remediation sites. The Atmos Cover ADC is applied by our 12 foot wide, rear-mounted, bi-directional spray bars, hose reels, or front monitor system. A climate controlled safety cab provides the operator with superior safety and comfort while applying the cover. The Atmos ADC system is built for a quick, one-person operation.

The unit includes diesel driven hydraulics, air compressor, rubber tracks and drive assemblies, pump, hoses, solution storage tank, freeze protection and our proprietary foam-generating technology. This unit is designed to operate with Atmos' Bulk Storage & Dilution System (BSD).

ATMOS

Pioneering Environmental Solutions

17 Campus Boulevard, Suite 100, Newtown Square, PA 19073

Phone: 610-436-4314 atmos-technologies.com

FEATURES

Durable, rubber tracks

CAT ® C-7 Engine
Maintenance free

SPECIFICATIONS

Solution Tank
2500 Gallons

Coverage Rate
400-800 Sq. Ft./Min.

Size
Length: 29'6"
Width: 8'6"W
Height: 10'9"H

Weight
40,000 Lbs

Application
Spray bars, hose reel, monitor nozzle

Freeze Protection
120 VAC or 230 VAC, 30A, single phase

Atmos Cover ADC
The Best Solution for Odor and VOC Control

The Turn Key Solution

The Atmos setup includes foam concentrate, application equipment, bulk storage, mixing center training and a full maintenance program.

Cost Effective

No capital investment and no rental fees for equipment. Overall cost lower than other ADCs.

Zero Lost Airspace

Improves the value of the landfill by extended the useful life and maximizes the return on investment

Superior Coverage

The foam layer provides superior performance versus other products. The multi-directional spray bars ensure no gaps or shadowing for odors to escape.

Quick & Easy to Use

Atmos Cover ADC can be applied effectively by a single trained employee; simple daily setup and no clean-up is required

Apply in All Temperatures

Improves site operations even under the harshest, cold weather conditions. Withstands snow, moderate rainfall, extreme temperatures, and wind.

Atmos Cover performs as a soil equivalent cover

CONTROL FOUL ODORS
Atmos Cover ADC forms a complete barrier to odors. The foam forms an impenetrable barrier around the working face .

CONTROL BLOWING LITTER
Atmos Cover ADC is holds down the waste to prevent blowing trash.

CONTROL FIRE HAZARDS
Atmos Cover ADC is non-combustible. Sites often write it into their fire prevention plan. Our combustibility testing is available upon request.

CONTROL DISEASE VECTORS
Atmos Cover ADC forms a barrier that prevents odors or visual attraction. Vectors will not land on, peck at or move into the foam covered area.

CONTROL SCAVENGERS
Atmos Cover ADC prevents scavengers' sight or smell of the trash

Technical Data Sheet

ATMOS

Atmos Cover ADC

The Alternative Daily Cover

Atmos Cover ADC foam concentrate is a patented formulation that produces a thick, long lasting foam barrier for immediate control of blowing litter, disease vectors, and scavengers when applied to landfills as a daily cover. Atmos Cover ADC is specifically designed for use with Atmos' Bulk Storage and Dilution Center (BSD) and Moroo-ka-based Pneumatic Foam Unit (PFU). The system provides a Daily Cover capable of lasting 72 hours.

Features

Zero PFOS / PFAS
Biodegradable
Non-Hazardous
Non-Combustible
Use at any ambient temperature

Benefits

Consumes zero airspace
Repels scavengers
Withstands moderate rainfall
No clean-up
No leachate interference

Applications

The primary application for Atmos Cover ADC is for use as a Daily Cover for Solid Waste Landfills replacinging soil, tarps and other ineffective and labor-intensive materials. Atmos Cover ADC provides an immediate and effective barrier between the waste and the atmo-sphere to minimize working face odors. The product adheres to near-vertical surfaces such as balefills or liquid surfaces such as lagoons and retention ponds.

ATMOS
Pioneering Environmental Solutions

17 Campus Boulevard, Suite 100
Newtown Square, PA 19073
Phone: 610-436-4314
atmostechnologies.com

Technical Data Sheet

ATMOS

Bulk Storage & Dilution Center (BSD)

The All-In-One System

Atmos' Bulk Storage & Dilution system is designed to handle bulk tank truck quantities of foam concentrate. The system allows for the foam concentrate to be automatically diluted, metered, and transferred into the on-board solution storage tank of Atmos' Pneumatic Foam Unit. The BSD is designed for use at a solid waste landfill or environmental remediation site. The system is freeze protected and insulated allowing for optimum use of our Foam Products year-round in any ambient temperature.

Features

Insulated and Freeze Protected
Eliminates drum handling
One-touch control panel
Auto on/off

Benefits

Easy-to-operate
Skid-Mounted for easy setup
Fast product transfer
No monitoring required during fill time

Specifications

Capacity	7,000 Gallons
Transfer Rate	0 - 60 Gallons per Minute (gpm)
Products	Atmos Foam Products
Uses	Sanitary Landfills / Remediation sites
Electrical System:	240 V, 100 amp, single phase

ATMOS
Pioneering Environmental Solutions

17 Campus Boulevard, Suite 100
Newtown Square, PA 19073
Phone: 610-436-4314
atmos-technologies.com

Daily Cover

Superior Alternative Daily Cover System

Atmos lowers your risks, protects your workers and improves your profit where it counts, at the landfill site. We do this by providing you the most comprehensive daily cover program, highly engineered and field proven application equipment and world class technical service.

Atmos' ADC System is a highly engineered system of cover material, application equipment and storage and dilution equipment that effectively meets the performance criteria of Subtitle D. The cover material, Atmos Cover ADC, is a non-hardening protein based foam that can be adjusted to last from overnight to over a weekend by changing the dilution ratio and the depth of coverage. The PFU2500 is a self- propelled, single operator, Caterpillar based application unit that will cover a 28,000 ft² working face with a single fill in 40 minutes. The BSD7000 storage and dilution system is designed for bulk deliveries of Atmos Cover ADC and connects to the PFU2500 with a single hose. The

BSD7000 automatically dilutes the Atmos Cover ADC concentrate and pumps the desired volume of diluted material to the PFU2500. The PFU2500 uses compressed air to generate 50,000 gallons of foam per fill.

In addition to the PFU2500, Rusmar fabricates trailer mounted foam generations units of various sizes designed to meet the needs of smaller landfills. These units come fitted with either hose reels or turrets for ease of application.

Program Benefits	Value Provided to Landfill Operator
Superior Coverage	Meets or exceeds all Subtitle D performance criteria
All-Weather Performance	Improves site operations even under the harshest cold weather conditions
Superior Odor Control	Reduces risk of non-compliance fines and enhances "good neighbor" image
Consumes Zero Airspace	Improves value of landfill, extends landfill life and maximizes return on capital
Improves Operator Safety	Creates a safer work environment, minimizes lost time accidents and minimizes workman's compensation exposures
Enhances Litter Control	Reduces risk of non-compliance fines and enhances "good neighbor" image
Quick Application Time	Reduces overtime, equipment maintenance and improves profitability

Exceptional Dust Control	Reduces risk of noncompliance fines and improves working conditions and worker safety	
Simple, Easy to Use	Reduces waste, enhances profitability	

SAFETY DATA SHEET

SOIL EQUIVALENT FOAM
ATMOS COVER ADC

Section 1. Identification

GHS product identifier : ATMOS COVER ADC

Chemical name : Proprietary Surfactant.

Other means of identification : Aqueous anionic surfactant mixture.

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Aqueous Surfactant. Spray application for VOC and Odor control.

Area of application : Industrial applications.

Supplier/Manufacturer : CCR Specialty Chemicals (Subs: Rusmar, Inc.)
17 Campus Blvd., Suite 100
Newtown Square, PA 19073
Phone: 1-800-733-3626 or
610-436-4314

E-mail : info@atmos-technologies.com
Website: www.atmos-technologies.com

Emergency telephone number (with hours of operation) : CHEMTREC 800 424 9300

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : Proprietary Surfactant.

Other means of identification : Aqueous anionic surfactant mixture.

CAS number/other identifiers

CAS number : Not available.

Product code : Not available.

Ingredient name	Other names	%	CAS number
Proprietary Surfactant.	-	100	-

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Section 4. First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Clear viscous liquid.]

Color : Translucent. White.

Odor : Odorless.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : 99°C (210.2°F)

Flash point : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Not applicable.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : 3.3 kPa (25 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.01 to 1.06

Solubility : Easily soluble in the following materials: cold water and hot water.

Solubility in water : Easily soluble.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : Keep away from heat.

Incompatible materials : No specific data.

Hazardous decomposition products : Low levels of sulfur oxides on exposure to high temperatures (concentrate).

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Conclusion/Summary : Not expected.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Section 11. Toxicological information

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

United States

Section 12. Ecological information

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	-	-	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: Not determined.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

No products were found.

SARA 313

Not applicable.

State regulations

Massachusetts : This material is not listed.

New York : This material is not listed.

New Jersey : This material is not listed.

Pennsylvania : This material is not listed.

California Prop. 65

None of the components are listed.

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	0
Flammability	0
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
Not classified.	

History

Date of issue/Date of revision : 11/23/2020

Date of previous issue : No previous validation

Version : 1

Prepared by : IHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Section 16. Other information

References : HCS (U.S.A.)- Hazard Communication Standard
International transport regulations

Indicates information that has changed from previously issued version.

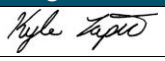
Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Appendix F

Soil Sampling and Analysis Plan

WEST TOE EXCAVATION
SOIL SAMPLING PLAN
CHIQUITA CANYON LANDFILL
CASTAIC, CALIFORNIA

Status	Name	Signature	Title	Date
Prepared By:	Kyle Lapic		Waste Specialist	8/7/2024
Reviewed By:	Kirk Kessler, PG		Senior Technical Specialist	8/7/2024
Approved By:				
Approved By:				
Approved By:				
Approved By:				

Soil Sampling Plan Change Log

Name	Signature	Change Comments	Date

Table of Contents

List of Acronyms and Abbreviations

CCR	California Code of Regulations
CFR	Code of Federal Regulations
CCL	Chiquita Canyon Landfill
EPA	U.S. Environmental Protection Agency
RCRA	Resource Conservation and Recovery Act
STLC	Soluble Threshold Limit Concentration
SVOC	Semi-Volatile Organic Compound
TCLP	Toxicity Characteristic Leaching Procedure
TTLC	Total Threshold Limit Concentration
VOC	Volatile Organic Compound

1.0 Introduction

This Soil Sampling Plan outlines the procedures for collecting and analyzing soil samples from the Chiquita Canyon Landfill (CCL) West Toe Drain Installation project. The purpose of this sampling is to establish the chemical characteristics of material in advance of planned excavation for the toe drain replacement and removal of bulged material along the toe area. The sampling data will be used to perform waste stream determinations (WSD) per the Resource Conservation Recovery Act (RCRA) regulations at 40 Code of Federal Regulations (CFR) 262.11 and California Hazardous Waste Determination rules found in 22 California Code of Regulations (CCR) Section 66262.11 for waste determinations.

2.0 Work Plan

2.1 Objective

The objective is to characterize leachate-impacted soil and reacted material (referred to together herein as soil) from the West Toe excavation area for the purpose of waste profiling (determination) and disposal. Waste determinations must be made at the point of generation, before any dilution, mixing, or other alteration of the waste occurs, to ensure proper handling, treatment, and disposal in compliance with relevant regulations.

The criteria for identifying hazardous waste are promulgated under the 40 CFR 261.20 – 261.24 and 22 CCR 66261.21 – 66261.24.

The following section describes the sampling strategy to achieve this objective.

2.2 Sampling Strategy and Rationale

CCL completed surface soil sampling (i.e., the upper 6 inches) of the work zone along approximate 100 linear-feet spacing on July 26, 2024 of the West Toe excavation. Analytical data concluded the soils were non-hazardous based on the eleven samples. A map indicating the sample locations has been provided as **Attachment A**.

The regulatory agencies request additional sampling of subsurface material be conducted. The plan for the additional sampling follows.

2.3 Field Sampling Plan

2.3.1 Sampling Locations and Depth

The North Linear Zone is relatively shallow on the north end of the work area and material thickness is relatively constant over the first 200 feet (ft) approximately of road length from the northern terminus. The trough of reacted material is roughly 8 inches deep at most. This is relatively constant over the first ~200' of road length from the north. This area is equivalent to locations S001 to S002 shown on the prior sampling map (**Attachment A**). Here, because of the shallow depth of the reacted material, CCL believes the existing sampling data, which was collected in the upper 6 inches, is representative of the material condition so no additional sampling is proposed.

The North Linear Zone from approximately 200 to 400 ft is characterized by a limited trough/channel width and depth, estimated to be between 2-3 ft deep throughout. CCL plans to collect a sample at approximately 225 ft, which is at approximately 3 ft depth of the reacted material. This location/depth will be used to characterize the subsurface soil for the 200-400 ft section. Because of the depth to liner, CCL has selected this depth to avoid hitting the bottom liner.

The Linear Zone from 400 to 900 ft consistently exhibits a material depth of reacted material of approximately 3 ft. A subsurface soil sample (at the 3ft depth) will be collected every 100 linear feet.

The Linear Zone from 900 to 1100 ft currently has standing liquids that make soil sampling not possible. As the project continues, we will reevaluate whether additional sampling in this area is possible or necessary.

Summary

- **Sampling Design:** Divide the excavation site into linear zones with flagging every 100 linear feet to ensure representative sampling.
- **Background Sampling:** Collect samples from undisturbed areas for comparison (as needed).
- **Surface Samples:** Collect from the top 6 inches of soil. [completed]
- **Subsurface Samples:** Collect from depths of 3 feet or based on site-specific conditions.

2.3.2 Sample Collection

Soil samples will be collected using grab sampling methods. Grab samples will be collected using a push tube, auger, shovel, post hole digger, or any appropriate device to be able to reach desired penetration depths without compromising the liner integrity. CCL will utilize single use Terra Core kits which are used as a transfer tool, designed to easily take soil samples and transferring them to the appropriate containers for in-field chemical preservation.

2.3.3 Sample Handling and Chain of Custody

Sample labeling, shipping, and chain of custody will be performed in accordance with the procedures specified in Packing, Marking, Labeling, and Shipping of Environmental and Waste Samples (EPA, 2023a) and Sample and Evidence Management (EPA, 2023b). Samples will be packed for shipping in a cooler on wet ice to maintain a 4°C condition. Chain of custody records will be sealed in a waterproof plastic bag and taped inside the cooler lids. After packing, two custody seals will be signed, dated and affixed from the cooler lid to the cooler body to ensure that any tampering with the cooler contents would be immediately evident to sample custodians on the receiving end of the shipment. The cooler lids will be sealed with strapping tape aligned overtop of the custody seals, and the coolers will be shipped overnight to the analytical laboratory.

2.4 Laboratory Analysis

All samples will be sent to Enthalpy Analytical for analysis. Enthalpy Analytical maintains a current National Environmental Laboratory Accreditation Program and California State Environmental Laboratory Accreditation.

2.4.1 Analytical Parameters

Characterization will focus on characteristics of ignitability (40 CFR 261.21 and 22 CCR 66261.21) and toxicity (40 CFR 261.24 and 22 CCR 66261.24).

Soil waste will be tested for volatile organic compounds (VOCs) by Method 8260; semi-volatiles (SVOCs) by Method 8270; the California Title 22 Metals including mercury by Method 7470 and the remaining metals by EPA Method 6010; hydrocarbons by EPA Method 8015 and flashpoint by EPA Method 1030. The toxicity characteristic determination will be evaluated based on the “Rule of 20” for determining the maximum theoretical leachability of a waste sample.

The Toxicity Characteristic Leaching Procedure (TCLP), Soluble Threshold Limit Concentration (STLC) (also referred to as a Waste Extraction Test), and Total Threshold Limit Concentration (TTLC) analyses are used to determine whether solid wastes are hazardous under California and federal regulations. TCLP and STLC are designed to simulate leaching in a landfill environment (STLC uses a more aggressive extraction solution), while TTLC is used to determine the total amount of a compound in the sample.

EPA has established the “Rule of 20” allowing the use of total analysis in solid waste characterization (e.g., spent carbon) and profiling in lieu of the TCLP analysis. EPA permits calculating the maximum theoretical leachability of wastes that are 100% solid by dividing the total concentration of the constituent by 20, and “if the maximum theoretical leachate concentration is below the regulatory threshold, the TCLP need not be run.” [60 FR 66389, December 21, 1995].

Attachment A

CTEH®

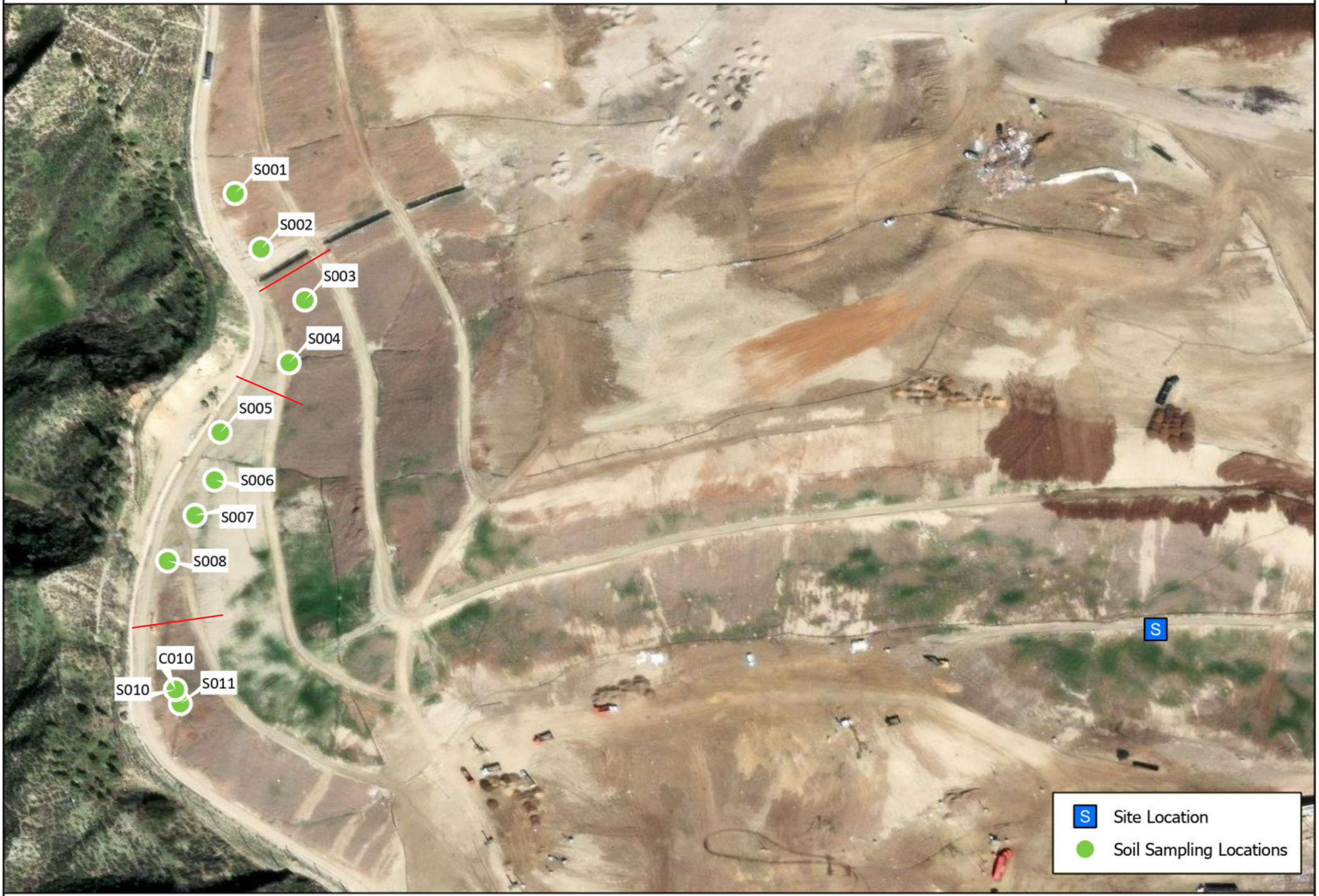
Soil Sampling Locations - July 26, 2024

Chiquita Canyon Landfill Waste Sampling

0 250 500 US Feet

N

Project: PROJ-037507
Client: Chiquita Canyon Landfill
City: Castaic, CA
County: Los Angeles



Projection: GCS WGS 1984 Datum: WGS 1984

Updated At: 8/7/2024 4:39 PM