

May 18, 2010

Project No. 01-114

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Southern California Clean up Operations Branch – Cypress Office
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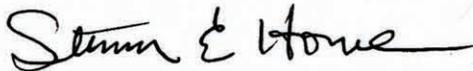
Ascon Landfill Site
Interim Removal Measure Workplan

Dear Mr. Sayed:

Enclosed please find two copies of the Interim Removal Measure Workplan – Lagoons 1 and 2 for the Ascon Landfill Site located in Huntington Beach, California. As discussed, other copies of this workplan will be placed in the two Ascon information repositories (Huntington Beach Central Park Main Library and Banning Branch Library) this evening (May 18, 2010).

Please feel free to contact me if you have any questions at (714) 388-1806 or showe@projectnavigator.com.

Sincerely,



Steve Howe, P.E.

For Tamara Zeier, P.E.
Ascon Landfill Site Project Coordinator

SH:cs

Enclosure: Ascon Landfill Site Interim Removal Measure Workplan – Lagoons 1 and 2

Interim Removal Measure Workplan: Lagoons 1 and 2

May 2010

**Ascon Landfill Site
Huntington Beach, California**

Prepared for

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INTERIM REMOVAL MEASURE WORKPLAN: LAGOONS 1 AND 2

Ascon Landfill Site
Huntington Beach, California

THIS DOCUMENT WAS PREPARED UNDER THE DIRECTION AND SUPERVISION OF A QUALIFIED
REGISTERED CALIFORNIA PROFESSIONAL ENGINEER



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1.0 SITE BACKGROUND

This Interim Removal Measure (IRM) Workplan: Lagoons 1 and 2 (IRM Workplan) describes a proposed removal of tarry liquids from Lagoons 1 and 2 at the Ascon Landfill Site (“Site”) located at 21641 Magnolia Street in Huntington Beach, California (see **Figure 1-1**). The IRM Workplan was prepared by the Ascon Landfill Site Responsible Parties (RPs)¹ pursuant to the Imminent And Substantial Endangerment Determination and Consent Order 02/03-007 with the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), effective January 8, 2003, and the Imminent and Substantial Endangerment Determination and Order and Remedial Action Order 02/03-018, effective March 5, 2003.

The objective of the Interim Removal Measure is to enable assessment of the materials underneath the tarry waste of Lagoons 1 and 2. These waste materials beneath the tarry liquids are of unknown composition and geotechnical quality and have not been assessed with the tarry liquids present due to worker safety concerns². During a March 20, 2008, meeting with the DTSC it was decided that an interim removal measure would enable further assessment of these materials in Lagoons 1 and 2.

The Site was operated as a waste disposal facility from approximately 1938 through 1984. The waste brought to the Site was placed on the original ground surface and contained by berms. As the waste accumulated, the berms were raised such that most of the Site has an elevation approximately 10 to 20 feet above the adjacent street level. Since 1984, the Site has remained mostly unchanged, aside from routine maintenance, construction of improved best management practices for storm water control, and an Emergency Action consisting of waste removal and Site grading in 2005 through early 2006.

Five visible impoundments, referred to as Lagoons 1 through 5, are present at the Site, as well as one covered pit (Pit F) and several former pits and lagoons that are no longer visible. The approximate locations of the visible impoundments, the seven former pits, and other significant feature such as buildings, gates, and oil production facilities are shown on **Figure 1-2**.

During the early years of operation, most of the waste disposed of on the Site came from oil

¹ The ten RPs are Chevron U.S.A. Inc., Texaco Inc. (Chevron U.S.A Inc. and Texaco Inc. are now combined as Chevron Corp.), Conoco Inc., Phillips Petroleum Company (Conoco Inc. and Phillips Petroleum Company are now combined as ConocoPhillips), ExxonMobil Corp., Shell Oil Company, Atlantic Richfield Company (ARCO), The Dow Chemical Company, TRW (now Northrop Grumman), and Southern California Edison Company. Two of the RPs, Chevron and ConocoPhillips, created a limited liability corporation called Cannery Hamilton Properties, LLC (“CHP”) to purchase the Site, and CHP is the current Site owner.

² The soils Baseline Health Risk Assessment indicated that the Site may not have adequate load bearing capacity to support the construction of buildings and that future uses of the Site may be restricted. Additional geotechnical assessment was conducted during Pilot Study No. 3 in 2004 to ensure that the Site could generally support a protective cap (Project Navigator, Ltd., 2007). Assessment of materials beneath the tarry liquids of Lagoons 1 and 2 will help to determine their geotechnical properties.

drilling operations. Oil field wastes included drilling muds, wastewater brines, and other drilling wastes. From 1971 to 1984, solid wastes such as asphalt, concrete, metal, soil, and wood were disposed on the Site.

Based on the review of aerial photographs, it appears that essentially the entire Site was used during the late 1950's for liquid waste disposal in impoundments, or lagoons. These former lagoons appear to have been partially backfilled with construction debris and fill material, leaving the current five lagoons with less surface area and higher surface elevation than the former lagoons. The surface elevation of Lagoons 1 and 2 (the lagoons from which the tarry liquids will be removed) is approximately 12 feet above the street level at Magnolia Street.

2.0 SUMMARY OF THE REMEDIAL INVESTIGATIONS

2.1 Past Investigations and Reports

Since 1966, there have been over 30 investigations conducted at the Site. The primary scope of these investigations was to characterize the surface materials, subsurface wastes and soils, air, soil vapors, background soils, groundwater and surface water. Characterization of the materials beneath the tarry liquids of Lagoons 1 and 2 has not been performed due to inaccessibility.

Some investigations focused on a characterization of surface soils or liquids, while others also included physical and chemical characterization of subsurface materials and groundwater. Additional recent studies focused on air quality, potential waste emissions, and groundwater quality. Summaries of the key investigations are presented in the Remedial Investigation (RI) report (ESE, 1997a), the Revised Feasibility Study (RFS) (Project Navigator, Ltd., 2007), and the Groundwater Remedial Investigation (Geosyntec Consultants, 2007).

2.2 Remedial Investigations

2.2.1 Remedial Investigation Report

The Remedial Investigation (RI) report (ESE, 1997a) presents the scope of work and results from 14 of the prior Site characterization investigations for which complete and proper documentation was available. The previous investigators of the Site collected soil and waste materials from over 200 locations. The sampled materials consisted of soil, sediment, and waste material from the eight pits, the five current lagoons, former lagoon areas, and the perimeter berm. Several offsite background locations were sampled for comparison purposes. Soil vapor and groundwater samples (onsite and offsite) were also collected and analyzed as were water seeps and air samples. The results of the Remedial Investigation (ESE, 1997a) are summarized in the RFS (Project Navigator, Ltd., 2007).

2.2.2 Post-RI Studies

Since the 1997 RI report, several investigations have been conducted and documented in the following reports:

- Technical Memorandum No. 1 Report of Findings, February 1, 2003, by Project Navigator, Ltd. – This report contains soil and groundwater sampling data collected in 2002. (Findings from this report are also included in the Revised Feasibility Study [Project Navigator, Ltd., 2007].)
- Groundwater Remedial Investigation, Revision 1.0, June 14, 2007, by Geosyntec Consultants – This report documents the results of five groundwater sampling events

and chemical analyses conducted during 2004 and 2006 and summarizes the 2002 groundwater data from the Technical Memorandum No. 1. Also discussed are groundwater flow directions, effect from the adjacent flood control channel, occurrence of non-aqueous phase liquids (NAPL) at the Site, and the Site's hydrogeology.

- Revised Feasibility Study (RFS), September 21, 2007, by Project Navigator, Ltd. – This report documents the results of Pilot Study No. 3 (2004) which investigated potential waste characteristics, characterized potential waste emissions, and includes air data collected during investigative operations. The RFS also summarizes the results from various air and soil gas investigations conducted after 1997, as well as summarizes the Groundwater Remedial Investigation, Revision 1.0.

These data have defined the types of waste materials present onsite, as well as their vertical and lateral extent, except for the vertical extent of the tarry materials in the lagoons and any impacted materials beneath them. A summary of the physical and compositional properties of tarry liquids from Lagoons 1 and 2 is presented in **Table 2-1**.

An Emergency Action was conducted in 2005 through early 2006 that provided more data and valuable information for the RFS. Refer to Section 3.0, below, and Emergency Action Completion Report and Addendum (Project Navigator, Ltd., 2006a, 2006b) for more information regarding the Emergency Action.

The tarry materials from Lagoons 1 and 2 were sampled in January 2009, per the DTSC-approved Interim Removal Measure Sampling Plan Technical Memorandum. During the January 2009 sampling event, samples were collected from the tarry materials in Lagoons 1 and 2 to provide additional information needed for the IRM, including physical and chemical properties of the material and potential recyclability of the materials. Samples were distributed to several potential recyclers and contractors to enable assessment of appropriate recycling options and transport methods. Data from this sampling event are needed to verify waste characteristics to determine the final disposal and/or recycling facility. Results from chemical analyses from the January 2009 sampling event are provided in a separate report (Geosyntec, 2009).

During the January 2009 sampling event, the depth of the tarry materials was determined in several locations in each lagoon to better estimate the volume of loose materials (see **Figure 2-1**). Using measured depths as an indicator of assumed depth in the general vicinity of each probe point and lateral floor extents as depicted in **Figure 2-2**, an estimated volume of tarry materials in Lagoons 1 and 2 is approximately 43,000 cubic yards (cy). A high estimate of approximately 49,500 cy results from using a conservative assumption of a uniform 16-ft deep floor (the deepest measured depth during probing) throughout the areas of Lagoons 1 and 2.

3.0 SUMMARY OF INTERIM ACTIONS TAKEN TO DATE

In addition to the studies described above, in July 2005, the RPs commenced an Emergency Action, under DTSC oversight, to strengthen the north berm (along Hamilton Avenue) and mitigate potential seepage through the north berm, consisting of removal of some of the drilling mud from the northernmost lagoons (Lagoons 4 and 5) and Site winterization work, including installation of a toe drain along the toe of the north berm. The Emergency Action was deemed necessary following the record rainfall that had occurred during 2004-2005 wet season, which was the wettest season in the Site's recorded history. Rainfall during that season necessitated the pumping, treatment, and discharge of approximately 3.8 million gallons of storm water that had collected within the Site's lagoons to Orange County Sanitation District (OCSD) under permit to mitigate the potential of an uncontrolled release of water that had come into contact with drilling mud inside the lagoons. Routine Site inspections during that period revealed the presence of surface cracks in the north berm and potential water seeps from the Site along Hamilton Avenue.

The primary objective of the Emergency Action was to strengthen the north berm by reducing the load on and behind the berm and to mitigate potential seepage along the northern edge of the Site. In the Emergency Action, the following work was performed: removal of a significant portion of the drilling mud in Lagoons 4 and 5, the reshaping of the north berm to reduce the height and flatten the north (outboard) slope, and the installation of an under drain (toe drain) at the toe of the outboard slope of the north berm. The excavated drilling mud was mixed with soil from the Site to improve its material handling characteristics and then transported by end-dump trucks to an approved disposal facility. Emergency Action activities are documented in the Emergency Action Completion Report and Addendum (Project Navigator, Ltd., 2006a, 2006b).

In addition to the Emergency Action removal activities, the following activities have been implemented at the Site to provide interim protection for the public and Site workers. These actions include the following:

- Implementation of a storm water pollution prevention plan program at the Site and installation of storm water collection improvements, including collection swales and storm water detention basins. The swales and detention basins collect storm water that falls onto the Site that is not collected in the lagoons and reduces potential sediments in any storm water runoff. Storm water that comes in contact with lagoon materials ("contact water") remains onsite and is allowed to evaporate from the lagoons. Storm water runoff, if any, is sampled and tested per the existing Industrial NPDES permit, and results are reported to the Santa Ana Regional Water Quality Control Board. Site inspections are conducted during rain events and once per month during the wet season

to verify that the Site's storm water handling improvements (Best Management Practices) are operating correctly and that repairs are made as necessary.

- Maintenance of the chain-link security fence to prevent trespassers from entering the Site.
- Construction of separate fences around the styrene pit (Pit F), Lagoons 1 and 2, Lagoon 3, Lagoons 4 and 5, and the drum storage area to provide extra barriers of protection.
- Installation of special locks on vehicle entrance gates to allow emergency access for police and fire department personnel.
- Posting of new No Trespassing and Proposition 65 warning signs on the perimeter fence and the entrance gates, and hazardous waste signs at significant Site features.
- Installation of safety reflectors along access roads within the Site to assist emergency (i.e., fire and police) personnel for nighttime access in case of an emergency.
- Collection and removal of 55-gallon drums containing drill cuttings or purge water from previous soil and groundwater investigations.
- Removal/abandonment of Well No. 80 near Magnolia Street following the March 17, 2004, well blow-out. The well was properly destroyed (abandoned), and impacted soils and vegetation were removed and disposed offsite.
- Installation of a 45-mil reinforced polypropylene cover over a 20-mil High Density Polyethylene (HDPE) cover, both over the existing cover on Pit F in order to minimize potential volatile emissions and odors. These covers were placed on Pit F in 2004 following the oil well blow-out (Well No. 80 in the eastern portion of the Site).
- Installation of new monuments, standpipe casing, and padlocks on groundwater monitoring wells.
- Implementation of regular Site security inspections to check for trespassers and make Site repairs as necessary.

4.0 SUMMARY OF THE INTERIM REMOVAL MEASURE

Section 4.1 describes the main steps that comprise the Interim Removal Measure. Section 4.2 describes the procedures that will provide protection to onsite workers and the community during these steps. Contractors planning to bid for the Interim Removal Measure work are looking into the potential need to firm up the tarry materials in order to transport and dispose or recycle the materials at an offsite facility, as well as other methodologies to complete the IRM. Proposals will be evaluated by the RPs, and contractor(s), with their designated facilities, will be selected during the California Environmental Quality Act (CEQA) process for the IRM in order to expedite the IRM schedule and allow for mobilization to occur as soon as possible.

4.1 Field Operations

4.1.1 Interim Removal Measure Overview

To remove the tarry liquids and gain access to the material under the lagoon's tarry liquids, Interim Removal Measure steps were developed and screened for relative feasibility, using information from the RFS and recent communications with recyclers and waste disposal vendors. The proposed steps in this plan include:

1. Removal and recycling to the greatest extent feasible of tarry liquids, including potential onsite treatment to increase recyclability (e.g., water removal, sediment removal), if necessary;
2. Removal and disposal of tarry liquids at an offsite disposal facility, including firming or drying through addition of soil/soil mixing and/or addition of a firming or drying agent prior to removal from the Site, if necessary, excavation, and disposal.

Recycling of the tarry liquids would provide a beneficial reuse of waste products and eliminate or greatly reduce the need to landfill materials. If it is not feasible to recycle all or a portion of the waste, then excavation and disposal of the remaining tarry materials at a disposal facility would be necessary. Following initial communications and preliminary review of existing data, recycle vendors are currently of the opinion that the tarry materials are recyclable. However, physical constraints such as flowability, ease of collection, and removal of debris may limit the volume of tarry materials that can be recovered for recycling.

Because of uncertainties in the characteristics of the materials beneath the flowable tarry liquids, this workplan proposes a tiered approach to removal. As a first removal step, the liquids that freely flow to collection points may be removed and recycled, if feasible, and if a qualified recycling contractor is available and selected to implement the work, instead of hauling the

material to a disposal facility. If recycling is deemed infeasible, then these liquids will be disposed of at an appropriate disposal facility. Once these liquids are removed, the remaining unstable materials will be removed and recycled, if feasible, or disposed at a disposal facility. The newly exposed surfaces will then be assessed to determine if they are sufficiently competent (i.e., can withstand the fullest pressure exerted by an extended excavator bucket) or can be made sufficiently competent to permit a drill rig to collect soil/waste samples from the deeper materials, thus enabling achievement of the plan objectives. If the exposed surfaces exhibit a layer of loose, but not flowable, materials that are not sufficiently stable to meet these objectives, then further collection would be performed by forcing the migration of the looser materials toward the collection points by infilling using Site soils and/or broken concrete and/or by removal and recycling or disposal after mixing with soils and/or a drying agent, if necessary.

Each material, the flowable tarry liquids and the loose materials, if any, beneath the flowable materials, will be evaluated when determining final disposition. For example, the flowable tars could potentially be recycled while the loose materials beneath them could be disposed at a landfill, if the loose materials are not recyclable. DTSC will be made aware of all significant decisions made regarding recycling and disposal subsequent to approval of the workplan prior to implementation of the change(s) in the field.

If entirely recycled, then the estimated tarry material volume of approximately 43,000 cy, based on data obtained during the January 2009 sampling event (Geosyntec 2009), would result in approximately 2,610 truck loads of material leaving the Site, or, if a firming agent and/or soil is added at a 10 percent rate, then approximately 2,870 truck loads (47,300 cy) of firmed materials would leave the Site and be hauled to a designated recycling facility. The estimated number of truck trips was calculated assuming the trucks will transport approximately 16.5 cy/truck, fewer than the truck's full capacity to create a buffer for planning purposes so that the estimated truck number should not be exceeded during actual implementation of the IRM. Fewer truck trips may be required if the truck capacities are able to exceed 16.5 cy/truck. If the entire flowable volume of tarry material requires disposal, then it is anticipated that a similar number of trucks would be needed to transport the materials to an offsite disposal facility, likely to a landfill that accepts non-RCRA hazardous waste (e.g., Waste Management's Kettleman Hills facility or Clean Harbor's Buttonwillow facility, both located in central California). For planning purposes, the 47,300 cy volume (43,000 cy of tars with 4,300 cy of firming agent [10 percent of tar volume]) that results in approximately 2,870 truck loads of export from the Site is assumed. However, the Initial Study/Mitigated Negative Declaration will be based on an approximation of 70,000 cy of material leaving the Site (50,000 cy of tars, plus 10,000 cy of a firming agent [20% of tar volume], plus an additional 10,000 cy of material to account for the majority of the berm between Lagoons 1 and 2) to account for a more conservative volume and number of trucks that may leave the Site. The Initial Study/Mitigated Negative Declaration will also address the

potential import of any firming agent (import of 10,000 cy of the firming agent) that would require up to approximately 610 import trucks,

This 70,000 cy total volume of material to leave the Ascon Site during the interim removal measure is a conservative estimate. After a contractor(s) is selected for the work and the methodology for removal is determined, and prior to field mobilization, an upper threshold will be set to define the total volume of waste that can leave the Site to ensure that the 70,000 cy total is not exceeded. The project will be managed closely, and the maximum quantity of material leaving the Site, along with the corresponding number of truck loads, will be strictly enforced.

The IRM process of excavation and recycling and disposal is depicted in **Figure 4-1**. Conceptual before-and-after depictions of the conditions of Lagoons 1 and 2 are found in **Figure 4-2**.

4.1.2 Permitting

The following permits are anticipated to be needed for the IRM activities at the Ascon Site. A South Coast Air Quality Management District (SCAQMD) Rule 1166/Rule 1150 permit may be obtained for handling the materials onsite during the IRM, as needed. A Coastal Development Permit may also be obtained from the City of Huntington Beach.

A General Industrial National Pollution Discharge Elimination System (NPDES) permit is in place from the State Water Resources Control Board (SWRCB) for the Site until the future Remedial Action. A Notice of Intent (NOI) will be submitted to the SWRCB for the General Construction NPDES permit for the IRM construction period. In accordance with the NOI and General Construction NPDES permit, a Construction Storm Water Pollution Prevention Plan for IRM construction activities will be in place prior to the commencement of field work that will contain information on best management practices aimed to contain onsite sediments and contact water (i.e., storm water that has come into contact with lagoon materials), including, but not limited to, transferring contact waters from Lagoons 1 and 2 to Lagoon 4 during IRM work, establishing containment around potential contact water in the staging area where tarry material stockpiles may be placed and/or mixed, and housekeeping (e.g., removing any incidental tarry materials from interior roads). Non-contact storm water will continue to be allowed to discharge from the Site in accordance with the conditions specified in the Industrial NPDES permit and Industrial SWPPP for the Ascon Site, and in accordance with the Construction NPDES permit during the IRM field work.

The storm water storage capacity of Lagoon 4 was increased during the 2005-2006 Emergency Action, enabling the transfer of any Lagoon 1 and 2 contact water to Lagoon 4 during the IRM for eventual evaporation. Per the current NPDES permit, if a severe rain season is encountered

and the capacities of the available lagoons are reached, then contact storm water would be transferred to the Orange County Sanitation District following onsite treatment and in accordance with an emergency permit obtained from the sanitation district.

Other permits will be obtained if required.

4.1.3 Netting, Cables, Debris, and Storm Water Removal

The bird netting and cable supports were removed, as needed, in January 2009 to enable access to the tarry materials for sampling purposes and to probe for lagoon depths. Remaining cables will be removed by dismantling the tensioners and reeling in while attempting to keep out of the lagoon tars. The netting and cables will be stockpiled in the Lagoon 3 area until removal and disposal either during the interim removal measure or during the final remedy. Removal of the secondary fencing around Lagoons 1 and 2 is also anticipated prior to moving heavy equipment near the lagoons.

Surficial debris in the lagoons that could impede lateral flow will be removed, as needed, to the banks of each lagoon.

Storm water that is ponded on top of the tarry materials (i.e., contact water) at the commencement of removal activities will be transferred to the extent possible to Lagoon 4 using a water pump and hoses or vacuum truck. Contact water from storms that occur during the interim removal measure will also be transferred to Lagoon 4, if necessary.

The existing discharge lines from the toe drain along the northern berm to Lagoon 2 will be relocated to discharge potential liquids from the toe drain to Lagoon 4, so that additional liquids are not discharged into Lagoon 2 during the interim removal measure.

4.1.4 Waste Collection and Offsite Transportation for Recycling

The tarry liquids could be collected in lined sludge boxes for transport to a designated facility in southern California (e.g., Filter Recycling in Bloomington) that will recycle the material. The tarry materials could also be excavated with an excavator bucket and/or loader bucket and placed into lined end-dump trucks or roll-off bins for subsequent placement onto semi-tractor trailer trucks that would transport either two 10-cy bins or one 20-cy bin for transport to the designated recycling facility.

The trucking company will be a certified hazardous waste transportation contractor, if required, and all drivers will be properly licensed in the state of California. Prior to leaving the Site, each truck will be inspected and decontaminated as necessary to remove loose material from the outside of the truck. All required documentation (e.g., manifests, Bill of Lading) will be provided

by the recycling/disposal facility or transportation contractor. Portable scales may be utilized to confirm that legal weight limits are not exceeded prior to the trucks leaving the Site.

The designated recycling facility will receive the tarry material from Lagoons 1 and 2 with proper documentation, including waste manifest, if required.

As removal progresses, similar quantities of tarry materials will be removed from each lagoon so that a hydraulic head is not created between them (i.e., relative elevation changes will be minimized) that could exert pressure on the intermediate berm between Lagoons 1 and 2. The intermediate berm will not be used to support heavy equipment, except at the far eastern and western ends where the berm width and connection to the perimeter banks help maintain stability. It is anticipated that the existing berm between Lagoons 1 and 2 will be removed (up to 10,000 cy), or a portion thereof, during removal of the tarry materials from the lagoons. Therefore, there may be no berm in place between the two lagoons following the IRM. Intermediate berm materials may be used when finishing the lagoon surfaces or to mix into tarry materials for transportation purposes.

4.1.5 Finishing Lagoon Surfaces Following Recycling

After removing the tarry liquids, the remaining surfaces will be assessed for geotechnical stability (i.e., can withstand full pressure exerted by an extended excavator bucket). Provided the surfaces are sufficiently competent, soils from areas around Lagoons 1 and 2 may be used to cover exposed waste materials, or bonded fiber matrix, or similar, may be applied to the finished surfaces to eliminate or reduce potential odors and direct exposure to the exposed floor. If the surfaces are found to be too loose to sustain a layer of cover soils, then soils may be used to mix into loose waste or to partially fill the lagoons from the eastern extents to displace loose materials and cause them to move toward the west for further collection, if feasible, and recycling or disposal, as appropriate. The final contouring of Lagoons 1 and 2 will still allow for storm water accumulation, in accordance with the General Industrial NPDES permit and SWPPP for the Site.

Because the lagoon surfaces will not likely be ready to be finished following removal of only flowable waste, subsequent steps involving waste excavation, including potentially mixing in soils and/or onsite concrete and/or firming or drying additive, and subsequent recycling and/or offsite disposal are anticipated to be needed so that the materials beneath the tarry liquids are able to be assessed.

If significant quantities of tarry materials remain following the removal of approximately 43,000 cy of tarry materials, or if the 70,000 cy threshold is reached, then the remaining tarry materials could be managed in place through mixing with Site soils and/or other firming additives to

enable them to be left in place, as needed. A smaller footprint of any residual tarry materials could allow for the subsequent drilling program to assess the underlying soils and waste materials. Mixing with Site soils or other material will render the materials to be similar to those left in Lagoon 4, where netting is not warranted due to the absence of tarry surfaces.

4.1.6 Site Preparation for Waste Firming Steps

Prior to starting tarry liquids removal by soil mixing and excavation, the areas around the lagoons would be prepared, as needed. Site preparation is anticipated to include the following:

- Preparation of loading, stockpile, decontamination, and staging areas, as needed; and
- Preparation of onsite solid materials (soils and possibly concrete) for finishing the lagoon floors after liquids removal and/or for mixing with tarry liquids if construction contractor plans to use onsite materials for mixing.

Stockpiles of tarry materials would be maintained on the existing asphalt pad west of Lagoons 2 and 3. This pad would also be the decontamination area for non-disposable equipment. Any contact water (i.e., storm water that comes in contact with lagoon materials, including stockpiles) and decontamination water in the pad area will be contained and prevented from mixing with storm water (non-contact). Contact water in the asphalt pad area will evaporate, or may be transferred to Lagoon 4, if necessary.

4.1.7 Stockpiling, Loading, and Staging Areas

Based on Site observations, areas to borrow soils and areas to load the haul trucks have been selected to minimize handling of materials. The borrow area would likely be to the east of Lagoons 1 and 2, and possibly to the west of the Lagoons 1, 2, and 3 as well as south of Lagoon 5, and loading areas would likely be located at the stockpile staging area used during the 2005 Emergency Action, to the west of Lagoons 2 and 3, and/or near the banks of Lagoons 1 and 2. Currently, large quantities of comingled soil, concrete rubble, asphaltic concrete and other construction debris are located in the planned borrow areas. These materials would be segregated from soils, as needed, in accordance with the detail provided in Section 4.1.8.

4.1.8 Material Segregation

Materials will be segregated onsite using conventional construction equipment to remove concrete and other oversize debris from soil, as needed. The segregated concrete will be stockpiled onsite for potential use during the interim removal measure and/or future use in the final remedy. Segregated concrete could potentially be broken for use in buttressing the intermediate berm between Lagoons 2 and 3, or for use in covering the lagoon bottoms after the tarry materials have been removed. The need for a potential buttress to support the berm between Lagoons 2 and 3 will be assessed during the design phase for the IRM (after approval

of this IRM Workplan and Mitigated Negative Declaration), and details will be included in the design as appropriate.

Vegetation and debris that have not been in contact with waste will be removed as necessary from the soil borrow area and the ingress and egress routes. The removed vegetation and non-impacted debris that would not be recycled for use during the final remedy would be staged for disposal at a local landfill or offsite recycling during the final remedy.

4.1.9 Field Verification of Mixing Ratio

Appropriate mixing ratios of soil or amendments/firming additives to tarry materials from Lagoons 1 and 2 (if any firming of the material will be required) will be estimated by the contractor(s) awarded to complete the work.

In the field during initial *in situ* mixing of soils and/or amendments/additives, the chosen mixing ratio would be verified by visually monitoring mixed materials for solids content, texture, and free liquids. The ratio would be modified, as necessary, until the consistency of the mixed materials enables proper handling for hauling and/or disposal purposes (i.e., loading into trucks, no free liquids, etc.).

4.1.10 Waste Mixing and Firming

The appropriate quantities of segregated soils, broken concrete, and/or amendments, if needed, as determined by the transportation/disposal/recycling contractors and testing done prior to field implementation, would be placed into the western ends of Lagoons 1 and 2 and/or into the truck beds prior to leaving the Site, and/or mixed into the tarry materials in the lagoons, at the stockpile staging area, and/or in the trucks. Excavators, operating from flat areas next to or within the lagoons, would be used to mix the solid materials with the tarry liquids using the excavator buckets to fold in the soils and/or amendments and mix to a manageable consistency.

If necessary during mixing operations, vapor suppressing and dust control agents (e.g., Rusmar foam) will be applied to the materials. Air monitoring action levels and relevant required actions are detailed in the Air Monitoring Plan (**Appendix A**). Health and safety action levels are outlined in the IRM Health and Safety Plan (**Appendix B**).

4.1.11 Waste Excavation

The tarry liquids, mixed with soils or amendments, if necessary, would be excavated from the lagoons and placed directly into trucks near the banks of the lagoons, stockpiled along the banks of the lagoons for loading into trucks near the lagoon banks, and/or stockpiled in the staging area to enable efficient loading into trucks for transport to the designated facility for disposal and/or recycling. Any profiling needed for the final disposal and/or recycling facility will

be in coordination with the selected facility and approved by the facility prior to the material leaving the Site. Excavation is anticipated to extend to depths of up to 16 feet below the existing surface of Lagoons 1 and 2, based on data from the January 2009 sampling event (Geosyntec 2009). Excavation will not be allowed below this 16-ft depth (approximately 3 feet elevation [NAVD88]) to guard the silty-clay layer and upper reaches of the Semi-Perched Aquifer whose potentiometric surface occurs within the silty-clay layer at approximately three feet below the 16-ft depth. The excavation depth will also be curtailed if the silty clay layer is encountered before reaching the 16-ft depth, and no more than six inches of silty-clay layer will be removed, and only if necessary. It is anticipated that the excavation contractor will perform the work using conventional earthwork equipment.

As tarry liquids are excavated, voids left at the western ends of the lagoons may fill with flowable tarry waste, enabling further excavation from the same locations. As removal progresses, similar quantities of tarry materials will likely be excavated from each lagoon as appropriate, so that a hydraulic head is not created between them (i.e., relative elevation changes will be minimized) that could exert pressure on the berm between Lagoons 1 and 2. After all flowable materials are excavated from the western collection points, the remaining surfaces will be assessed and finished as indicated in Section 4.1.5.

4.1.12 Lagoons 1 and 2 Potential Backfilling

After the flowable materials are removed, and provided that the remaining surfaces are not firm enough to withstand full pressure exerted by an extended excavator bucket, soil will be pushed, as needed, into the eastern portions of the lagoons to direct the flow of the tarry materials to the western portions of the lagoons for excavation. This will provide for relatively stationary excavation operations in the western areas of the lagoons. Field conditions may dictate that soils be added from another direction toward a different collection point.

4.1.13 Lagoon 3 Stability

If it is determined to be necessary to increase the stability of the berm between Lagoons 2 and 3 during the interim removal measure, a buttress constructed with processed and sized onsite concrete debris may be placed on the southern slope of this berm (within Lagoon 2)³. The sized concrete would be placed utilizing a combination of equipment that may include a bulldozer, loader, and excavator. The concrete buttress would be constructed from the bottom (toe) upwards and would be constructed during or following the removal of tarry materials from Lagoon 2.

³ The need for a potential buttress to support the berm between Lagoons 2 and 3 will be assessed during the design phase for the IRM (after approval of this IRM Workplan and Mitigated Negative Declaration), and details will be included in the design, as appropriate.

4.1.14 Decontamination

Non-disposable equipment will be decontaminated to the extent possible using water at the edge of Lagoons 1 and 2 with the decontamination water (contact water) returning to the finished lagoons to eventually evaporate. A second round or final decontamination may be performed at the asphalt pad area, if necessary, where decontamination water will be contained prior to returning to Lagoons 1 and 2, if available, or otherwise to Lagoon 4.

4.1.15 Drilling and Analytical Program to Assess Materials Beneath Tarry Liquids

After removal of the tarry materials and establishing a firm surface that is able to bear the weight of a drill rig, the materials that were formerly beneath the tarry liquids will be continuously cored and sampled via hollow-stem auger boreholes. A drill rig will be used to drill one borehole in Lagoon 1 and one in Lagoon 2 for a total of two boreholes, using 8- to 10-inch diameter augers, at locations near the center of each lagoon. Additional borings may be drilled in the lagoons, if field conditions warrant additional data (e.g., due to significant visual differences in the material left below the tars). DTSC will be informed of any additional borings prior to drilling. The boreholes will be advanced to a depth of approximately 50 feet below ground surface.

Select segments of core, anticipated to be collected with Shelby tubes, will be transported to PTS Laboratories, Inc. in Santa Fe Springs, California, and tested for the following geotechnical properties:

1. Moisture content and unit weight by ASTM D-2216, D-2937, and D-4643
2. Full Sieve analysis by ASTM D-422
3. Atterburg Limits (Plasticity Index, Liquid Limit) by ASTM D-4318, CAL-204
4. Consolidated Undrained Shear by ASTM D-4767
5. Consolidation by ASTM D-2435
6. Specific Gravity ASTM D-854 and modified proctor by ASTM D-1557.

Details of the above drilling and data collection program will be provided to DTSC in a brief workplan addendum following completion of the removal of tarry materials from the Site. Resulting data will be used during the planning and design steps of the final remedy.

4.2 Site Safety Procedures

4.2.1 Onsite Personnel

Onsite personnel would include contractors, truck drivers, project and construction management, and construction oversight and quality assurance/quality control and documentation personnel. A Site Health and Safety Officer will document that personnel at the Site are trained in safety procedures for working with hazardous materials and active construction. The Health and Safety Plan (HASP) for the Interim Removal Measure activities is attached as **Appendix B**.

4.2.2 Air Monitoring

The disturbance of lagoon materials could potentially release limited volatile organic chemical (VOC) emissions. Also, material segregation and potential breaking of concrete may result in the generation of dust that may contain chemicals of concern. Therefore, air monitoring will be performed, and VOC and dust controls or mitigation measures will be implemented during earth-moving operations, in accordance with the Site Specific HASP and SCAQMD Rule 1150 and/or 1166 permit conditions, as applicable. The monitoring will be conducted to assess the potential emissions and the health and safety of the community and the workers. Proposed air monitoring activities are found in the Air Monitoring Plan (**Appendix A**).

Air monitoring measures that will be implemented at the Site will be similar to those employed during the Emergency Action removal in 2005. These measures will include, but will not necessarily be limited to, the following:

- Onsite weather station.
- Use of calibrated field monitoring and air sampling equipment.
- Performing air monitoring within the Site and around the perimeter and with air sample collection around the perimeter (with special focus on the downwind side). The air monitoring specifics, including sampling intervals, action levels to modify or stop Site work, documentation protocol and other details, are outlined in the Air Monitoring Plan (**Appendix A**).

4.2.3 Mitigation of Emissions and Odors During Implementation

Constituents in the soil can potentially migrate via dispersion as dust (particulates) or vapors. Compliance with the requirements of the SCAQMD permit, if required, the Air Monitoring Plan, and the Site Health and Safety Plan will control and mitigate particulates and vapors that could otherwise be released during the construction operations. Special procedures and equipment will be ready for application at all times, as necessary, to mitigate potential odor, vapors, and/or

dust. Municipal water will be used for dust control and will not be applied to the extent that would produce runoff outside of the application areas.

4.2.4 Traffic Control

During waste removal operations, trucks entering and exiting the Site will be required to follow a City-approved traffic/haul route plan to establish the trucking route, days and hours of truck operation, and the maximum number of trucks per day. The possible truck routes are analyzed and presented in the Transportation Plan (**Appendix C**). The Transportation Plan also includes details on frequency of truck trips and maps to potential recycling and disposal facility destinations. Up to 70 trucks per day is anticipated to enter and leave the Site during the interim removal measure.

4.2.5 Public Participation

Public participation for the Interim Removal Measure will be encouraged through CEQA procedures, distribution of a community Fact Sheet, a Public Meeting(s), public information resources, and additional Site signage.

Fact Sheet. The Fact Sheet will serve both as an explanation of the Interim Removal Measure work and as a public meeting notice. The Fact Sheet will be distributed via direct mail to the approved mailing distribution list at least one week prior to the public meeting and posted on the www.dtsc.ca.gov and www.ascon-hb.com websites. The Fact Sheet distribution list will include the City of Huntington Beach administration and key staff and the South East Huntington Beach Neighborhood Association distribution list.

Public Meeting. There will be a public meeting/open house at a nearby location (e.g., Edison Recreation Center, Edison High School cafeteria, Huntington Beach City Council Chambers, or an alternate approved location coordinated with the City of Huntington Beach). More information about the public meeting/open house will be included in the fact sheet to be distributed prior to commencement of the Interim Removal Measure work activities.

Signage. Prior to commencing work (excavation or removal of material from the Site for the work identified in this Workplan), additional Site signage will be posted in the work area, with telephone numbers for questions or concerns.

4.3 **Implementation Schedule**

The interim removal measure activities, including preparation, excavation, recycling, and offsite disposal, are anticipated to be completed within approximately 8 months after mobilization of the contractors, pending the number of trucks allowed to leave the Site each day. Mobilization will

occur after obtaining all necessary permits and approval to proceed (DTSC's approval of the IRM Workplan and Mitigated Negative Declaration), anticipated to be in the first or second quarter 2010 timeframe. Approximately eight weeks following completion of the proposed work and receipt of all final analytical laboratory test reports, including data validation, if needed, an Interim Removal Measure Completion Report that includes all laboratory test results and as-built drawings showing any new features and lagoon changes in topography will be submitted to DTSC.

5.0 REFERENCES

Environmental Science and Engineering, Inc. (ESE), 1997a, *Remedial Investigation Report, Ascon Property*, prepared for Savannah Resources Corporation, August 30, 1996, Revision 01 - June 11, 1997.

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Geosyntec, 2002, Report – Ambient Air Quality Evaluation, Ascon Site, Huntington Beach, California, September 13, 2002.

Geosyntec, 2003a, May 2003 Perimeter Air Sampling Report, July 24, 2003.

Geosyntec, 2003b, August 2003 Perimeter Air Sampling Report, October 16, 2003.

Geosyntec, 2004, Report of Findings, Perimeter Air Sampling Program, February 23, 2004

Geosyntec, 2007, Groundwater Remedial Investigation, Revision 1.0, Ascon Landfill Site, Huntington Beach, California, June 14, 2007.

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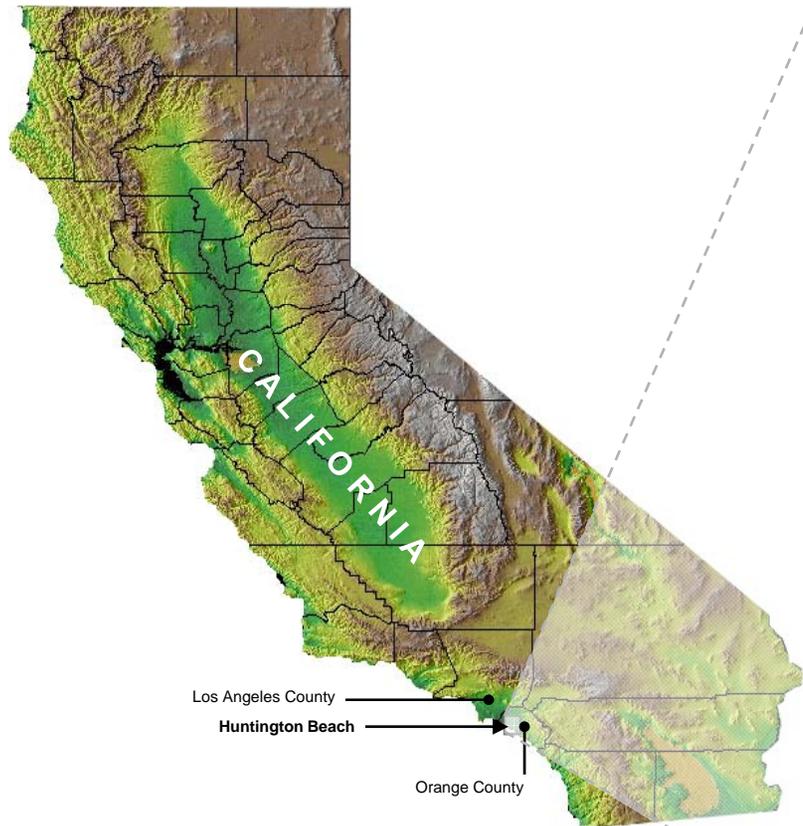
Project Navigator, Ltd., 2006a, Emergency Action Completion Report, March 3, 2006.

Project Navigator, Ltd., 2006b, Emergency Action Completion Report Addendum, July 7, 2006.

Project Navigator, Ltd., 2007, Revised Feasibility Study, September 21, 2007.

Table 2-1
Physical and Compositional Properties of Tarry Liquids from Lagoons 1 and 2
Ascon Landfill Site

| Analysis | units | PNL-L1A (SW corner) | PNL-L1B (NW corner) | PNL-L2A (SW corner) | PNL-L2B (NW corner) |
|---------------------------|--------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Proximate Analysis | | | | | |
| Moisture | % | 4.55 | 3.65 | 3.78 | 8.45 |
| Ash | % | 5.33 | 3.41 | 4.67 | 23.54 |
| Volatile Matter | % | 88.45 | 89.43 | 86.46 | 47.70 |
| Fixed Carbon | % | 1.67 | 3.51 | 5.09 | 20.31 |
| Ultimate Analysis | | | | | |
| Moisture | % | 4.55 | 3.65 | 3.78 | 8.45 |
| Ash | % | 5.33 | 3.41 | 4.67 | 23.54 |
| Hydrogen | % | 4.86 | 5.02 | 4.96 | 3.76 |
| Carbon | % | 82.25 | 84.27 | 83.36 | 23.13 |
| Nitrogen | % | 0.83 | 0.88 | 0.89 | 0.85 |
| Sulfur | % | 1.52 | 1.60 | 1.63 | 1.65 |
| Oxygen | % | 5.21 | 4.82 | 4.50 | 47.07 |
| Heat Value | BTU/lb | 12,821 | 13,252 | 13,273 | 4,820 |
| Pour Point | deg F | 90 | 93 | 93 | 150 |
| Specific Gravity @ 25°C | | 1.18 | 1.09 | 1.14 | 1.22 |
| Viscosity | | | | | |
| @100°F | cps | > 400,000 | > 400,000 | > 400,000 | > 400,000 |
| @200°F | cps | 215,000 | 230,000 | 285,000 | 285,000 |
| @300°F | cps | 1,150 | 1,075 | 1,450 | 2,550 |



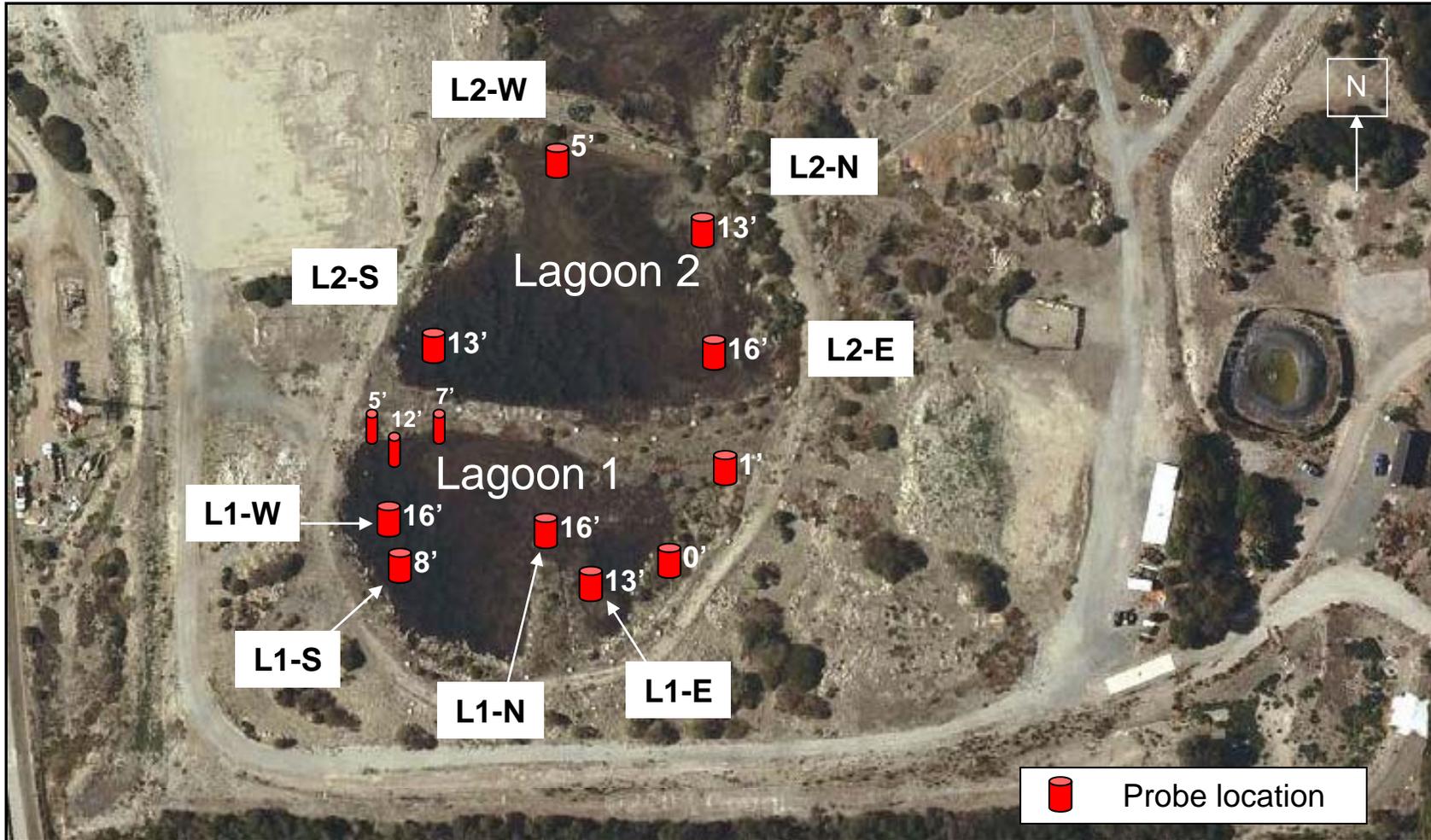
Site Location Map

Figure 1-1



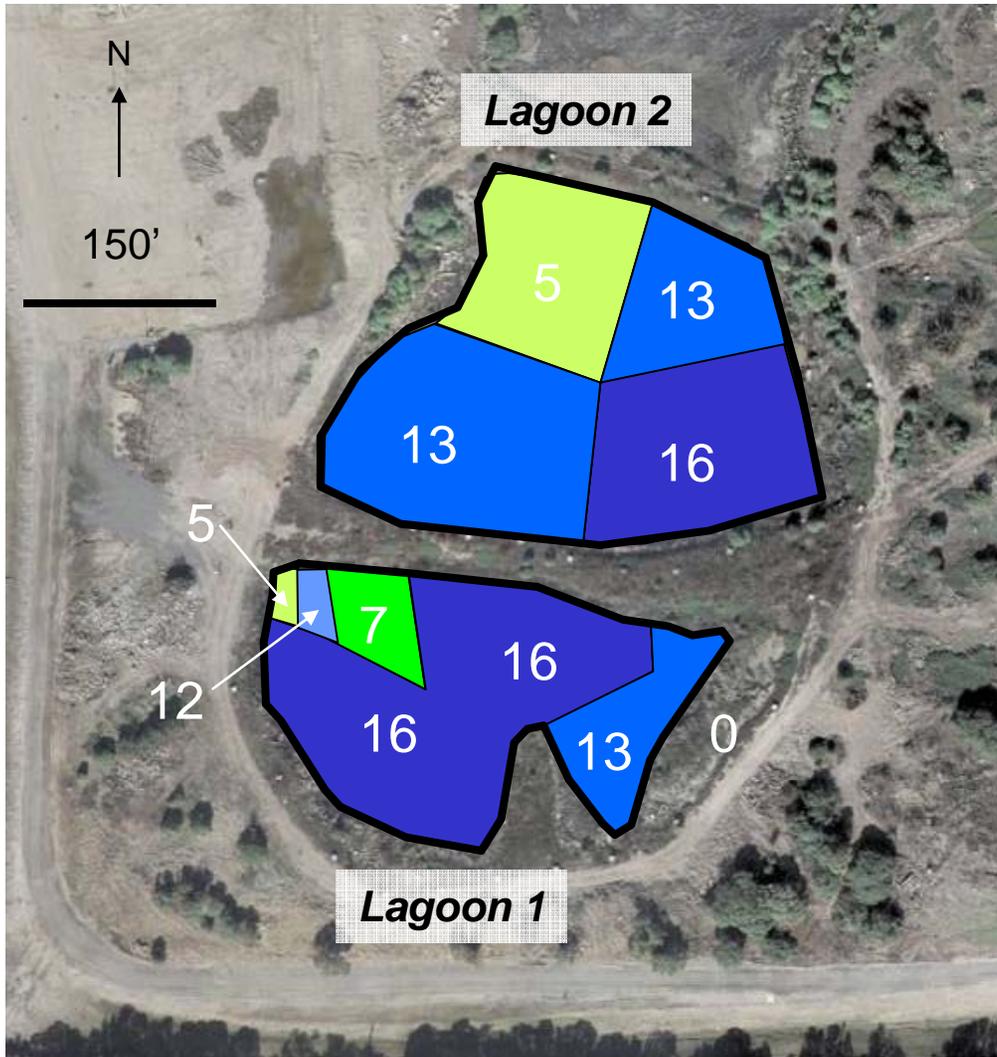
Site Vicinity and Features Map

Figure 1-2



Sampling Locations, Probe Depths (January 2009)

Figure 2-1



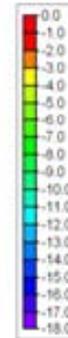
Potential Volume of Unstable Tarry Materials:

Maximum Thickness Value (ft) 16.0
Volume (cy, as shown left) 42,960
 Volume (cy, uniform 16-ft depth)..... 49,500

Assumes vertical walls to depth
 Lagoon 2 area (square feet).....44,520
 Lagoon 1 area (square feet).....39,030

Legend

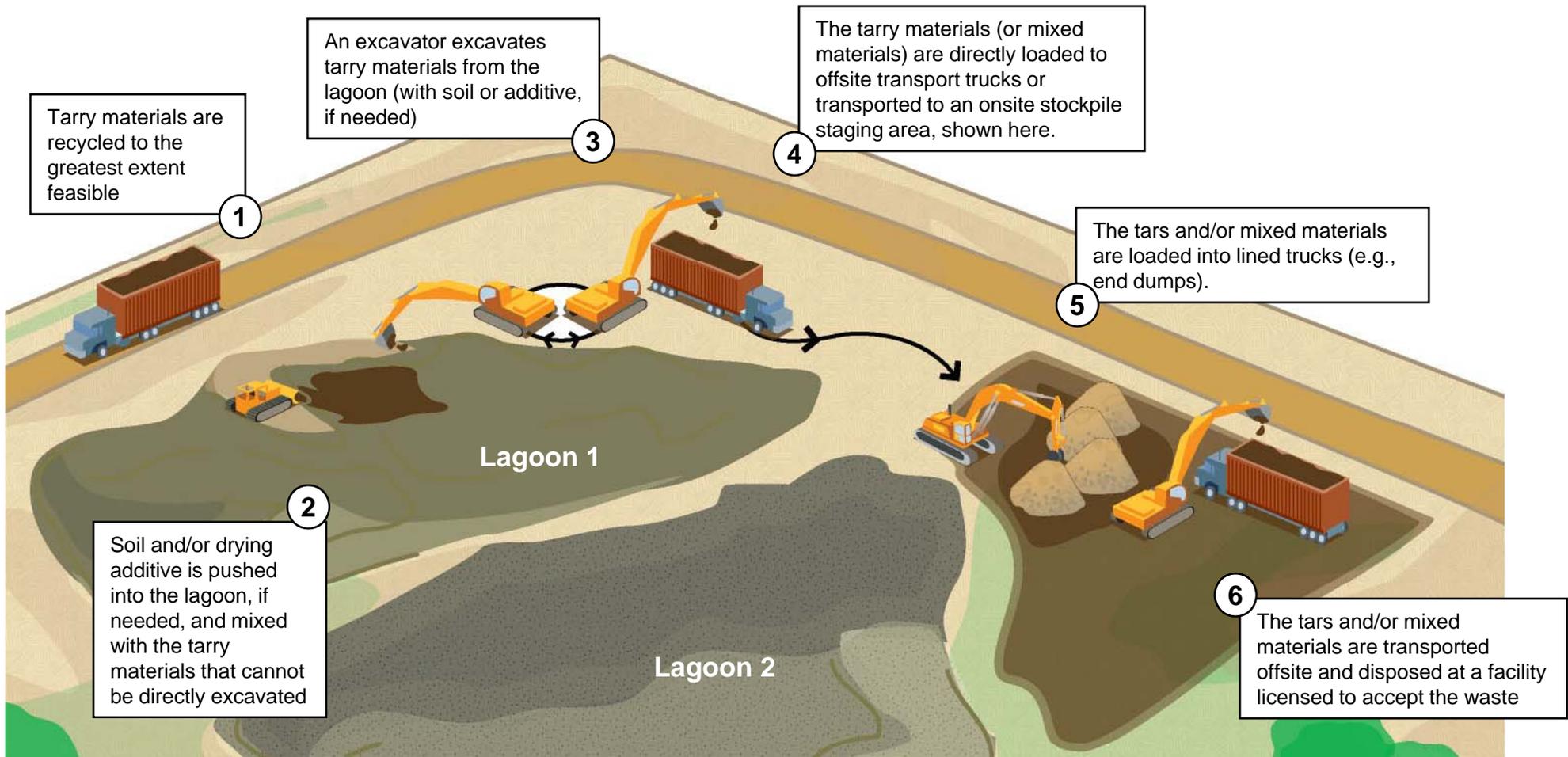
Thickness (ft)



Polygons with indicated thickness covering lateral extent of unstable tarry materials

Lagoons 1 and 2 Volume Estimation based on January 2009 Probing

Figure 2-2



| | | |
|---|----------|---|
| Interim Removal Measure Process | | Figure 4-1 |
| Interim Removal Measure Workplan Ascon Landfill Site, Huntington Beach, California | May 2010 |  |



Angled View of Ascon



Aerial View of Ascon



Before Interim Removal Measure (Current Close-up)



After Interim Removal Measure (Conceptual)

Conceptual Interim Removal Measure Before-and-After Scenarios

Figure 4-2