FINAL SOIL REMEDIAL ACTION WORK PLAN

PACIFIC COAST PIPELINE (PCPL) SUPERFUND SITE
FILLMORE, CALIFORNIA

Submitted to:

Ms. Holly Hadlock (SFD-7-1)
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105-3901

Prepared for:

Chevron Environmental Management Company
P.O. Box 1392, Room BK5060/9016
Bakersfield, California 93302

April 26, 2013

URS
Post Montgomery Center
One Montgomery Street, Suite 900
San Francisco, California 94104

30990336

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This final soil remedial action work plan describes the methods that will be used to address impacted soil at the Chevron Environmental Management Company (Chevron) Pacific Coast Pipeline Superfund Site (Site), located in Fillmore, California. The purpose of this report is to (1) provide sufficient background information to understand the current conditions, and (2) provide processes that will be used during soil remediation activity at the Site.

No express or implied representation or warranty is included or intended in this report except that the work was performed within the limits prescribed by Chevron with the customary thoroughness and competence of professionals working in the same area on similar projects.

David Brod
Project Manager

Thomas M. Sweet, PE, LEED AP BD+C
PE C58265 Exp. 06/30/14
Principal Engineer

Brian Partington, PG, CHg
PG 7612 Exp. 03/27/13
CHg 883 Exp. 03/27/13
Principal Hydrogeologist

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LIST OF ACRONYMS AND ABBREVIATIONS

Agency	U.S. Environmental Protection Agency or EPA
ARARs	Applicable or Relevant and Appropriate Requirements
bgs	Below Ground Surface
CAMU	Corrective Action Management Unit
Chevron	Chevron Environmental Management Company
COCs	Chemicals of Concern
CQAP	Construction Quality Assurance Plan
DTSC	Department of Toxic Substances Control
EPA	(U.S.) Environmental Protection Agency
FP-XRF	Field-Portable X-Ray Fluorescence
GCL	Geosynthetic Clay Liner
GPS	global positioning system
HASP	Health and Safety Plan
ICs	Institutional Controls
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
msl	mean sea level
MS/MSD	Matrix Spike/Matrix Spike Duplicate Samples
MWP	(former) Main Waste Pit
NELAP	National Environmental Laboratory Accreditation Program
NGL	Net ground level
PAH	Polycyclic Aromatic Hydrocarbon
PCBs	polychlorinated biphenyls
PCPL	Pacific Coast Pipeline
PE	Professional Engineer
PG	Professional Geologist
PID	Photo Ionization Detector
PM_{10}	10 microns in diameter or less
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RA	Remedial Action
RAOs	Remedial Action Objective
RAWP	Remedial Action Work Plan
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPD	Relative Percent Difference
RWQCB	Regional Water Quality Control Board
Site	Pacific Coast Pipeline Superfund Site
SOP	Standard Operating Procedures
SWPPP	Stormwater Pollution Prevention Plan
URS	URS Corporation
USA	Underground Service Alert
VCAPCD	Ventura County Air Pollution Control District
VCPWA	Ventura County Public Works Agency
VOC	volatile organic compound

EXECUTIVE SUMMARY

This Soil Remedial Action Work Plan (Soil RAWP) report was prepared for the Pacific Coast Pipeline Superfund Site (Site), located in Fillmore, California (**Figure 1**). The purpose of this Soil RAWP is to document the procedures to be followed in implementing the selected remedial approach described in the Record of Decision (ROD) amendment for the Site, issued on September 29, 2011, by the United States Environmental Protection Agency (EPA) (EPA, 2011).

The Site was an oil refinery from circa 1915 until 1950. Texaco acquired the existing refinery in 1928. The refinery was shut down in 1950; dismantled by 1951, except for approximately eight aboveground storage tanks (ASTs); and converted to a crude oil pumping station by 1952. Pumping station operations were discontinued, and nearly all of the remaining facilities were dismantled and removed by 2002. The last remaining AST was removed in August 2004.

Contaminants found in numerous historical investigations conducted since 1983 are typical of petroleum industry operations that were ongoing at the Site since circa 1915, and include polycyclic aromatic hydrocarbons (PAHs) and lead. The majority of soil impacts were addressed as part of 1986 waste removal actions. Residual soil impacts are present across the Site, predominantly in shallow soils, and are likely associated with historical operations, incidental releases, and former waste management practices (**Figure 2**).

The soil remedial action objectives (RAOs) identified in the ROD include:

- Prevent human exposure through direct dermal contact, ingestion, and inhalation of shallow soil contaminated above threshold levels for commercial land use, construction activities, and recreational activities.
- Prevent contaminants in waste pit (lead, PAHs) from migrating into underlying groundwater.
- Reduce contamination in soil below toxicity threshold levels so it is not toxic to the plants and animals of the existing scrub habitat.

The primary applicable or relevant and appropriate requirements (ARARs) for the soil remedy are the California land use covenant requirements and Ventura County Air Pollution Control District regulations for fugitive dust.

In addition to implementation of the soil remedy described in the Soil Remedial Design (Soil RD) to address the RAOs and ARARs, the project will implement institutional controls (ICs). These will include a deed restriction, and monitoring to prevent exposure to contaminated soil and to maintain the integrity of the remedial cap.

The major components of the soil remedy include excavation of approximately 18,500 cubic yards of contaminated soil that exceeds risk-based cleanup criteria developed to be protective of human health and the environment; and disposal of that soil in an onsite Consolidation Area. The Consolidation Area will then be covered by an engineered cap that incorporates a geosynthetic clay liner that will prohibit infiltration, and further minimize the low potential for leaching of contaminants in soil to the groundwater. The Site grading presented in the Remedial Grading Plans (Appendix A) was designed to leave the Site ready for reuse. As part of the remedial action, ICs will be put in place to restrict future property use to commercial

and/or recreational purposes, and limit actions that could interfere with the remedy (i.e., the cap).

Procedures for the management of excavated soil, which will be implemented by field personnel under the direct supervision of a California State Professional Geologist, Soils Engineer, and/or Professional Engineer, as discussed in the Construction Quality Assurance Plan presented in Appendix B, address the following elements:

- Public notification;
- Permits and notifications, including:
  - A Notice of Intent and project Stormwater Pollution Prevention Plan, which will be submitted to the State Water Resources Control Board in accordance with the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities prior to any ground-disturbing activities;
  - A Notification of Pending Demolition or Renovation (Asbestos Notification), which will be made available to the Ventura County Air Pollution Control District prior to the start of construction activities;
  - A demolition permit, which will be obtained from the Ventura County Public Works Agency (VCPWA) prior to start of construction activities; and
  - A Clearance Application, which will be submitted to the Ventura County Integrated Waste Management Division prior to the start of construction activities;
- Site-specific Health and Safety Plan;
- Subsurface utility clearance;
- Remedial soil excavation and backfilling;
- Confirmation sampling;
- Consolidation Area soil placement;
- General earthwork;
- Dust suppression and air monitoring; and
- Communications and coordination.

Approximate dimensions for each excavation area are provided on the Remedial Grading Plans (Appendix A). Once the excavation extents are defined in the field, based on the approximate dimensions, and on the presence of stained soil, odor, and/or photoionization detector (PID) data, the contractor will excavate each location to the design limits. A Field-Portable X-Ray Fluorescence (FP-XRF) analyzer will be used to screen Site soils for lead concentrations, although all samples of consequence, such as those used to delineate areas that meet the Site

cleanup goals, will be analyzed in a stationary laboratory to obtain the actual concentration used for decision making.

Soil samples will generally be collected on both the floor and the walls of the excavation (from the excavator bucket); characterized using the Unified Soils Classification System; and screened for contaminants of concern using stationary laboratory testing, headspace screening, and the FP-XRF. Confirmation soil testing will be performed for every 20 linear feet of excavation wall, and every 400 square feet of bottom area. The confirmation soil samples will be analyzed at a stationary laboratory for the following:

- EPA Method 8270-SIM for PAHs; and
- EPA Method 6010 for Lead.

If hydrocarbon-stained soil is exposed and PID measurements indicate potential volatile organic compound (VOC) contamination (e.g., >50 parts per million), then samples will be collected for VOC analysis by EPA Method 8260B. The soil confirmation samples will be collected and managed in accordance with the procedures specified in the approved project Quality Assurance Project Plan (Appendix C).

When field testing or laboratory sample data indicate that expansion is warranted, the excavation will generally be expanded in 3-foot increments laterally to control excavation volumes. Excavation vertical limits will be set at a maximum of 10 feet below ground surface (bgs) (existing and/or future grade, whichever is lower); or for impacts located at 10 feet bgs, the maximum limit will be 12 feet bgs. Completed excavations will be backfilled with onsite borrow material to avoid the need to bring in backfill material from offsite. Compaction testing will be conducted to verify that compaction criteria have been met.

The Contractor will implement a dust suppression and air monitoring program to monitor the level of particulates in the air at and near the Site during remedial activities; and, based on the levels, adjust dust suppression measures to minimize the dust generated during the work. Air monitoring will consist of real-time, continuous monitoring for respirable particulate matter (particulate matter 10 microns in diameter or less). Nine dust stations will be monitored using real-time analyzers upwind and downwind along perimeter locations of the Site.

It is currently anticipated that the field work will commence in the second quarter of calendar year 2013, pending final agency approvals. The majority of the excavation activities will be performed during the summer months to minimize potential disruptions at a nearby elementary school, to the west of the Site, and to minimize to the extent possible working during wet weather periods. The field work is expected to take approximately 16 weeks.

Subsequent to completion of the remedial activities, the following documents will be prepared and submitted to the EPA:

- Notification of Soil Construction Completion – This document will provide notification to the EPA that soil remedial activities have been completed in accordance with the Final Soil RD.

- Pre-Final Soil Construction Inspection and Report – A pre-final soil construction inspection, including a representative from both agencies (EPA and Department of Toxic Substances Control [DTSC]) will be conducted to allow EPA to determine whether the construction is complete and complies with the Final Soil

RD. If any incomplete construction items are identified during the pre-final soil construction inspection, a Pre-Final Soil Construction Inspection Report will be prepared and submitted. This report will describe all outstanding Soil Remedial Action (RA) construction items, all actions required to resolve these items, the proposed completion date for these items, and a proposed date for the final inspection, if one is required.

- Final Soil Construction Inspection – If required by the EPA, a final soil construction inspection will be conducted, including a representative from both agencies (EPA and DTSC), after completion of any work identified in the Pre-Final Soil Construction Inspection Report. This inspection will include another walk-through of the Site, and inspection of the Consolidation Area.

- Soil Remedial Action Report – A Soil RA Report will be prepared following EPA's determination that the soil remedy is operational and functional. The Soil RA Report will document the cleanup activities that were undertaken to fully implement the soil cleanup at the Site.

1.0 INTRODUCTION

On behalf of Chevron Environmental Management Company (Chevron), working under an environmental services agreement on behalf of Texaco Inc., URS Corporation (URS) has prepared this Final Soil Remedial Action Work Plan (RAWP) describing the methods that will be used to excavate and consolidate the contaminated shallow subsurface soils currently present at the Texaco Pacific Coast Pipeline (PCPL) Superfund Site (the Site). The 55-acre Site is located at 67 East Telegraph Road in Fillmore, California (**Figure 1**).

This RAWP describes the procedures for implementation of the Soil Remedial Design (RD) to meet the Remedial Action Objectives (RAOs) as described in the Record of Decision (ROD) Amendment for the Site, issued on September 29, 2011, by the United States Environmental Protection Agency (EPA) (EPA, 2011). The soil RAOs include the following: 1) prevent human exposure through direct dermal contact, ingestion, and inhalation of shallow soil contaminated above threshold levels for commercial land use, construction activities, and recreational activities; 2) prevent contaminants in the waste pit (lead, polycyclic aromatic hydrocarbons [PAHs]) from migrating into underlying groundwater; and 3) reduce contamination in soil below toxicity threshold levels so it is not toxic to the plants and animals of the existing scrub habitat.

The major components of the soil remedy as outlined in the ROD Amendment include: 1) excavation and segregated stockpiling of clean and contaminated soils from the footprint of the planned onsite Consolidation Area to accommodate construction of the Consolidation Area; 2) excavation of contaminated soil exceeding risk-based cleanup criteria, developed to be protective of human health and the environment, from across the Site; 3) confirmation testing; 4) placement of excavated soil in the Consolidation Area in the former Main Waste Pit (MWP); 5) construction of an engineered cap; and 6) mass grading across the Site to remove historic earthen berms, construct drainage features, and make the Site ready for reuse. The MWP is shown on **Figure 2** (Area of Concern 9), and planned soil excavation volumes are summarized in **Table 1**.

The Consolidation Area cap incorporates a geosynthetic clay liner (GCL) that will prohibit infiltration and further minimize the low potential for leaching of contaminants in soil to the groundwater. As part of the remedial action, institutional controls (ICs) will be put in place to restrict future property use to commercial and/or recreational purposes, and limit actions that could interfere with the remedy (i.e., the cap). Additionally, regular operations and maintenance consisting of visual inspections at ground surface will be conducted to assess cap performance and integrity.

This approach will meet the RAOs by removing soil above risk-based cleanup levels to mitigate human and ecological exposure pathways. Covering of the Consolidation Area with an engineered cap will mitigate the potential for the material placed in the Consolidation Area to leach to the underlying groundwater.

1.1 PURPOSE

The purpose of the RAWP is to document the procedures to be followed in implementing the Soil RD (URS, [pending(a)]), which was developed to satisfy the RAOs for soil as outlined in the ROD Amendment (EPA, 2011).

2.0 PROJECT TEAM ORGANIZATION

The project team comprises specialty subcontractors, environmental consultants, the EPA, and Chevron. The lead regulatory agency is the EPA. A project team organizational chart is provided on **Figure 3**.

2.1 PROJECT TEAM

The EPA Remedial Project Manager is Ms. Holly Hadlock. She is the lead agency representative responsible for overseeing work performed by the sole Potentially Responsible Party (Texaco Inc.). The EPA representative will also seek input from other local agency representatives, including the City of Fillmore, County of Ventura, California Environmental Protection Agency, and Department of Toxic Substances Control (DTSC).

Ms. Leslie Klinchuch is the key Chevron contact managing environmental investigation and construction activities. She will be the main point-of-contact regarding any regulatory communications with EPA/DTSC. URS is currently providing consulting services to Chevron.

Mr. David Brod of URS is responsible for managing work conducted at the Site. URS has a minimum of two registered professionals responsible for overseeing the work. The remedial grading and engineering-related tasks will be overseen by Mr. Thomas Sweet. The field work will be conducted in accordance with a Site-specific health and safety plan (HASP) generated by Ms. Susan Gulbrandsen. The quality assurance program will be implemented by Mr. Brian Partington.

A project team organizational chart is presented on **Figure 3**. Key contacts for this project are listed below.

List of Key Project Team Contacts

Title	Organization	Name	Education	Registration/ License	Experience (years)	Phone Number
Project Manager	EPA	Holly Hadlock	---	---	---	(415) 972-3171
Project Manager	Chevron	Leslie Klinchuch	Geology, BS	PG, CHG, CGWP	22	(661) 632-1408
Project Manager	URS	David Brod	Anthropology, BA	---	22	(562) 308-2312
Technical Lead (Engineer)	URS	Ahmad Ghazinoor	Geotech. Eng., BS	PE, GE	42	(714) 648-2847
Technical Lead (Engineer)	URS	Thomas Sweet	Civil Engineer, BS	PE	28	(415) 243-3713
Health and Safety	URS	Susan Gulbrandsen	Health Science, BS, MS	CIH	26	(805) 964-6010
Quality Assurance	URS	Brian Partington	Geology, BS	PG, CHG	17	(714) 648-2803
Technical Lead (Geology)	URS	Jon Sanks	Geology, BS	PG	8	(714) 648-2849
Remedial Grading Project Manager	Recon Services	Keith Watts	---	---	21	(805) 816-9205
Analytical Testing	Laboratory	Test America	---	NELAP	---	(949) 261-1022

2.2 COMMUNITY RELATIONS

The EPA coordinates community involvement activities for the Site with support from Chevron. The community outreach program will include communications to local representatives, as well as public meetings to update nearby community stakeholders with progress at the Site. All community involvement activities conducted by Chevron will be subject to EPA oversight.

In addition, nearby residents and school, City, and County officials will be informed when field work activity is planned via bilingual notification letters or flyers distributed by Chevron a minimum of 1 week in advance of scheduled activities. The amount of residential inquiry is highly variable, and may be addressed directly by Chevron and/or the EPA.

3.0 PHYSICAL CHARACTERISTICS OF THE SITE

A brief summary of Site physical characteristics is provided in this section, drawn from several historical reports. Physical characteristics discussed include the geography, meteorology, surface hydrology, geology, hydrogeology, and demography of the Site.

3.1 GEOGRAPHY

The Site comprises 55 acres. The land surface elevation changes from north to south across the Site. The elevation in the northern portion of the property is approximately 575 feet above mean sea level (msl). The southern portion of the property is approximately 475 feet above msl. The elevation of the hill along the eastern property boundary is approximately 665 feet above msl. The majority of the property is currently graded to bare soil, and is largely devoid of vegetation (EPA, 2011).

3.2 METEOROLOGY

The climate at the Site is semi-arid and Mediterranean. The average annual rainfall is approximately 18 inches. The majority of regional precipitation occurs during an approximately 4-month period in the winter, when the daily high temperature is approximately in the mid-60s. The daily high temperature in the summer is approximately in the mid-80s. The prevailing wind direction is westerly from the Pacific Ocean toward the east.

3.3 SURFACE HYDROLOGY

The Santa Clara River is approximately 0.5 mile south of the Site. The river flows in a westerly direction towards its terminus at the Pacific Ocean. As expected, peak flows coincide with winter rain events and typically begin to subside around April.

Two perennial streams in the general vicinity of the Site provide water to the Santa Clara River. The first tributary is Sespe Creek. This creek drains the majority of the local mountains to the north, and is west-southwest from the Site at a distance of approximately 1.5 miles.

The second tributary is Pole Creek. This creek runs adjacent to the western border of the Site and drains an area of approximately 7.5 square miles. The lower portion of this creek was channelized with concrete circa 1973. A debris flow retention basin was recently constructed in 2008, just south of Highway 126.

3.3.1 Existing Site Drainage Patterns

The western portion of the Site and the northern offsite contributing area drain toward Pole Creek, with the eastern portion of the Site and the southern offsite portion draining to the existing pipe under the railroad tracks and Highway 126.

3.3.2 Proposed Site Drainage Patterns

The flow directions are generally the same as at the existing Site, with discharge split between Pole Creek and the existing pipe under the railroad tracks, toward Highway 126.

3.3.3 Detention Pond Function

In general, the planned detention ponds will allow infiltration for treatment of initial run-off volumes, then split initial overflow toward Pole Creek and secondary overflow to the existing pipe under the railroad tracks, toward Highway 126.

- **Northern Pond** – The interior control structure directs initial overflow to Pole Creek until capacity is reached; then additional inflows are allowed to discharge to Southern Pond. After inflow is complete, detained water discharges via the low water control orifice to Southern Pond, and/or infiltrates to restore available detention capacity.

- **Southern Pond** – The control structures direct initial overflow through the westerly overflow structure to Pole Creek until capacity is reached; then additional inflows are allowed to discharge through the easterly overflow structure to the existing pipe under the railroad tracks, toward Highway 126. After inflow is complete, the detained water discharges via the low water control orifice in the easterly overflow structure, and/or infiltrates to restore available detention capacity.

3.3.4 Roadway Drainage

Shallow roadside swales (6 inches deep, lined with processed concrete over geotextile non-woven filter fabric) will be cut for interim surface drainage to planned drop inlets. Future roadway pavement and curb and gutter will be placed to use planned drop inlets.

3.3.5 East Slope Drainage

Concrete-lined v-ditches will be placed at the top of the slope, mid-slope, and toe of slope to collect and convey runoff from offsite contributing areas and onsite areas. The graded slope face will be covered with an erosion control/dust control agent or palliative.

3.3.6 Lot Drainage

Lots generally drain west and south to lined drainage swales and detention areas for initial treatment, and then overflow to the northerly and southerly detention ponds. Where slopes occur at the perimeter of each lot, a slight berm will be graded at the top of adjacent down-slopes to minimize runoff entering slopes. Slope across the lots will be fairly flat; they will have wattles placed at regular intervals perpendicular to the direction of flow, to reduce erosion potential.

3.4 GEOLOGY

3.4.1 Regional Geology

The Site lies along the northern boundary of the Santa Clara Trough, which contains sedimentary deposits over 40,000 feet thick ranging from Cretaceous to Recent in age. In the Fillmore area, the Santa Clara Trough is bordered by the San Cayetano Fault on the north and the Oakridge Fault on the south. The San Cayetano Fault passes beneath the Site approximately parallel to the eastern site boundary. Fractured bedrock along the fault has resulted in extensive landsliding. This fractured rock has also provided a conduit for naturally occurring hydrocarbons to reach the Earth's surface. Crude oil seeps and tar sands are common features in the Site vicinity.

The Site lies within a petroleum-producing province along the eastern portion of Ventura Basin. Oilfields located in the Site vicinity include the Fillmore, Shiells Canyon, and Bardsdale fields. In addition to the oilfields, several surface oil and tar sand accumulations or seeps have been mapped near the Site (URS, 2011a). These reportedly occur in the fractured sands and shale of the Monterey Formation north of the Site along Pole Creek, and in recent landslide debris directly adjacent to the Site. It is likely that the observed oil seeps resulted from the migration of hydrocarbons along fractures in the Monterey Formation associated with the San Cayetano Fault. Some of the seep material was previously analyzed and found to contain naturally occurring benzene. Forensic analysis of material collected from the seeps was conducted by Environmental Solutions, Inc., in 1993. The results of the analyses indicated benzene concentrations ranging from 220 milligrams per liter (mg/L) to 900 mg/L (E&A, 1994).

3.4.2 Local Geology

The subsurface interpretations are based on past investigations conducted at the Site. The near-surface geology can be characterized as consisting of laterally discontinuous interlayers of unconsolidated, fine- to coarse-grained detritus deposited in stream channel, alluvial fans, and mass wasting depositional environments associated with nearby landslides. The extreme heterogeneity of the subsurface strata has created a complex hydrogeologic environment.

3.4.3 Regional Hydrogeology

The Site is located in the eastern portion of the Fillmore Groundwater Basin. In the Site area, the alluvial deposits and the underlying San Pedro Formation are the major water-bearing units, with groundwater flow directions towards the west following the Santa Clara River. Regionally, long-term groundwater monitoring has been measured in a nearby well owned by the Ventura County Watershed Protection District. The maximum recorded groundwater fluctuation in the general vicinity was 50 feet. Groundwater is approximately 50 feet below the bottom of the proposed Consolidation Area.

3.4.4 Local Hydrogeology

The local hydrogeology is categorically divided into three water-bearing zones, including a Perched Zone, Aquifer I, and Aquifer II. Below is a brief description of each zone (listed according to depth).

Perched Zone

- Perched water within shallow, discontinuous, fine-grained sediments.

Aquifer I

- This unconfined to semi-confined zone is the primary focus of groundwater cleanup at the Site.

Aquifer II

- Deeper groundwater that is not considered to be impacted with shallower petroleum hydrocarbons.

3.5 DEMOGRAPHY

The nearby land use designations are primarily agricultural, industrial, and residential. Nearby land use and demographics are presented in more detail in the *PCPL Fillmore Reuse Assessment* (Chevron, 2010). The neighboring property designations are summarized as follows:

- North of the Site, there is primarily open space contained within a relatively steep slope, terminating into Pole Creek.
- East of the Site are rolling hills, occupied by an avocado orchard and a communications satellite installation (Intelsat).
- Southeast of the Site is a small parcel zoned for commercial use, located along Highway 126.
- South of the Site is Highway 126. A small picnic area is located at the entrance to the Site.
- West of the Site is primarily a residential community with a nearby elementary school.

A rail line currently owned by Ventura County Transportation Commission is located in the southern portion of the Site. A historic train tourist attraction (Fillmore & Western) currently uses the rail line and maintains a rail yard adjacent to the southwest corner of the Site. The rail line is also used as a filming location for the entertainment industry.

Fillmore is a relatively small agricultural community, with a human population of approximately 15,000. The city is committed to slow, well-planned growth, with a maximum population of 20,000 (City of Fillmore, 2006).

3.6 SITE ECOLOGY

The majority of the Site is graded and devoid of vegetation and habitat. The only areas where ecological habitat may exist are the eastern hillside and the northernmost portion of the Site.

The hillside is approximately 12 acres and is generally very steep, sloping upward to the east. The vegetation is mostly intact, with a few dirt service roads and disturbed by the presence of non-native weeds in a few areas. The vegetation consists primarily of Venturan Coastal Sage Scrub, which is characterized as low, mostly soft-woody shrubs less than six feet in height. Species of this community include California sagebrush, California buckwheat, purple sage, coyote brush, and desert candle. The Amended ROD establishes ecological cleanup levels for the hillside habitat to protect potential burrowing mammals.

The northernmost portion covers approximately 7 acres and is mostly flat with several graded depressions. This potential habitat area is much more disturbed than the hillside habitat. Large portions are devoid of vegetation. The remainder of the area contains some native scrub and sparse wooded areas. Of the vegetated portions, roughly 30% is Venturan Coastal Sage Scrub, 40% is ruderal habitat (weedy plants that grow in highly disturbed areas), and about 30% is wooded. The wooded areas are patchy and populated primarily by non-native Peruvian pepper and eucalyptus trees. Thus, the northernmost portion of the Site, when compared with both the adjacent hillside and habitat outside the Site boundary, is of insignificant value as habitat in light of its degraded and disturbed condition.

4.0 NATURE AND EXTENT OF CONTAMINATION

This section includes a brief review of contaminants present in soils beneath the Site.

4.1 SOURCES OF CONTAMINANTS

Contaminants found in the historical investigations are typical of petroleum industry operations that were ongoing at the Site since circa 1915. Although few Volatile Organic Compounds (VOCs) were detected in the recent shallow soil investigation, residual contaminants remain in the saturated zone and continue to be a potential source to groundwater. The key sources of groundwater impacts were the main waste pit and assorted smaller pits, especially around the southern part of the Site. In addition to the groundwater impacts associated with historical operations, groundwater is also impacted by the presence of naturally occurring hydrocarbons in soils and the underlying strata (see *Final Phase 2 Design Report* [E&A, 1994]).

The 1992 ROD identified primary sources of groundwater contamination as a series of nine unlined waste pits that were used to store liquid waste generated during refining operations and was subsequently removed during soil remediation (excavation) conducted in 1986. Because the pits more or less continuously contained liquid waste while they were in service during refinery operations, they provided a mechanism by which hydrocarbons could migrate into the subsurface. Once refinery operations ceased, waste was no longer added to the pits (ENSR, 1990), thereby reducing the hydraulic head contributing to the vertical migration of hydrocarbon liquids. After the waste within the former pits was removed, potential for vertical migration and lateral spreading was severely curtailed or eliminated.

The majority of soil impacts were addressed as part of the 1986 waste removal actions. Residual soil impacts are present across the Site, predominantly in shallow soils, and are likely associated with historical operations, incidental releases, and former waste management practices (**Figure 2**).

4.2 CONTAMINANT DISTRIBUTION – SHALLOW SOILS

A three-phased soil sampling program was conducted at the Site from 2006 through 2009. The first phase of the investigation documented subsurface conditions generally located at the former tank areas (URS, 2006b). The second phase of the investigation was to characterize subsurface conditions beneath areas of known historical operations at the Site (URS, 2008a). The third phase (URS, 2009) was intended to be the final data-gathering effort; it focused on filling gaps in information from the previous two investigation phases, and collecting soil vapor data necessary to complete a human health risk assessment for shallow soils at the Site. In addition, a qualitative ecological scoping assessment was conducted to determine the need for a quantitative screening evaluation. Through each phase of this shallow soil investigation, a seven-step data quality objective process was followed to ensure that appropriate data quality objectives were defined and met.

The objective of the shallow soil investigation was to assess whether detectable concentrations in soils beneath the former process areas (to depths of 10 feet below ground surface) might pose a health risk to future industrial or construction/excavation workers. Future land use options for the Site do not include residential use, and a deed restriction is intended to enforce this decision.

The Site was divided into 14 areas of concern, based on similar historical uses and/or impacts from chemical constituents. Quantitative human health and ecological risk assessments were completed as part of a remedial investigation and focused feasibility study (RI/FS). The Chemicals of Concern (COCs) in shallow soil that will be mitigated are inorganic lead and PAHs. Shallow soil gas results do not pose unacceptable risk for vapor intrusion to indoor air, with the exception of one area of concern for benzene and ethylbenzene. These concerns will also be mitigated.

4.3 SUMMARY OF PREVIOUS SITE INVESTIGATIONS

A three-phased shallow soil investigation was performed to assess the nature and extent of subsurface impacts at the Site to support preparation of the Remedial Investigation (RI) Report. Subsequent to the RI, two additional investigations were conducted. During the five investigations, a total of 2,157 soil samples was collected for chemical analyses, as listed below.

Summary of Previous Site Investigations

Investigation	Sample Matrix	Borings	Number of Samples	Analyses
Phase 1	Soil	22	72	VOCs, PAHs, CAM Metals, Organic Lead
Phase 2	Soil	296	949	VOCs, PAHs, Inorganic Lead, Organic Lead, Hexavalent Chromium, PCBs, pH
Phase 3	Soil	27	62	VOCs, PAHs, Inorganic Lead, Organic Lead
	Soil Vapor	27	60	TO-15 VOCS
2010-2011 Soil Delineation	Soil	623	944	Lead, PAHs, VOCs
2012 Consolidation Area Trenching	Soil	23	70	Lead, PAHs, VOCs
		Total	**2,157**	

Notes:

CAM = California Assessment Manual
PAH = Polycyclic Aromatic Hydrocarbons
PCB = Polychlorinated Biphenyls
VOCs = Volatile Organic Compounds

Samples were analyzed by an environmental testing laboratory for the following analytes:

- VOCs by EPA Method 5035/8260;
- PAHs by EPA Method 8270-SIM/EPA Method 8310;
- Hexavalent Chromium by EPA Method 7199;
- Inorganic Lead and Other Metals by EPA Method 6010B;
- Organic Lead (Hazardous Material List 939-M);
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082;
- pH by EPA Method 9045C; and
- Soil Vapor VOCs by EPA Method TO-15.

The investigative methods are provided in the RI/FS (URS, 2011a). The results of the investigations are discussed briefly below.

4.3.1 Phase 1 – Former Tank Areas

In 2006, twenty-two soil borings were advanced beneath former aboveground petroleum storage tanks during Phase 1. The results were documented in a report entitled *Soil Sampling Phase 1 – Former Tank Areas Pacific Coast Pipeline (PCPL) Superfund Site Fillmore, California* dated September 8, 2006 (URS, 2006b). During this investigation, a total of 72 soil samples (including 6 replicate soil samples) was analyzed for VOCs, PAHs, California Assessment Manual metals, and organic lead.

4.3.2 Phase 2 – Historical Operations

In 2007, two hundred ninety-six (296) soil borings were advanced beneath areas of known historical operations. The results were documented in a report entitled *Soil Sampling Phase 2 – Historical Operations PCPL Superfund Site Fillmore, California,* dated April 15, 2008 (URS, 2008a). During this investigation, a total of 949 samples was collected and analyzed for VOCs, PAHs, inorganic lead, and organic lead. Select samples were analyzed for hexavalent chromium, PCBs, and pH.

4.3.3 Phase 3 – Data Gap Sampling

In 2008/2009, twenty-seven soil/vapor borings were advanced throughout the Site to address data gaps identified during a preliminary risk assessment. The results were documented in a report entitled *Phase 3 – Shallow Soil Investigation: Data Gap Sampling and Human Health Risk Assessment,* dated May 8, 2009 (URS, 2009). During this investigation, a total of 62 soil samples (including nine replicate soil samples) were collected and selectively analyzed for VOCs, PAHs, inorganic lead, hexavalent chromium, and organic lead. A total of 60 soil vapor samples was collected and analyzed for VOCs.

4.3.4 2010-2011 Soil Delineation

In 2010 and 2011, six hundred twenty-three (623) soil borings were advanced to better delineate the limits of the soil remediation areas identified in the three-phased shallow soil investigation. The results were documented along with berm data and pipeline removal data in a report entitled *Soil Delineation Sampling and Infrastructure Removal Report,* dated December 16, 2011 (URS, 2011c). During these investigations, 944 additional soil samples were collected and analyzed for inorganic lead and/or PAHs. Select soil samples were analyzed for VOCs.

4.3.5 2012 Consolidation Area Trenching

In 2012, seven trenches were excavated in the planned Consolidation Area, and 74 soil samples (including three replicate soil samples) were collected and analyzed for inorganic lead and/or PAHs and VOCs. The results will be documented in a pending report entitled *Soil Delineation Sampling and Infrastructure Removal (Phase 2) Report,* planned to be dated March 2013, which will contain 2012 lateral delineation information and data collected during 2012 Consolidation Area trenching (URS, [pending(b)]). Initial results are summarized in **Table 2**, and the extent of planned excavations is illustrated on **Figure 4**.

Results from the investigations used to establish the limits proposed for remedial excavations are illustrated in Appendix A, Sheets C-10 through C-26.

4.4 SOIL ANALYTICAL RESULTS

The analytical results from the soil sampling were used to establish risk-based cleanup criteria in order to delineate the extent of required remediation for potential redevelopment as a commercial/industrial property. The soil impacts were generally limited to medium- to heavy-molecular-weight petroleum hydrocarbons, PAHs, and inorganic lead. Although VOCs were detected in soils, these were generally at low concentrations with only naphthalene detected in three samples above the industrial regional screening levels.

Fourteen areas of concern were identified to assist in preparing the health risk evaluation, due to the size and geography of the Site, complexity of past operations, and multiple chemical release areas. The areas of concern are shown on **Figure 2**.

Soil analytical results are provided in the final *Remedial Investigation/Focused Feasibility Study (RI/FS) Pacific Coast Pipeline (PCPL) Superfund Site Fillmore, California*, dated January 14, 2011 (URS, 2011a); the *Engineering Geology and Geotechnical Investigation, Pacific Coast Pipeline (PCPL) Superfund Site, Fillmore, California*, dated September 9, 2011 (URS, 2011b); the *Soil Delineation Sampling and Infrastructure Removal Report***,** dated December 16, 2011, which contains 2010 lateral delineation information and data collected during 2011 pipeline removal work (URS, 2011c); and the pending report entitled *Soil Delineation Sampling and Infrastructure Removal (Phase 2) Report,* planned to be dated March 2013, which will contain 2012 lateral delineation information and data collected during 2012 Consolidation Area trenching (URS, [pending(b)]).

4.5 PREVIOUS SOIL REMEDIAL ACTION

In 1986, 38,000 tons of waste material and contaminated soil were excavated from the MWP and other pit areas, and disposed at an offsite facility.

5.0 REMEDIAL ACTION OBJECTIVES

URS prepared this RAWP primarily to address remedial soil excavation and Consolidation Area soil placement procedures. As discussed above, previous soil investigations have identified areas that require remediation. Approximately 18,500 cubic yards of soil will be excavated from approximately 80 discrete areas and placed into a Consolidation Area (expanded former MWP) with an engineered cap along the western side of the Site. Therefore, the primary objective of the RAWP is to ensure that soil excavated and consolidated during construction activities is managed and handled in accordance with the procedures prescribed herein. RAOs from the ROD applicable to the planned soil remedial excavation and Consolidation Area soil placement are discussed below.

The following RAOs, as well as how the selected remedial alternative addresses each RAO, are identified in the ROD Amendment issued by the EPA on September 29, 2011. The ICs will be used to restrict the future use of the property to commercial and recreational uses only, and to maintain the remedy integrity.

- Prevent human exposure through direct dermal contact, ingestion, and inhalation of shallow soil contaminated above threshold levels for commercial land use, construction activities, and recreational activities. [Removing contaminated soil that exceeds the cleanup level will reduce the risk to an acceptable exposure level for a commercial or recreational user].

  This objective was established to allow for the reasonably anticipated future use of the property for commercial and recreational purposes, and to protect property users from potential exposure to contaminants in the shallow soil that exceed established risk-based threshold levels.

- Prevent contaminants in waste pit (lead, PAHs) from migrating into underlying groundwater. [Installation of an engineered cap will eliminate the risk for groundwater to become contaminated with lead and PAHs].

  This objective is to protect groundwater from potential future contamination.

- Reduce contamination in soil below toxicity threshold levels so it is not toxic to the plants and animals of the existing scrub habitat. [Removing contaminated soil that exceeds the cleanup level will reduce the risk posed by lead to ecological receptors in the Site habitat].

  This objective is to protect the onsite scrub habitat and the ecological receptors.

6.0 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Applicable or Relevant and Appropriate Requirements (ARARs) from the ROD Amendment applicable to the planned soil remedial excavation and Consolidation Area soil placement are discussed below, and baseline assumptions for the ICs that will be used at the Site are provided.

6.1 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

The applicable project ARARs [and how the project addresses each ARAR] are identified in **Table 3**. The primary ARARs for the soil remedy are the California land use covenant requirements and Ventura County Air Pollution Control District (VCAPCD) regulations for fugitive dust. The selected remedy will be protective of human health and the environment by reducing the potential for exposure to the COCs in soil. The Hazardous Waste Determination ARARs are not applicable to the selected remedy that will manage the soil onsite, but are relevant and appropriate if any generated waste will be disposed offsite. The Area of Contamination Policy is applicable to the Site; therefore, Corrective Action Management Unit (CAMU) regulations are also not applicable, but may be relevant and appropriate for the construction of the onsite Consolidation Area. The CAMU regulations allow alternative requirements to be specified where design and location characteristics will effectively prevent migration of wastes.

Chemical-Specific ARARs – There are no chemical-specific ARARs for Site soil [not applicable].

Location-Specific ARARs – Locate the proposed action outside the floodplain [proposed Consolidation Area is located outside the 100-year floodplain].

Action-Specific ARARs – Use the best available control technologies to minimize dust emissions associated with the soil remedy; conduct monitoring during earth-moving activities to control generation of dust emissions so as to not remain visible in the atmosphere beyond the property line; and comply with VCAPCD regulations.

6.2 INSTITUTIONAL CONTROLS

In addition to the RAOs and ARARs summarized above, the project will implement ICs as discussed in the ROD Amendment to prevent exposure to contaminated soil and to maintain the integrity of the remedy, with the following components (see **Table 4** – Institutional Controls Roadmap, for a more complete list of ICs):

6.2.1 Type of Control

Deed Restrictions, a land covenant between the state and property owner, and city zoning requirements.

6.2.2 Relationship of Control to Remedy

To protect Site users from long-term exposure to contaminated soil; to protect the remedy (engineered cap) from construction activities.

6.2.3 Objectives Attained by ICs

Prevent long-term exposure to contaminants in soil; prevent migration of contaminants in soil.

6.2.4 Performance Standards

Prohibit residential and other sensitive uses of the former refinery property.

6.2.5 Monitoring

To ensure the ICs are implemented and enforced.

6.2.6 Responsible Entities

Deed restrictions included by Texaco on its property; a restrictive covenant to be signed by Texaco, DTSC, and the EPA and filed at the Ventura County Recorder's office; zoning by the City of Fillmore.

7.0 REMEDIAL ACTION PROCEDURES

Procedures for the management of excavated soil are outlined below and will be implemented by field personnel under the direct supervision of a California State Professional Geologist, Soils Engineer, and/or Professional Engineer. The overall approach to the remedial grading is discussed in the Construction Quality Assurance Plan (CQAP) presented in Appendix B.

The soil remedial grading procedures address the following elements:

- Public notification;
- Permits and notifications;
- Site-specific HASP;
- Subsurface utility clearance;
- Remedial soil excavation and backfilling;
- Confirmation sampling;
- Consolidation Area soil placement;
- General earthwork;
- Dust suppression and air monitoring; and
- Communications and coordination.

7.1 PUBLIC NOTIFICATION

Chevron will provide bilingual flyers notifying residents in the immediate vicinity about the proposed field work at the Site. The project mailing list includes all residences between the Site and Mountain View Street to the west, the adjoining landowner to the east (Intelsat), and School, City, and County officials. In addition, City-wide mailings will notify all addresses in the City of Fillmore of the EPA's pubic meeting to provide information to the community on the planned remedial action, and of public Site tours with the EPA.

7.2 PERMITS AND NOTIFICATIONS

The required permits will be obtained from Ventura County and the Regional Water Quality Control Board (RWQCB). Chevron already has an existing grading permit to disturb surface soils at the Site as part of ongoing pipeline removal and other above-grade demolition activities. Following EPA approval of the Final RD and RAWP, a grading permit change order was submitted, updating the grading plan with the remedial grading described herein (see Appendix A for Remedial Grading Plans).

In addition to the grading permit change order, the following permits and notifications will also be obtained/made:

- A Notice of Intent and project Stormwater Pollution Prevention Plan (SWPPP), submitted to the State Water Resources Control Board in accordance with the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities prior to any ground-disturbing activities;
- A Notification of Pending Demolition or Renovation (Asbestos Notification), submitted to the VCAPCD prior to the start of construction activities;

- A Conditional Exemption Letter granting exemption from VCAPCD permitting for the soil remedial action, deferring to compliance with the EPA-approved Dust Suppression and Air Monitoring Plan.
- A Discretionary Tree Permit obtained from Ventura County Planning Division for permission to remove five heritage-size, non-native pepper trees that impede remedial action.
- A Clearance Application submitted to the Ventura County Integrated Waste Management Division prior to the start of construction activities.

7.3 SITE-SPECIFIC HEALTH AND SAFETY PLAN

Following EPA approval of the Final RAWP, and prior to implementing the remedial action, field personnel will be required to review and sign a revised Site-specific HASP prepared by URS. The HASP is intended to aid in the safe handling of materials potentially containing elevated levels of the COCs. It is designed to: 1) identify and describe potentially hazardous substances that may be encountered during field activities; 2) specify protective equipment for onsite activities; 3) specify personnel decontamination procedures; and 4) outline measures to be implemented in the event of an emergency. The HASP will provide Site-specific scopes of work, as well as indicate any unique COCs.

7.4 SUBSURFACE UTILITY CLEARANCE

As required by California state law, Underground Services Alert of Southern California (USA) will be contacted a minimum of 2 working days before initiating subsurface field work. Prior to contacting USA, the Site will be delineated with white spray paint, thereby outlining the proposed limits of subsurface work. A ticket number will be obtained to request utility clearance by parties with underground utilities in the areas. Following notification, utility owners and/or representatives will mark the approximate location of each subsurface utility. Prior to conducting subsurface field work, each location will be visually inspected to verify potential conflicts. Each location will be investigated further by reviewing historical drawings (including the geophysical survey investigation reports) readily available for the Site. Previous EM61 geophysical surveys were conducted in 2011 and 2012 across the Site to identify subsurface infrastructure for removal to eliminate underground obstructions.

7.5 REMEDIAL SOIL EXCAVATION

The remedial soil excavation will be implemented using an appropriately sized excavator capable of reaching a minimum depth of approximately 15 feet below ground surface (bgs). Water will be delivered by water trucks and used for dust suppression. Air monitoring will be conducted in accordance with a fugitive dust monitoring program, as described in Section 7.8. An existing onsite weather station will be used to document conditions while conducting the grading activities at the Site. A dump truck will be used to transport impacted excavated soil to a staging area located near and/or directly into the Consolidation Area.

At the locations identified for remediation, the contractor will begin by determining the surface dimensions of the excavation by using previously identified limits in conjunction with visual means (i.e., stained soil), odor, and/or a photoionization detector (PID). Considering the action level for inorganic lead is 320 milligrams per kilogram (mg/kg) over the majority of the Site and 26 mg/kg (top 6 inches) and 56 mg/kg (to 6 feet bgs) for the hillside, use of a Field-Portable X-Ray Fluorescence (FP-XRF) analyzer is proposed to screen Site soils for lead concentrations.

The FP-XRF screening approach involves collecting shallow soil samples, generally to a depth of 1 inch, as outlined in EPA Method 6200, and analyzing them in the field using modifications of the same method. The field technician will operate the equipment in a "screening mode" by analyzing homogenized soil samples contained in a sealable plastic bag in general accordance with EPA Method 6200. The detailed procedures for sample preparation and use of the FP-XRF analyzer are contained in Appendix B of the approved project Quality Assurance Project Plan (QAPP) (URS, 2012). A copy of the QAPP is contained in Appendix C.

All samples of consequence, such as those used to delineate areas that meet the Site cleanup goals, will be analyzed in a stationary laboratory to obtain the actual concentration used for decision making.

For PAHs, because a suitably accurate field method is not available to screen each individual PAH, all samples will be analyzed at a stationary laboratory (Test America). The soil cleanup levels for PAHs from the ROD Amendment are listed below:

Cleanup Levels for Polycyclic Aromatic Hydrocarbons	
Chemicals of Concern	**Cleanup Level (mg/kg)**
Benzo(a)anthracene	1.2
Benzo(a)pyrene	0.12
Benzo(b)fluoranthene	1.2
Benzo(k)fluoranthene	1.2
Chrysene	12.0
Dibenz(a,h)anthracene	0.35
Indeno(1,2,3-cd)pyrene	1.2
Naphthalene	13.0

Approximate dimensions are listed for each excavation area on the Remedial Grading Plans (Appendix A, Sheets C-10 through C-26). Once the excavation dimensions are defined in the field, the contractor will begin excavation. The contractor will excavate to the limits provided on the Remedial Grading Plans. Soil samples will generally be collected on both the floor and the walls of the excavation (from the excavator bucket); characterized using the Unified Soils Classification System; and screened for COCs using stationary laboratory testing, headspace screening, and the FP-XRF. Confirmation soil testing will be performed for every 20 linear feet of excavation wall, and every 400 square feet of bottom area. The confirmation soil samples will be analyzed at a stationary laboratory for the following:

- EPA Method 8270-SIM for PAHs; and
- EPA Method 6010 for Lead.

Prior to PAH analysis by EPA Method 8270-SIM, if needed, a silica gel cleanup using EPA Method 3630C for EPA Method 8270C extracts shall be implemented to remove co-extracted matrix contamination, thus preventing matrix interference and yielding cleaner 8270-PAH extracts.

The soil confirmation samples will be collected in accordance with the procedures specified in Appendix A, Standard Operating Procedure (SOP) 009, Soil Sampling, of the approved project QAPP (Appendix C). The samples will be labeled, placed in bags, and stored in an insulated

cooler with ice for delivery to the laboratory under chain-of-custody documentation within 24 hours.

If hydrocarbon-stained soil is exposed and PID (10.6 eV lamp) measurements indicate potential VOC contamination greater than 50 parts per million, then samples will be collected for VOC analysis by EPA Method 8260B. The VOC samples will be collected using the Encore™ Sampling System in accordance with SOP 009, Soil Sampling, in Appendix A of the QAPP.

Samples will be labeled in a clear and precise way for proper identification in the field and for tracking purposes in the laboratory. Each sample will be assigned a unique number. Printed labels (and chain-of-custody forms) will contain the unique sample control number, date and time of collection, analytical parameter(s), and method of preservation. These data will be documented prior to shipment to the laboratory.

Sample location names will be documented and keyed to the unique sample number. The sample names will not be recorded on the sample bottle labels or laboratory copies of the chain-of-custody form. Sample names will appear only on copies of the chain-of-custody form retained by the project manager.

A completed chain-of-custody will accompany each sample cooler. The chain-of-custody form will identify the contents of each shipment and maintain the custodial integrity of the samples. The field personnel will be responsible for relinquishing the samples directly to laboratory personnel. A completed form will specify the date and time. Upon completing the analytical testing, the original form will accompany the final laboratory report when submitted to the URS Project Manager. Chain-of-custody procedures are presented in Appendix A, SOP 008, Sample Handling, Packing, and Shipping, of the QAPP (Appendix C).

The sample locations will be documented in field reports by providing a rough sketch of the excavation area, as well as recording its location, using a hand-held global positioning system (GPS). The procedures for recording sample locations are presented in Appendix A, SOP 015, Documenting Locations with Trimble GPS Receivers, of the approved QAPP (Appendix C).

Expansion of the lateral excavation limits will be controlled by field-testing results and laboratory confirmation. When expansion is warranted, the excavation will generally be expanded in 3-foot increments laterally to control excavation volumes. Excavation vertical limits will be set at a maximum of 10 feet bgs (existing and/or future grade, whichever is lower); or for impacts located at 10 feet bgs, the maximum limit will be 12 feet bgs. It is anticipated that excavation walls will be allowed to stand vertical to the extent practicable until testing is complete, then when deemed compliant with COC cleanup levels, the excavations will typically be “bowled out” to allow for proper backfilling and compaction.

To control the volume of excavated soil placed in the Consolidation Area, soils excavated outside of the affected soil limits to produce suitable slopes will be stockpiled separately for backfilling as clean fill. The Remedial Grading Plans (Appendix A) indicate areas of onsite borrow as a source of suitable backfill to complete filling of excavations to avoid the need to bring in backfill material from offsite. Based on experience with similar projects, the nature of the soil at the Site, and anticipated equipment/placement methods to achieve uniform compaction levels, backfilling of the Consolidation Area will be performed in 8-inch maximum loose lifts and compacted to 95 percent relative compaction—and backfilling of remedial excavation areas will be performed in 12-inch maximum loose lifts and compacted to 90 percent relative compaction. Compaction testing will be conducted to verify that compaction criteria have been met. Compaction testing procedures are presented in Appendix A, SOP 019, Compaction Testing, of the approved QAPP (Appendix C).

For excavations requiring entry, if the excavation area is deeper than 4 feet, appropriate shoring/sloping will be required in accordance with U.S. Occupational Safety and Health Administration 29 Code of Federal Regulations 1926 (29 CFR, Part 1926, Subpart P – Excavation).

All non-dedicated sampling equipment and excavation equipment will be decontaminated before reuse or use in another excavation location. Decontamination will be conducted in accordance with the procedures specified in the approved QAPP (Appendix A, SOP 002).

7.6 CONSOLIDATION AREA SOIL PLACEMENT

The remedial action will take advantage of existing open space within the former MWP, and a planned paved roadway and adjacent lot setback areas to provide additional protection above the engineered cap. Due to the low mobility of the primary constituents, a bottom liner (including associated monitoring) is not required.

The Consolidation Area footprint will be excavated to design bottom elevations (approximately 25 feet bgs), and the slopes graded to the Remedial Grading Plans. As soil is excavated, placed, and compacted (to 95 percent relative compaction as measured by Modified Proctor) in the Consolidation Area, volumes generated will be monitored by URS for compliance with the planned excavation volumes included in the RAWP and Remedial Grading Plans. If the volume is trending above the plan, RECON and URS will coordinate benching of the Consolidation Area starting at 9 feet bgs to allow vertical side slopes down to 13 feet bgs, which will result in an increase of volumetric yield of the Consolidation Area. Similarly, when fill reaches 9 feet bgs, benching will be performed at 5 feet bgs as needed to use vertical side slopes up to 5 feet bgs (bottom of the engineered cap). Filling of the Consolidation Area shall be in maximum 8-inch-thick loose lifts, moisture conditioned, and each lift compacted to 95 percent relative compaction.

If additional volume is needed beyond what can be accommodated using benching and vertical slopes down to 13 feet bgs, part of the Consolidation Area will be expanded to the east under the northern lot along the north-south roadway (see Appendix A, Sheet C-01).

A minimum 5-foot-thick engineered cap, consisting of a minimum 3-foot-thick protective general free-draining erosion fill layer underlain with a 2-foot-thick low-permeability layer consisting of a GCL sandwiched within protective sandy/granular onsite borrow soils, will be constructed over the entire Consolidation Area (and toed in along the perimeter). Only soil meeting the Site-specific cleanup criteria will be used in the construction of the cap. See Remedial Grading Plans (Appendix A, Sheet C-32) for additional detail.

An erosion control cellular confinement geotextile mat will be constructed along the entire length of the Consolidation Area between the Pole Creek property line and planned roadway. The existing grade along the shared property line with Pole Creek will be maintained, and the onsite grades raised somewhat, resulting in a minor slope (generally less than 2 feet high and at a slope less than 3:1 [horizontal to vertical]) to ensure the existing Pole Creek flow characteristics are not altered by construction of the Consolidation Area. See Remedial Grading Plans (Appendix A, Sheet C-33) for additional detail.

7.7 GENERAL EARTHWORK

As part of the remedial grading, the Site will be rough graded to a condition suitable for future reuse, including removal of the former containment berms. It is anticipated that the remedial excavation and placement of soils in the Consolidation Area will be performed first, with general Site-wide earthwork following construction of the Consolidation Area. To ensure the remedial excavation is complete, laboratory confirmatory samples from each excavation area will be performed prior to backfilling with clean onsite soils. Once the remedial excavation and backfilling is completed in a portion of the Site, general earthwork will be allowed to progress to minimize overall duration of the project, and fit within the dry season construction window (approximately 16 weeks).

This work will also include creation of retention/detention features that will collect and route stormwater runoff during the rainy season to control runoff and avoid erosion. The Remedial Grading Plan (Appendix A) includes details of the storm water management and anticipated piping/ conveyance features, to ensure inflows and outflows from the retention/detention features are controlled and directed to offsite areas in compliance with the project SWPPP and associated post-construction storm water best management practices features. A copy of the SWPPP is included as Appendix D. All earthwork will be controlled, with cut and fill occurring in planned locations, with proper moisture conditioning and compaction to ensure avoidance of dust emissions, and ready for reuse lot areas are properly compacted (90 percent minimum relative compaction).

7.8 DUST SUPPRESSION AND AIR MONITORING

The Contractor will implement a fugitive dust monitoring program as required by the VCAPCD Rule 55. The primary purpose of the dust suppression and air monitoring program will be to monitor the level of particulates in the air at and near the Site during remedial activities; and, based on the levels, adjust dust suppression measures to minimize the dust generated during the work.

Air monitoring will consist of real-time, continuous monitoring for respirable particulate matter (particulate matter 10 microns in diameter or less) using DustTrak II desktop model monitors within an environmental enclosure (or approved equivalent). Nine dust stations will be monitored using real-time analyzers upwind and downwind along perimeter locations of the Site. A weather station will be used to record the predominant wind direction for each day of monitoring. The measured upwind concentration will be subtracted from the measured downwind concentration to calculate the net ground level (NGL) concentration. The NGL will be compared with the target air concentrations. A copy of the Dust Suppression and Air Monitoring Plan that details the location of the air monitoring stations, the air monitoring equipment to be used, frequency of monitoring and sampling, action levels, and associated corrective actions is included in Appendix E.

7.9 COMMUNICATION AND COORDINATION

Chevron and the contractors will be in daily communication. Chevron will communicate with EPA routinely and submit biweekly status reports during construction. The community will be kept informed by an EPA-led community meeting in late February, a mailed notice to the project mailing list (described above) prior to the start of field work, and by monthly updates on the project website (www.FillmoreWorks.com). Chevron will also provide brief status updates once a month at City Council meetings.

8.0 QUALITY ASSURANCE/QUALITY CONTROL

8.1 FIELD QA/QC SAMPLING

The field QA/QC sampling program includes a discussion of field duplicates, trip blanks, equipment decontamination blanks, temperature blanks, and laboratory QC samples. The requirements are summarized in the following sections. Detailed QA/QC procedures are contained in the approved project QAPP, presented in Appendix C.

8.1.1 Field Replicate Samples

Field replicates (soil and air) samples will be collected at a rate of at least 10 percent. For soil sampling, the replicate terminology will be used to address soil sample results that may potentially yield dissimilar analytical results due to soil heterogeneity. The field replicate samples will be collected, preserved, packaged, labeled, and sealed in a manner identical to the other samples being collected. Field replicates will be collected where moderate levels of contamination are anticipated and analyzed for the same target analytes as the original sample. The measurement performance criterion for the replicate soil samples is a Relative Percent Difference (RPD) of ≤100. If the measurement performance criteria are exceeded, the analytical results will be flagged as estimated. The replicate air samples will be collected by setting a second perimeter air sampling apparatus next to the primary apparatus. The measurement performance criterion for the replicate air samples is a RPD of ≤50. If the measurement performance criteria are exceeded, the analytical results will be flagged as estimated.

8.1.2 Equipment Decontamination Blanks

Grab samples do not require the collection of equipment blanks, because soil sampling equipment will not be used at the Site. The soil samples (obtained from an excavator bucket and/or within properly sloped/shored floor/walls) will be placed in glass jars by field personnel using nitrile gloves (or similar), which will be replaced after collecting each sample for analytical testing. A new clean zip-lock bag will be used for each inorganic lead test performed with the FP-XRF. Soil samples will be collected in accordance with the soil sampling procedures specified in Appendix A, SOP 009 of the approved QAPP (Appendix C).

8.1.3 Temperature Blanks

A temperature blank consisting of deionized water will accompany each cooler containing soil samples to the laboratory. The laboratory will record the temperature of the temperature blank upon receipt. The remaining samples (air quality) will be transported to the laboratory at ambient temperatures.

8.2 LABORATORY QUALITY ASSURANCE PROGRAM

The laboratory quality control assurance program is a comprehensive system that includes control checks, sample handling procedures, analytical quality control, and multilevel data system and report review. The laboratory will be asked to report the standard level of QA/QC (Level III). This will include, at a minimum (when applicable), the following calibration summaries, surrogate recoveries, method blanks, matrix spike/matrix spike duplicates, and laboratory control sample recoveries. The QA/QC program is generally consistent with past investigations conducted at the Site.

Prior to PAH analysis by EPA Method 8270-SIM, if needed, a silica gel cleanup using EPA Method 3630C for EPA Method 8270C extracts shall be implemented to remove co-extracted matrix contamination to prevent matrix interference and yield cleaner 8270-PAH extracts.

9.0 PROJECT SCHEDULE

9.1 CONSTRUCTION SCHEDULE

It is currently anticipated that the field work will commence in the second quarter of calendar year 2013, pending final agency approvals. The majority of the excavation activities will be performed during the summer months to minimize potential disruptions at San Cayetano Elementary School, located to the west of the Site, and to minimize to the extent possible working during wet weather periods. The field work is expected to take approximately 16 weeks. A detailed project schedule is presented on **Figure 5**.

Due to the relatively small size and configuration of the Site, distribution of the remedial excavation areas, the location of the Consolidation Area, and extent of mass grading, the ability to expedite the schedule by adding more equipment or manpower for each activity is limited, and will therefore need to be closely managed to minimize project duration. The limiting parameters for each activity are different.

1. **Remedial Excavation** – considering the relative large spacing, small size, and shallow depth of the remedial excavation areas, the duration of the activity is driven by the ability to obtain laboratory test results confirming the excavations have removed soils exceeding the Site cleanup criteria.

2. **Consolidation Area Construction** (to be conducted in parallel with Remedial Excavation) – considering the location is separate from the majority of the remedial excavation areas, the duration of the activity is driven by the rate of soil removal to complete the cross-section along the length of the Consolidation Area.

3. **Consolidation Area Backfilling and Cap Construction** (to be initiated in parallel to Remedial Excavation and Consolidation Area Construction) – the duration will be linked to availability and volume of excavated soils from the remedial excavation areas.

4. **Mass Grading** – will require sufficient cleared areas to be made available to allow circulation of the large earthmoving equipment, including completion of the Consolidation Area cap prior to completion of general Site grading, and construction of the planned east cut slope.

5. **Site Drainage** – will be limited by mass grading to be completed over areas planned to receive detention ponds, drainage ditches, and piping. Therefore, for each activity, the primary focus will be on expediting the limiting Site conditions to minimize construction duration.

The schedule included illustrates the estimated duration for each major activity. The schedule may be revised if unexpected conditions are encountered.

9.2 DELIVERABLES SCHEDULE

The Final RD and Final RAWP will be completed and submitted to the EPA in February 2013. The project QAPP has been reviewed and approved by the EPA. In addition to these documents, the following documents will be also be generated to support the remedial activities:

- **Draft CQAP** – The CQAP will establish the system of controls used to manage and document the quality assurance procedures implemented during the project to assure that procedures, materials, and inspections meet the project design specifications. The Draft CQAP has been appended to this RAWP as Appendix B.

- **HASP** – The HASP will detail the required health and safety procedures that will be implemented during remedial activities. It will detail required personnel monitoring, engineering controls, and personal protective equipment required for work at the Site. The HASP will be submitted within 30 days of approval of the Final RD.

- **SWPPP** – The SWPPP will outline the requirements of storm water management for compliance with the National Pollutant Discharge Elimination System storm water regulations. The SWPPP will illustrate or explain where activities that could affect storm water quality will be conducted on the Site. A copy of the SWPPP has been appended to this RAWP as Appendix D.

- **Construction Contingency Plan** – This document will set forth actions to be taken in the event the performance of the Work causes a release or threatens to cause a release of hazardous substances or waste material from the Site, creating an emergency situation that may present an immediate threat to public health or welfare or the environment. The Construction Contingency Plan has been appended to this RAWP as Appendix F.

- **Soil Construction Status Reports** – During construction, biweekly progress reports will be prepared and submitted to the EPA electronically. These reports will cover all activities that took place during the reporting period, including a cumulative summary of sampling, preliminary test results, and validated test results for each prior reporting period as soon as available, and all other data generated, information regarding percentage of completion, unresolved delays and a description of efforts made to mitigate those delays, any modifications to work plans or other schedules, and a description of upcoming actions.

Subsequent to completion of the remedial activities, the following documents will be prepared:

- **Notification of Soil Construction Completion** – This document will provide notification to the EPA that soil remedial activities have been completed in accordance with the Final RD. This notification will be made within 10 days of the determination that construction of the soil remedial action is complete.

- **Pre-Final Soil Construction Inspection and Report** – A pre-final soil construction inspection, including a representative from both agencies (EPA and DTSC) will be conducted for the soil areas requiring remediation and for the Consolidation Area. The objective of the inspection will be to allow EPA to determine whether the construction is complete and complies with the Final Soil RD. This inspection will be conducted within 30 days after submittal of the Notification of Soil Construction Completion. If any incomplete construction items are identified during the pre-final soil construction inspection, a Pre-Final Soil Construction Inspection Report will be prepared and submit within 14 days after the inspection. This report will describe all outstanding Soil Remedial Action

(RA) construction items, all actions required to resolve these items, the proposed completion date for these items, and a proposed date for the final inspection, if one is required. The Pre-Final Soil Construction Inspection Report can be in the form of a punch list or letter.

- **Final Soil Construction Inspection** – If required by the EPA, a final soil construction inspection will be conducted, including a representative from both agencies (EPA and DTSC), after completion of any work identified in the Pre-Final Soil Construction Inspection Report. This inspection will include another walk-through of the Site, and inspection of the Consolidation Area.

- **Soil Remedial Action Report** – A Soil RA Report will be prepared following EPA's determination that the soil remedy is operational and functional. The Soil RA Report must document the cleanup activities that were undertaken to fully implement the soil cleanup at the Site.

10.0 REFERENCES

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Tables

Table 1
Summary of Excavation Volumes
Texaco PCPL Superfund Site
Fillmore, California

Sheet	Boring ID	Area (ft^2)	Removal Depth (ft)	Contaminated Stockpile Volume (cy)	(E) Grade	(P) Grade	Bottom El. ±	Constituents
AOCs #1 - #14								
C-11	MPC-URS28	534	7	138	570.5	565.0	563.5	Benzo(a)anthracence, Benzo(a)pyrene, Benzo(b)fluoranthene, Chrysene
C-11	MPC-URS26	568	3	63	561.8	565.0	558.8	Benzo(a)anthracence, Benzo(a)pyrene, Benzo(b)fluoranthene, Chrysene, Naphthalene
C-12	TK3321-URS01	189	12	84	543.7	545.0	531.7	Lead
C-12	MPC-URS24	1,382	3	154	552.2	545.0	549.2	Lead (though not unacceptable health threat AOC-wide, this is a hot spot with 2400mg/kg)
C-13	TK68-URS01	30	7	8	541.7	535.0	534.7	Lead
C-13	TK66-URS01	713	3	79	531.8	535.0	528.8	Lead
C-13	TK75-URS01	41	3	5	532.0	535.0	529.0	Lead
C-13	TK62-URS01	877	3	97	535.8	535.0	532.8	Lead
C-13	TK71-URS01	104	3	12	534.8	535.0	531.8	Lead
C-13	TK79-URS01	351	3	39	531.9	535.0	528.9	Lead
C-13	P2-URS03	1,148	7	298	528.0	525.2	521.0	Lead
C-14	RW-URS01	349	7	90	560.8	540.0	553.8	Lead
C-14	ASU-URS02	438	3	49	561.3	549.0	558.3	Lead
C-14	SSP-URS01	344	3	38	560.3	536.3	557.3	Lead
C-14	HTA-URS05-R	782	12	568	544.6	535.0	525.0	Benzo(a)pyrene
C-15	TK101-WD	88	3	10	524.1	523.0	521.1	Benzo(a)anthracence, Benzo(a)pyrene, Benzo(b)fluoranthene, Naphthalene
C-15	MWP-URS01	1,205	12	536	505.9	521.1	493.9	Naphthalene
C-15	N-1	1,138	7	295	504.6	519.6	497.6	Lead
C-15	MWP-URS02	29	3	3	504.1	523.0	501.1	Lead
C-15	SB-3	12	3	1	523.3	523.0	520.3	Naphthalene
C-15	TK351-URS01	282	3	31	519.9	520.0	516.9	Benzo(a)pyrene
C-15	SB-1	46	3	5	516.0	516.0	513.0	Naphthalene
C-15	UT15-URS01	263	7	68	539.5	525.0	532.5	Benzo(a)pyrene
C-15	T01-W-01/ T01-E-01	206	3	23	504.5	520.9	501.5	Benzo(a)pyrene, Lead
C-15	T02-M-10	193	10	72	505.1	518.0	495.1	Benzo(a)pyrene
C-16	UT11-URS01	201	7	52	571.9	558.1	564.9	Benzo(a)pyrene, Lead
C-16	UT12-URS01	233	3	26	571.0	556.7	568.0	Lead
C-16	P8-URS01	604	3	67	586.3	586.3	583.3	Lead
C-16	P8-URS02		3		585.7	585.7	582.7	Lead
C-16	BH-URS02	128	3	14	539.5	535.0	536.5	Benzo(a)anthracence, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene
C-16	UT17-URS01	702	7	182	660.3	660.3	653.3	Lead
C-16	UT17-URS02		3		661.1	661.1	658.1	Lead
C-17	MWP-URS04	592	7	153	505.1	520.0	498.1	Benzo(a)pyrene, Lead
C-17	TK1-F1	1,055	3	117	504.2	510.0	501.2	Lead
C-17	TK2-F1	10,185	7	4,527	504.9	515.0	497.9	Benzo(a)pyrene
C-17	TK2-F2		12		505.7	515.0	493.7	Benzo(a)anthracence, Benzo(a)pyrene, Benzo(b)fluoranthene
C-17	TK2-0/TK2-02		3		506.0	515.0	503.0	Benzo(a)anthracence, Benzo(b)fluoranthene
C-17	T04-E-10	193	10	72	507.5	512.4	497.5	Naphthalene
C-18	TK5028-URS01	591	3	66	605.4	605.4	602.4	Lead
C-18	UT38-URS01	890	3	99	558.8	558.8	555.8	Lead
C-18	TK3-URS01	112	7	29	662.7	662.7	655.7	Lead

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Texaco PCPL Superfund Site
Fillmore, California

Sheet	Boring ID	Area (ft^2)	Removal Depth (ft)	Contaminated Stockpile Volume (cy)	(E) Grade	(P) Grade	Bottom El. ±	Constituents
C-19	TK174-URS01	257	7	67	504.0	505.1	497.0	Benzo(a)pyrene, Lead
C-19	TK172-URS01	270	3	30	502.4	502.0	499.4	Lead
C-19	NP-URS01/ NP-URS01-SV	887	3	99	502.3	502.0	499.3	Lead
C-19	NP-URS02	211	12	94	502.4	502.0	490.4	Naphthalene in Soil (1 ft bgs) Soil vapor detected benzene, ethylbenzene (10 ft bgs)
C-19	NP-URS03-SV	174	12	77	503.0	502.0	491.0	Soil vapor detected ethylbenzene (10 ft bgs)
C-19	NP-URS04	49	7	13	502.0	502.0	495.0	Benzo(a)pyrene
C-19	NP-URS05/ NP-URS05-SV	775	12	344	502.4	502.0	490.4	Lead in Soil (1 ft bgs) Soil vapor detected benzene, ethylbenzene (10 ft bgs)
C-19	NP-URS06		3		502.6	502.0	490.6	Benzo(a)pyrene
C-19	MPH-URS01	3,115	3	346	499.7	502.0	496.7	Lead
C-19	GSP-URS01	100	7	26	498.4	499.8	491.4	Naphthalene
C-19	GSP-URS03/ GSP-URS03-SV	1,068	12	475	498.8	502.0	486.8	Lead, Naphthalene in Soil (10 ft bgs) Soil vapor detected benzene, ethylbenzene, naphthalene (10 ft bgs)
C-20	TK156-URS01	3,092	3	344	503.0	500.0	500.0	Benzo(a)anthracence
C-20	P10-URS01	1,266	3	141	529.0	521.5	526.0	Benzo(a)anthracence, Benzo(a)pyrene, Benzo(b)fluoranthene, Lead
C-20	P11-URS01	384	12	207	527.3	520.2	510.2	Benzo(a)anthracence, Benzo(a)pyrene, Benzo(b)fluoranthene, Chrysene
C-20	P11-URS02		7		527.4	520.2	520.4	Benzo(a)anthracence, Benzo(b)fluoranthene, Lead
C-20	UT18-URS01	199	12	88	544.6	544.6	532.6	Benzo(a)anthracence, Benzo(a)pyrene, Benzo(b)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Naphthalene
C-20	P7-BH2	695	7	397	528.7	520.0	521.7	Lead
C-20	P7-URS01		12		528.8	520.0	510.0	Benzo(a)pyrene, Lead
C-20	P7-URS02	278	12	124	530.4	530.4	518.4	Lead
C-20	UPA3-URS01	283	12	150	531.3	527.0	517.0	Lead
C-20	UPA3-URS02	51	12	23	531.0	531.0	519.0	Lead
C-20	FH-URS01	1,139	3	127	529.6	529.6	526.6	Lead
C-21	P3-BH-2-SV	1,719	12	764	492.6	490.0	480.6	Soil vapor detected benzene, ethylbenzene, naphthalene (10 ft bgs)
C-21	TK7404-F1	42	12	21	493.2	490.0	480.0	Lead
C-21	P3-BH-3	42	7	11	496.0	490.0	489.0	Lead
C-21	P3-URS02	740	12	329	490.7	490.0	478.7	Naphthalene
C-21	P3-BH-1		12		490.1	490.0	478.1	Lead
C-21	TK35001-URS02	96	12	47	493.0	490.0	480.0	Benzo(a)pyrene
C-22	FH-URS02	299	12	133	529.3	529.3	517.3	Lead
C-22	UT29-URS01	66	3	7	566.0	566.0	563.0	Lead
C-23	CLR-URS01/ CLR-URS01-R	187	7	48	481.5	481.0	474.5	Indeno(1,2,3-cd)pyrene, Benzo(a)pyrene
C-25	MPC-URS02	46	7	12	476.6	475.0	469.6	Dibenz(a,h)anthracene
SUBTOTAL	–	–	–	**12,711**	–	–	–	–

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Texaco PCPL Superfund Site
Fillmore, California

Sheet	Boring ID	Area (ft^2)	Removal Depth (ft)	Contaminated Stockpile Volume (cy)	(E) Grade	(P) Grade	Bottom El. ±	Constituents
PIPELINE EXCAVATION SAMPLES								
C-20	PL-01	685	7	178	499.3	500.0	492.3	Lead
C-22	PL-02	2,590	3	288	492.0	494.6	489.0	Lead, 1,2,4-Trimethylbenzene, Naphthalene, Ethylbenzene
C-22	PL-03		3		492.0	494.6	489.0	
C-22	PL-04		3		492.0	494.6	489.0	
C-22	PL-05		3		492.0	494.6	489.0	
C-22	PL-61		3		492.0	494.6	489.0	
C-11	PL-06	40	7	10	570.9	565.0	563.9	1,2-Dibromo-3-chloropropane, Benzo(a)anthracence, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene
C-11	PL-07		7		570.9	565.0	563.9	1,2-Dibromo-3-chloropropane, Benzo(a)anthracence, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene
C-11	PL-10	92	7	24	570.9	565.0	563.9	1,2-Dibromo-3-chloropropane, Benzo(a)anthracence, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Naphthalene
C-11	PL-15		7		570.9	565.0	563.9	
C-11	PL-16		7		570.9	565.0	563.9	
C-17	PL-17	28	7	7	509.0	510.0	502.0	Benzo(a)pyrene
C-19	PL-21	250	3	28	504.5	510.0	501.5	Naphthalene
C-19	PL-23		3		504.5	510.0	501.5	
C-11	PL-24	1,843	3	205	549.2	565.0	546.2	Benzo(a)anthracence, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Naphthalene
C-19	PL-26	400	3	44	500.0	502.0	497.0	Benzo(a)anthracence, Benzo(a)pyrene, Benzo(b)fluoranthene, Naphthalene
C-19	PL-27		3		500.0	502.0	497.0	
C-15	PL-33	1,550	7	402	518.9	525.0	511.9	Benzo(a)anthracence, Naphthalene
C-15	PL-34		7		518.9	525.0	511.9	
C-15	PL-35		7		518.9	525.0	511.9	
C-15	PL-36		7		518.9	525.0	511.9	
C-15	PL-37		7		518.9	525.0	511.9	
C-15	PL-38		7		518.9	525.0	511.9	
C-19	PL-48	49	7	13	498.3	502.0	491.3	Lead, Benzo(a)pyrene
C-19	PL-49		7		498.3	502.0	491.3	
C-19	PL-50		7		498.3	502.0	491.3	
C-20	PL-55	400	3	44	504.7	500.0	501.7	Benzo(a)pyrene
C-20	PL-59	–	3	–	502.7	500.0	499.7	Benzo(a)pyrene, Naphthalene. Excavation included with TK156-URS1
C-20	PL-60	–	3	–	502.7	500.0	499.7	
C-21	PL-66	375	3	42	488.0	490.0	485.0	Benzo(b)fluoranthene
C-19	PL-73	98	3	11	497.8	499.8	494.8	Benzo(a)pyrene
C-19	PL-75	157	3	17	497.7	500.6	494.7	Benzo(a)pyrene
C-14	PL-77	1,074	3	119	551.0	561.2	548.0	Naphthalene
C-13	PL-69	963	3	107	530.0	535.0	527.0	Lead, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Naphthalene
	PL-70							
	PL-71							
	PL-72							
	PL-78							
	PL-79							
	PL-80							
	PL-81							

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Sheet	Boring ID	Area (ft^2)	Removal Depth (ft)	Contaminated Stockpile Volume (cy)	(E) Grade	(P) Grade	Bottom El. ±	Constituents
C-13	PL-82	769	3	85	531.3	535.0	528.3	Lead, Benzo(a)pyrene, Dibenz(a,h)anthracene
C-13	PL-83	309	3	34	530.5	535.0	527.5	Lead, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene
C-19	PL-85	130	3	14	500.7	502.0	497.7	Lead
C-19	PL-86	196	3	22	500.5	502.0	497.5	Lead, Naphthalene
C-19	PL-87	1,185	3	132	510.0	503.7	507.0	Lead
	PL-88							
	PL-89							
	PL-90							
	PL-91							
SUBTOTAL	–	–	–	**1,827**	–	–	–	–
TANK BERMS								
C-27	Tank 1	2,400	–	2,025	–	–	–	Lead
C-27	Tank 2	2,100	–	804	–	–	–	Lead
C-27	Tank 8	1,750	–	282	–	–	–	Lead
C-27	Tank 101 / 103	500	–	1,244	–	–	–	Lead
C-27	Tank 7403 / 7404	7,000	–	700	–	–	–	Lead
SUBTOTAL	–	–	–	**5,055**	–	–	–	–
TOTAL	–	–	–	**19,600**	–	–	–	–

Notes:
AOC = Area of Contamination
bgs = below ground surface
cy = cubic yards
(E) = existing
ft = feet
mg/kg = milligram per kilogram
(P) = proposed

Table 2

Summary of 2012 Consolidation Area Trench Sampling Results

Texaco PCPL Superfund Site

Fillmore, California

			EPA Method 6010	EPA Method 8260B for VOCs (mg/kg)															EPA Method 8270-SIM for PAHs (mg/kg)							
Sample Location	Sample Depth (ft bgs)	Sample Date	Lead (mg/kg)	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Benzene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Naphthalene	n-Butylbenzene	N-Propylbenzene	o-Xylene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Toluene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Naphthalene
Trench #1																										
T01-E-01	1	09/19/12	120	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.002	<0.002	<0.002	<0.005	<0.005	<0.002	0.17	0.14	0.23	0.21	0.44	<0.12	<0.12	<0.12
T01-E-05	5	09/19/12	2.7	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0048	<0.0048	<0.0019	<0.0019	<0.0019	<0.0048	<0.0048	<0.0019	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T01-E-10	10	09/19/12	2.3	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0056	<0.0056	<0.0022	<0.0022	<0.0022	<0.0056	<0.0056	<0.0022	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T01-M-01	1	09/19/12	8.5	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0054	<0.0054	<0.0022	<0.0022	<0.0022	<0.0054	<0.0054	<0.0022	<0.006	<0.006	<0.006	<0.006	0.0081	<0.006	<0.006	<0.006
T01-M-05	5	09/19/12	3.2	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0021	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T01-M-10	10	09/19/12	7.4	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0057	<0.0057	<0.0023	<0.0023	<0.0023	<0.0057	<0.0057	<0.0023	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T01-W-01	1	09/19/12	606	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0058	<0.0058	<0.0023	<0.0023	<0.0023	<0.0058	<0.0058	<0.0023	<0.12	0.43	<0.12	<0.12	0.41	<0.12	<0.12	<0.12
T01-W-05	5	09/19/12	180	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	0.0036	<0.0021	<0.0051	<0.0051	0.0086	<0.0021	0.0052	<0.0051	<0.0051	<0.0021	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
T01-W-10	10	09/19/12	2.2	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0062	<0.0062	<0.0025	<0.0025	<0.0025	<0.0062	<0.0062	<0.0025	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Trench #2																										
T02-E-01	1	09/19/12	200	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.0054	<0.0021	<0.0021	<0.0021	<0.0054	<0.0054	<0.0021	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
T02-E-05	5	09/19/12	<2.0	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0053	<0.0053	<0.0021	<0.0021	<0.0021	<0.0053	<0.0053	<0.0021	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
T02-E-10	10	09/19/12	4.5	<0.11	3.8	1.2	0.41	3.4	0.52	9.0	1.4	0.45	0.91	5.3	0.49	<0.27	<0.27	2.2	0.80	<0.12	0.26	<0.12	2.4	<0.12	<0.12	<0.12
T02-M-01	1	09/19/12	5.4	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0029	<0.0072	<0.0072	<0.0029	<0.0029	<0.0029	<0.0072	<0.0072	<0.0029	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
T02-M-05	5	09/19/12	53.8	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0063	<0.0063	<0.0025	<0.0025	<0.0025	<0.0063	<0.0063	<0.0025	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
T02-M-10	10	09/19/12	2.7	<0.13	3.0	0.82	0.16	1.4	0.22	3.8	2.9	0.59	0.41	2.0	0.51	<0.32	<0.32	1.2	0.75	0.17	0.26	<0.12	2.1	<0.12	<0.12	1.5
T02-W-01	1	09/19/12	27	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.002	<0.002	<0.002	<0.005	<0.005	<0.002	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
T02-W-05	5	09/19/12	3.9	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0046	<0.0018	<0.0018	<0.0018	<0.0046	<0.0046	<0.0018	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T02-W-10	10	09/19/12	3.7	<0.11	0.15	<0.11	<0.11	<0.11	<0.11	0.54	<0.27	<0.27	<0.11	0.25	<0.11	<0.27	<0.27	0.25	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Trench #3																										
T03-E-01	1	09/19/12	32	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.002	<0.002	<0.002	<0.005	<0.005	<0.002	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
T03-E-05	5	09/19/12	4.3	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0051	<0.0051	<0.002	<0.002	<0.002	<0.0051	<0.0051	<0.002	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012
T03-E-10	10	09/19/12	3.3	<0.096	0.30	<0.096	<0.096	<0.096	<0.096	0.35	<0.24	<0.24	<0.096	0.099	<0.096	<0.24	<0.24	<0.096	0.25	<0.12	<0.12	<0.12	0.56	<0.12	<0.12	<0.12
T03-M-01	1	09/19/12	4.7	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0057	<0.0057	<0.0023	<0.0023	<0.0023	<0.0057	<0.0057	<0.0023	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T03-M-05	5	09/19/12	3.2	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0021	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T03-M-10	10	09/19/12	2.2	<0.0019	0.0035	0.0019	0.0021	<0.0019	<0.0019	0.011	<0.0047	<0.0047	0.0029	0.0040	<0.0019	<0.0047	<0.0047	0.0054	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
T03-W-01	1	09/19/12	<2.0	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0048	<0.0048	<0.0019	<0.0019	<0.0019	<0.0048	<0.0048	<0.0019	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
T03-W-05	5	09/19/12	66	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.0054	<0.0021	<0.0021	<0.0021	<0.0054	<0.0054	<0.0021	0.0558	0.0415	0.0443	0.0414	0.0457	0.0389	0.0360	0.0377
T03-W-10	10	09/19/12	2.9	<0.096	<0.096	<0.096	<0.096	<0.096	<0.096	0.17	<0.24	<0.24	<0.096	<0.096	<0.096	<0.24	<0.24	<0.096	0.15	<0.12	<0.12	<0.12	0.18	<0.12	<0.12	<0.12
Trench #4																										
T04-E-01	1	09/19/12	38	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0044	<0.0044	<0.0018	<0.0018	<0.0018	<0.0044	<0.0044	<0.0018	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
T04-E-05	5	09/19/12	240	<0.38	14	3.1	<0.38	3.3	1.4	3.4	6.8	3.0	2.8	3.6	2.7	<0.96	<0.96	<0.38	<0.12	<0.12	<0.12	<0.12	0.22	<0.12	<0.12	2.4
T04-E-10	10	09/19/12	17	<0.094	21	6.6	0.50	8.3	2.2	24	13	3.1	4.3	13	3.1	1.0	0.42	1.7	0.30	<0.12	<0.12	<0.12	0.93	<0.12	<0.12	6.9
T04-M-01	1	09/19/12	100	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0048	<0.0048	<0.0019	<0.0019	<0.0019	<0.0048	<0.0048	<0.0019	0.088	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024
T04-M-05	5	09/19/12	7.9	<0.002	0.010	0.0024	<0.002	<0.002	<0.002	<0.002	0.020	<0.005	<0.002	<0.002	0.0021	<0.005	<0.005	<0.002	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	0.11
T04-M-10	10	09/19/12	<4.0	<0.1	19	5.5	0.24	5.5	1.7	15	14	3.3	3.6	10	3.1	0.93	0.35	0.87	0.21	<0.12	<0.12	<0.12	0.68	<0.12	<0.12	6.6
T04-W-01	1	09/19/12	8.2	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0047	<0.0047	<0.0019	<0.0019	<0.0019	<0.0047	<0.0047	<0.0019	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012
T04-W-05	5	09/19/12	270	<0.18	11	2.4	<0.18	0.86	0.83	2.2	8.1	2.4	1.8	1.0	2.4	0.66	<0.46	<0.18	0.12	<0.06	<0.06	<0.06	0.28	<0.06	<0.06	4.5
T04-W-10	10	09/19/12	<2.0	<0.086	0.094	<0.086	<0.086	<0.086	0.24	0.17	<0.22	0.26	0.61	<0.086	<0.086	<0.22	<0.22	<0.086	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12

Table 2

Summary of 2012 Consolidation Area Trench Sampling Results

Texaco PCPL Superfund Site

Fillmore, California

			EPA Method 6010	EPA Method 8260B for VOCs (mg/kg)															EPA Method 8270-SIM for PAHs (mg/kg)							
Sample Location	Sample Depth (ft bgs)	Sample Date	Lead (mg/kg)	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Benzene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Naphthalene	n-Butylbenzene	N-Propylbenzene	o-Xylene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Toluene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Naphthalene
Trench #5																										
T05-E-01	**1**	09/20/12	**3.3**	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0048	<0.0048	<0.0019	<0.0019	<0.0019	<0.0048	<0.0048	<0.0019	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T05-E-05	**5**	09/20/12	**5.9**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0049	<0.0049	<0.002	<0.002	<0.002	<0.0049	<0.0049	<0.002	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T05-E-10	**10**	09/20/12	**5.2**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0049	<0.0049	<0.002	<0.002	<0.002	<0.0049	<0.0049	<0.002	**0.0086**	**0.0074**	**0.0065**	<0.006	**0.010**	<0.006	<0.006	**0.0064**
T05-M-01	**1**	09/20/12	**51**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0051	<0.0051	<0.002	<0.002	<0.002	<0.0051	<0.0051	<0.002	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
T05-M-05	**5**	09/20/12	**4.2**	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0047	<0.0047	<0.0019	<0.0019	<0.0019	<0.0047	<0.0047	<0.0019	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T05-M-10	**10**	09/20/12	**3.8**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0051	<0.0051	<0.002	<0.002	<0.002	<0.0051	<0.0051	<0.002	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T05-M-15	**15**	10/16/12	**22**	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0027	<0.0067	<0.0067	<0.0027	<0.0027	<0.0027	<0.0067	<0.0067	<0.0027	**0.019**	**0.017**	**0.016**	<0.006	**0.027**	<0.006	**0.0074**	<0.006
T05-M-15D	**15 (dup)**	10/16/12	**4.8**	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0089	<0.0089	<0.0036	<0.0036	<0.0036	<0.0089	<0.0089	<0.0036	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T05-M-20	**20**	10/16/12	**16**	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	<0.0058	<0.0058	<0.0023	<0.0023	**0.0025**	<0.0058	<0.0058	<0.0023	**0.12**	**0.09**	**0.079**	**0.029**	**0.15**	**0.012**	**0.031**	**0.0091**
T05-M-20D	**20 (dup)**	10/16/12	**3.4**	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0054	<0.0054	<0.0021	<0.0021	<0.0021	<0.0054	<0.0054	<0.0021	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T05-W-01	**1**	09/20/12	**242**	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0053	<0.0053	<0.0021	<0.0021	<0.0021	<0.0053	<0.0053	<0.0021	**0.0505**	**0.0456**	**0.0403**	**0.0392**	**0.0429**	**0.0319**	**0.0412**	**0.042**
T05-W-05	**5**	09/20/12	**4.6**	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0049	<0.0049	<0.0019	<0.0019	<0.0019	<0.0049	<0.0049	<0.0019	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
T05-W-10	**10**	09/20/12	**8.1**	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0021	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Trench #6																										
T06-E-01	**1**	09/20/12	**37**	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0055	<0.0055	<0.0022	<0.0022	<0.0022	<0.0055	<0.0055	<0.0022	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024
T06-E-05	**5**	09/20/12	**4.1**	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0045	<0.0045	<0.0018	<0.0018	<0.0018	<0.0045	<0.0045	<0.0018	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T06-E-10	**10**	09/20/12	**3.2**	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0022	<0.0056	<0.0056	<0.0022	<0.0022	<0.0022	<0.0056	<0.0056	<0.0022	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024
T06-M-01	**1**	09/20/12	**8.6**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.002	<0.002	<0.002	<0.005	<0.005	<0.002	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024
T06-M-05	**5**	09/20/12	**13**	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0048	<0.0048	<0.0019	<0.0019	<0.0019	<0.0048	<0.0048	<0.0019	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024
T06-M-10	**10**	09/20/12	**47**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0049	<0.0049	<0.002	<0.002	<0.002	<0.0049	<0.0049	<0.002	<0.024	<0.024	<0.024	<0.024	**0.025**	<0.024	<0.024	<0.024
T06-M-15	**15**	10/16/12	**7.3**	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0088	<0.0088	<0.0035	<0.0035	<0.0035	<0.0088	<0.0088	<0.0035	**0.0494**	**0.0445**	**0.0393**	**0.0398**	**0.0458**	**0.0396**	**0.043**	**0.0437**
T06-M-20	**20**	10/16/12	**1000**	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0086	<0.0086	<0.0034	<0.0034	<0.0034	<0.0086	<0.0086	<0.0034	**0.18**	**0.14**	**0.12**	<0.06	**0.21**	<0.06	<0.06	<0.06
T06-M-20D	**20 (dup)**	10/16/12	**2.3**	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0088	<0.0088	<0.0035	<0.0035	<0.0035	<0.0088	<0.0088	<0.0035	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T06-W-01	**1**	09/20/12	**110**	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0047	<0.0047	<0.0019	<0.0019	<0.0019	<0.0047	<0.0047	<0.0019	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
T06-W-05	**5**	09/20/12	**420**	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0047	<0.0047	<0.0019	<0.0019	<0.0019	<0.0047	<0.0047	<0.0019	**0.16**	**0.11**	**0.098**	**0.045**	**0.18**	<0.024	<0.024	<0.024
T06-W-10	**10**	09/20/12	**3.5**	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0049	<0.0049	<0.0019	<0.0019	<0.0019	<0.0049	<0.0049	<0.0019	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024

Table 2

Summary of 2012 Consolidation Area Trench Sampling Results

Texaco PCPL Superfund Site

Fillmore, California

Sample Location	Sample Depth (ft bgs)	Sample Date	EPA Method 6010	EPA Method 8260B for VOCs (mg/kg)															EPA Method 8270-SIM for PAHs (mg/kg)							
			Lead (mg/kg)	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Benzene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Naphthalene	n-Butylbenzene	N-Propylbenzene	o-Xylene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Toluene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Naphthalene
Trench #7																										
T07-E-01	**1**	09/20/12	**28**	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0046	<0.0018	<0.0018	<0.0018	<0.0046	<0.0046	<0.0018	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012
T07-E-05	**5**	09/20/12	**3.3**	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0047	<0.0047	<0.0019	<0.0019	<0.0019	<0.0047	<0.0047	<0.0019	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
T07-E-12	**12**	09/20/12	**3.6**	<0.089	<0.089	<0.089	<0.089	<0.089	<0.089	<0.089	**0.28**	<0.22	**0.089**	<0.089	<0.089	<0.22	<0.22	<0.089	**0.0449**	**0.0434**	**0.0387**	**0.0423**	**0.0436**	**0.0367**	**0.0407**	**0.32**
T07-M-15	**15**	10/16/12	**9**	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.0074	<0.0074	<0.003	<0.003	<0.003	<0.0074	<0.0074	<0.003	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
T07-ME-01	**1**	09/20/12	**8.1**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0049	<0.0049	<0.002	<0.002	<0.002	<0.0049	<0.0049	<0.002	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012
T07-ME-05	**5**	09/20/12	**3.3**	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0021	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012
T07-ME-12	**12**	09/20/12	**5.7**	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0041	<0.0041	<0.0016	<0.0016	<0.0016	<0.0041	<0.0041	<0.0016	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012
T07-MW-01	**1**	09/20/12	**22**	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0021	<0.0021	<0.0021	<0.0052	<0.0052	<0.0021	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
T07-MW-05	**5**	09/20/12	**5.3**	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0053	<0.0053	<0.0021	<0.0021	<0.0021	<0.0053	<0.0053	<0.0021	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024
T07-MW-12	**12**	09/20/12	**2.8**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.26	**0.32**	**0.17**	<0.1	<0.1	<0.26	<0.26	<0.1	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	**0.024**
T07-W-01	**1**	09/20/12	**230**	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0018	<0.0046	<0.0046	<0.0018	<0.0018	<0.0018	<0.0046	<0.0046	<0.0018	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
T07-W-05	**5**	09/20/12	**52.3**	**0.28**	<0.088	<0.088	<0.088	**0.35**	**0.90**	<0.088	**0.50**	**0.77**	**1.8**	<0.088	<0.088	**0.90**	<0.22	<0.088	**0.067**	<0.024	<0.024	<0.024	**0.19**	<0.024	<0.024	**0.25**
T07-W-12	**12**	09/20/12	**2.8**	<0.12	<0.12	<0.12	<0.12	<0.12	**0.35**	<0.12	<0.31	**0.44**	**0.70**	<0.12	<0.12	**0.37**	<0.31	<0.12	<0.012	<0.012	<0.012	<0.012	**0.018**	<0.012	<0.012	**0.12**
Minimum Detection			**2.2**	**0.28**	**0.0035**	**0.0019**	**0.0021**	**0.35**	**0.0036**	**0.011**	**0.020**	**0.26**	**0.0029**	**0.0040**	**0.0021**	**0.37**	**0.35**	**0.0054**	**0.0086**	**0.0074**	**0.0065**	**0.029**	**0.0081**	**0.012**	**0.0074**	**0.0064**
Maximum Detection			**1000**	**0.28**	**21**	**6.6**	**0.50**	**8.3**	**2.2**	**24**	**14**	**3.3**	**4.3**	**13**	**3.1**	**1.0**	**0.42**	**2.2**	**0.80**	**0.43**	**0.26**	**0.21**	**2.4**	**0.0396**	**0.043**	**6.9**
Cleanup Level			**320**	---	---	---	---	---	---	---	**13**	---	---	---	---	---	---	---	**1.2**	**0.12**	**1.2**	**1.2**	**12**	**0.35**	**1.2**	**13**

Notes:
Dup = replicate sample
PAH = polycyclic aromatic hydrocarbon
VOC = volatile organic compound
mg/kg = milligrams per kilogram
< = not detected at or above the laboratory reporting limit
--- = cleanup level not established
VOC samples collected by EPA Method 5035 using Encore sampling system
Detectable concentrations are summarized on this table - see individual analytical reports for non-detections
Shaded cells indicate concentration exceed Record of Decision (ROD) cleanup levels
Bold cells indicate the compound was detected above the laboratory reporting limit

Table 3
Summary of Project ARARs
Texaco PCPL Superfund Site
Fillmore, California

Requirement	Jurisdiction	Medium	Citation	Applicable or Relevant and Appropriate	Description/Discussion
Chemical-Specific ARARs					
Primary Drinking Water Standards	State	Groundwater	22 CCR 64431 and 64444	Relevant and Appropriate	California has promulgated drinking water standards for public drinking water sources under the California Safety Drinking Water Act (CH&SC Section 4010 et. seq.). California primary MCLs are established to protect public health from contaminants that may be found in drinking water sources. The referenced standards apply within the distribution network of regulated public water systems, hence they are not applicable, but are relevant and appropriate because groundwater is a potential source of drinking water. The selected remedy uses State MCLs as the cleanup levels for the COCs in groundwater because they are more stringent (See Table 8-1).
Basin Plan for Los Angeles Region	State	Groundwater	California Law Division 7 Chapter 4 Section 13240 *et seq.*	Relevant and Appropriate	The Water Quality Control Plan for the Los Angeles Region (Basin Plan, adopted November 19, 1992) contains numerical and narrative water quality objectives (WQOs) for waters of the state that ensure protection of beneficial uses and prevention of nuisances affecting beneficial use. These objectives are not merely restricted to surface water but also apply to groundwater (SWRCB, 1992). The Basin Plan is relevant and appropriate.
Action-Specific ARARs					
SWRCB - Investigation/Cleanup/Abatement of Discharges	State	Groundwater	Resolution No. 92-49	Relevant and Appropriate	To protect groundwater, this resolution requires cleanup to either background water quality or the best water quality that is reasonable if background water quality cannot be restored. Cleanup levels that differ from background water quality conditions must be consistent with the maximum benefit to the public, with current and anticipated future beneficial uses, and must conform to water quality control plans and policies. Groundwater at the site will be cleaned up to MCLs.
SWRCB - High Quality Waters	State	Groundwater	Resolution No. 68-16	Relevant and Appropriate	The Statement of Policy With Respect to Maintaining High Quality of Waters in California is the state's anti-degradation policy that provides a narrative standard which requires that high quality surface water and groundwater be maintained to the maximum extent possible. This resolution is relevant and appropriate to the goal of restoration of groundwater to its highest.
Land Use Covenants	State	Soil	22 CCR 67391.1(a), (d) – (f), (i)	Relevant and Appropriate	These state requirements specify that a land use covenant imposing appropriate limitations on land use shall be executed and recorded when hazardous substances will remain at the property at levels which are not suitable for unrestricted use of the land. The selected alternative requires cleanup to a restricted (i.e., commercial/industrial) standard. These requirements are relevant and appropriate.

Table 3
Summary of Project ARARs
Texaco PCPL Superfund Site
Fillmore, California

Action-Specific ARARs (continued)					
RCRA Hazardous Waste Determination by Generator	Federal	Soil and Groundwater	40 CFR 261.11 through 261.24; 261.31 through 33; 262.11	Relevant and Appropriate	A hazardous waste is considered a RCRA hazardous waste if it exhibits any of the federal characteristics of ignitability, corrosivity, reactivity, or toxicity, or if it is listed as a hazardous waste by EPA. Wastes which are generated during construction, monitoring, or remediation, and that will be disposed of off-site, must be characterized and managed in accordance with certain requirements if they are determined to be RCRA hazardous. These requirements are relevant and appropriate.
California Hazardous Waste Determination for Generators	State	Soil and Groundwater	22 CCR 66261.20 through 66261.24; 22 CCR 66262.11; 22 CCR 66260.200	Relevant and Appropriate	Wastes can be classified as non-RCRA hazardous wastes if they exceed the soluble threshold limit concentration or total threshold limit concentration values. Wastes which are generated during construction, monitoring, or remediation, and that will be disposed of off-site, must be characterized and managed in accordance with state hazardous waste management requirements if they are determined to be non-RCRA hazardous. These requirements are relevant and appropriate.
CAMU Regulations	Federal	Soil	40 CFR 264.552	Relevant and Appropriate	The CAMU regulations are relevant and appropriate because the selected soil remedy involves the excavation and on-site consolidation of contaminated soil.
Staging Piles	Federal	Soil	40 CFR 265.554	Relevant and Appropriate	Staging piles are temporary storage locations for remediation waste. In the event that staging piles will be used during remedy implementation, the piles will be located within the boundaries of the AOC. Design and/or operating standards for staging piles will be required, as appropriate, depending on location, the nature of the remediation wastes contained in them, the length of anticipated use and other relevant factors.
Underground Injection Control (UIC) Regulations	Federal and State	Groundwater	40 CFR 144.12; CH&SC 25159.10 and 25159.25; 22 CCR 66260.10	Applicable	The selected groundwater remedy includes air sparging, which injects air into the subsurface. These regulations prohibit the contamination of underground drinking water sources through underground injection wells.
Ventura County Air Pollution Control District (VCAPCD)	State[1]	Air	VCAPCD Rules and Regulations	Applicable	The VCAPCD regulations are established to achieve and maintain state and federal ambient air quality standards through the federal-approved state implementation plan (SIP). Site activities that result in air emissions may be subject to VCAPCD requirements (see below).
VCAPCD Regulation for Fugitive Dust	State[1]	Air	Rule 55	Applicable	Emissions of fugitive dust shall not remain visible in the atmosphere beyond the property line of the emission source. Activities conducted in the South Coast Air Basin shall use best available control measures to minimize fugitive dust emissions and take necessary steps to prevent the track-out of bulk material onto public paved roadways as a result of their operations. Fugitive dust during earthmoving activities is a concern and requires controls; therefore, this requirement is applicable to the site.

Table 3
Summary of Project ARARs
Texaco PCPL Superfund Site
Fillmore, California

Location-Specific ARARs					
Executive Order on Floodplain protection	Federal	Soil and Groundwater	Executive order 11988, Floodplain Management (5)2411977	Applicable	EO 11988, in relevant part, requires federal agencies to determine whether a proposed action as defined therein will occur within a floodplain; if so, to consider alternatives to the proposed action in the floodplain; and if the proposed action is the "only practicable alternative," to minimize potential harm to the floodplain. EO 11988 is applicable because Site remedial activities will take place within the 500-year floodplain.
Guidance and Advisories To Be Considered					
California Water Well Standards	State	Groundwater	DWR Bulletin 74-90	---	Standard well construction/destruction for water wells within California. The previous guidance was established in Bulletin 74-81.
Regional Screening Levels (RSLs)	Federal	Soil and Groundwater	EPA Website	---	A risk-based screening tool established for multiple media (soil, water, and air). http://www.epa.gov/region9/superfund/prg/index.html
California Human Health Screening Levels (CHHSLs)	State	Soil and Soil Gas	CalEPA, OEHHA Websites	---	A State risk-based screening tool for evaluation of soil and soil gas on contaminated properties. http://www.calepa.ca.gov/Brownfields/documents/2005/CHHSLsGuide.pdf http://www.oehha.org/risk/pdf/LeadCHHSL091709.pdf
Area of Contamination (AOC) Policy	Federal	Soil	55 FR 8758-8760 (March 8, 1990)	---	Based on operational history and site data, the contaminated soil to be consolidated is not a listed or characteristic waste and would be managed onsite to reduce, control, or mitigate exposure. Should a characteristic waste be found during remedial design or remedial action, it will be managed consistent with this AOC policy.

Notes:
- ALs = Action Levels
- AOC = Area of Contamination
- ARARs = Applicable or Relevant and Appropriate Requirements
- BMPs = Best Management Practices
- CalEPA = California Environmental Protection Agency
- CAMU = Corrective Action Management Unit
- CCR = California Code of Regulations
- CFR = Code of Federal Regulations
- CH&SC = California Health and Safety Code
- CHHSLs = California Human Health Screening Levels
- DTSC = Department of Toxic Substances Control
- DWR = Department of Water Resources
- EPA = U.S. Environmental Protection Agency
- FR = Federal Register
- LARWQCB = Los Angeles Regional Water Quality Control Board
- MCLs = Maximum Contaminant Levels
- MCLGs = Maximum Contaminant Level Goals
- OEHHA = California Office of Environmental Health Hazard Assessment
- RCRA = Resourse Conservation and Recovery Act
- RSLs = Regional Screening Levels
- SIP = State Implementation Plan
- SWRCB = State Water Resource Control Board
- TSDF = Treatment, Storage, and Disposal Facility
- UIC = Underground Injection Control
- VCAPCD = Ventura County Air Pollution Control District
- WQOs = Water Quality Objectives

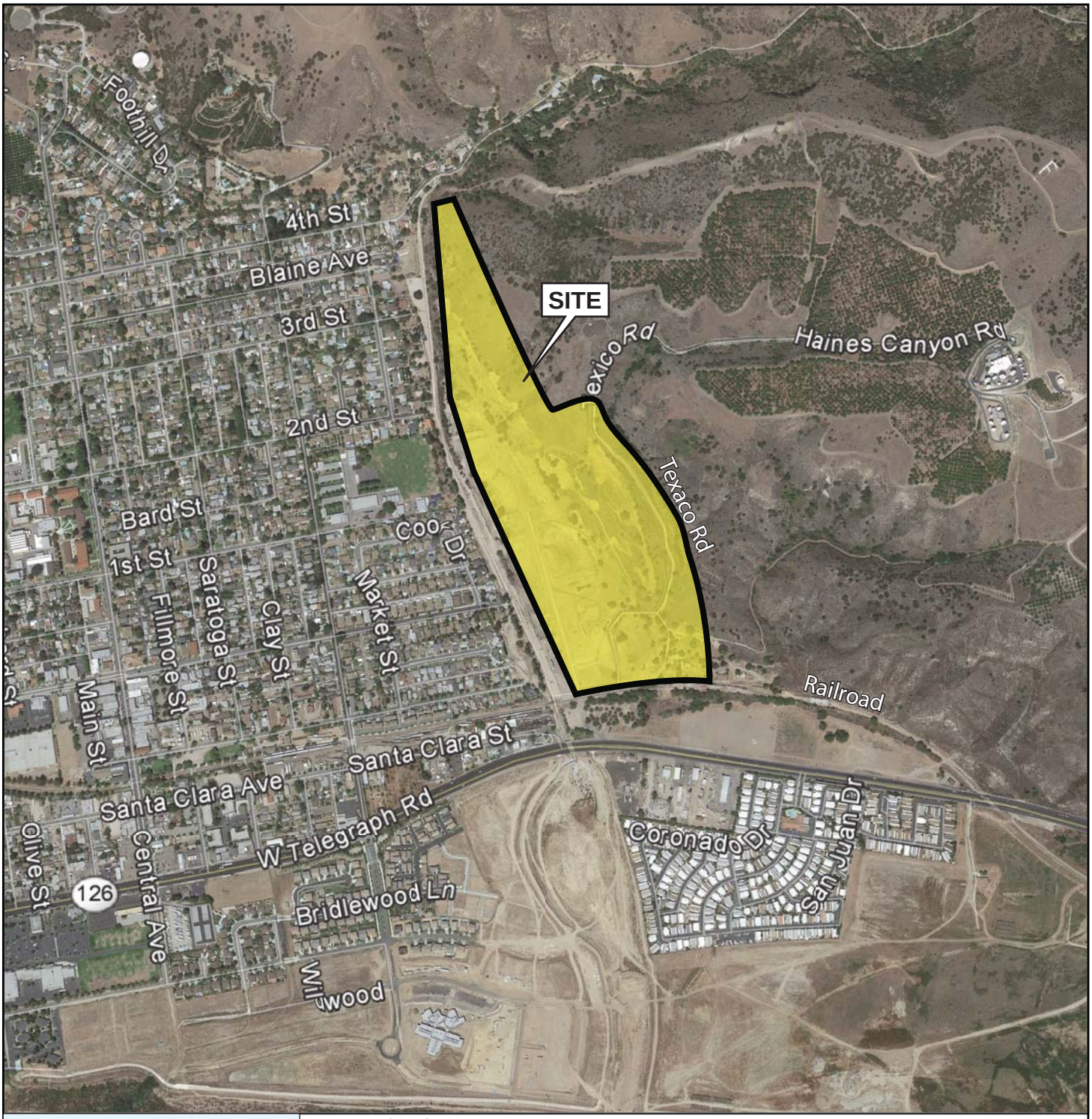
[1] = VCAPCD rules are included in the State Implementation Plan (SIP) that is submitted to the U.S. EPA and so become de facto state regulations.

Table 4
Institutional Controls Roadmap
Texaco PCPL Superfund Site
Fillmore, California

Type of Institutional Control	Relationship of the Institutional Control to the remedy	Objective of the Institutional Control	Performance standard required by the Institutional Control	Monitoring plan including entity responsible for implementing, maintaining, and enforcing the Institutional Control
The entire site shall be subject to a comprehensive deed restriction prohibiting the use of the property for (i) any residential purposes of any kind, including any mobile home or factory built housing, (ii) any hospital related purposes, (iii) any public or private school, and (iv) any day care usage.	The risk assessment upon which the remedial decisions are based assumes exposure scenarios consistent with deed restrictions where the use of the property is limited to industrial and commercial activities.	The object of this comprehensive deed restriction is to ensure that the long-term use of the property is consistent with the exposure scenarios used in the risk assessment and which the remedial decisions were based.	The restrictive covenant would prohibit the use of the property for: (i) any residential purposes of any kind, including any mobile home or factory built housing, (ii) any hospital related purposes, (iii) any public or private school, and (iv) any day care usage.	For any portion of the site that is transferred to a third party, Texaco would reserve the right to enter the property for purposes of determining compliance with the deed reservation and restrictive covenant. In addition, for any portion of the site that is transferred to a third party, Texaco would conduct annual inspections of the property to confirm compliance.
For any portion of the site that is transferred to a third party Texaco would retain all ownership and rights to groundwater. In addition, a restrictive covenant would be recorded in the deed records prohibiting the extraction of groundwater for purposes of human consumption.	The restrictive covenant eliminates risks associated with contamination in groundwater.	The deed reservation and restrictive covenant would cut off the exposure pathways associated with the ingestion of groundwater.	The restrictive covenant would contain provisions prohibiting the installation and/or operation of any water wells on the property for human consumption purposes. Human consumption would be defined to be consistent with EPA's use of the term for public water systems regulated under the Safe Drinking Water Act	For any portion of the site that is transferred to a third party, Texaco would reserve the right to enter the property for purposes of determining compliance with the deed reservation and restrictive covenant. In addition, for any portion of the site that is transferred to a third party, Texaco would conduct annual inspections of the property to confirm compliance.
A restrictive covenant would be recorded in the deed records to address the risks associated with vapor intrusion.	The restrictive covenant eliminates risks associated with the inhalation of vapors in structures built on the property.	The restrictive covenant would cut off the exposure pathways associated with the inhalation of vapors	The restrictive covenant would contain provisions requiring that all foundations for all structures on the property contain a vapor barrier approved by EPA, DTSC or the City of Fillmore.	For any portion of the site that is transferred to a third party, Texaco would require for all construction on the property proof that the required vapor barrier had been approved by EPA, DTSC or the City of Fillmore.
A restrictive covenant would be recorded in the deed records to address the risks associated with dermal exposure to and inhalation of contaminated soils on the property.	The restrictive covenant eliminates risks associated with dermal exposure to and inhalation of contaminated soils.	The restrictive covenant would cut off the exposure pathways associated with contaminated soils.	The restrictive covenant would prohibit excavations on the property deeper than10 feet below post-remediation final grade. The restrictive covenant would also require the use of construction worker protective clothing to prevent dermal exposure for any excavation of soils on the property. Finally, the restrictive would prohibit vegetable gardens, orchards and the growth of plants for human consumption.	For any portion of the site that is transferred to a third party, Texaco would reserve the right to enter the property for purposes of determining compliance with the restrictive covenant. In addition, for any portion of the site that is transferred to a third party, Texaco would conduct annual inspections of the property to confirm compliance.

Notes:
- EPA = United States Environmental Protection Agency
- DTSC = Department of Toxic Substances Control

Figures



Source: Google Earth Pro., 2013.

N

0 500 1000

Scale in Feet

URS

SITE LOCATION MAP

Proj. No.: 30990336	Date: February 2013
Project: TEXACO PCPL SUPERFUND SITE FILLMORE, CALIFORNIA	Figure: 1

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EXPLANATION

— · · — Property Boundary

AREA OF CONCERN	CHEMICALS OF CONCERN EXCEEDING RISK BASED CRITERIA 10^{-6} Cancer Risk Threshold (Not Applied to Lead*)
1	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Chrysene Dibenz(a,h)anthracene Indeno(1,2,3-cd)pyrene Lead Naphthalene
2	None
3	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Chrysene Dibenz(a,h)anthracene Lead Naphthalene
4	Benzo(a)pyrene Indeno(1,2,3-cd)pyrene
5	Benzo(a)anthracene
6	Benzene Benzo(a)pyrene Ethylbenzene Lead Naphthalene
7	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Lead
8	Benzo(a)pyrene Naphthalene
9	Benzo(a)pyrene Lead Naphthalene
10	Benzo(a)anthracene Benzo(a)pyrene Benzo(k)fluoranthene Lead Naphthalene
11	Lead
12	None
13	Lead
14	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(k)fluoranthene Chrysene Dibenz(a,h)anthracene Indeno(1,2,3-cd)pyrene Naphthalene

* Lead is a noncancer health hazard, and is therefore unaffected by cancer risk threshold.

N

0 200 400

Scale in Feet

URS

AREAS OF CONCERN

Proj. No.: 30990336	Date: February 2013
Project: TEXACO PCPL SUPERFUND SITE FILLMORE, CALIFORNIA	Figure: 2

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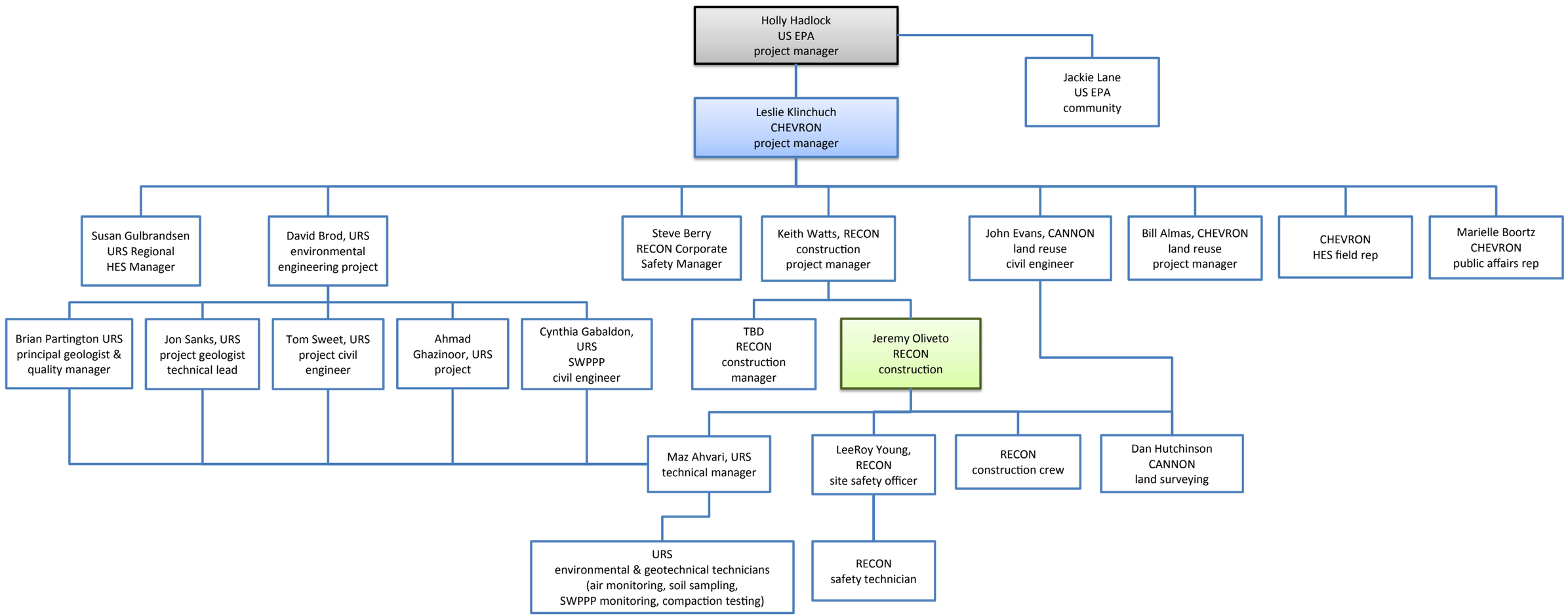

URS

PROJECT TEAM
ORGANIZATIONAL CHART

Proj. No.: 30990336	Date: April 2013
Project: TEXACO PCPL SUPERFUND SITE FILLMORE, CALIFORNIA	Figure: 3

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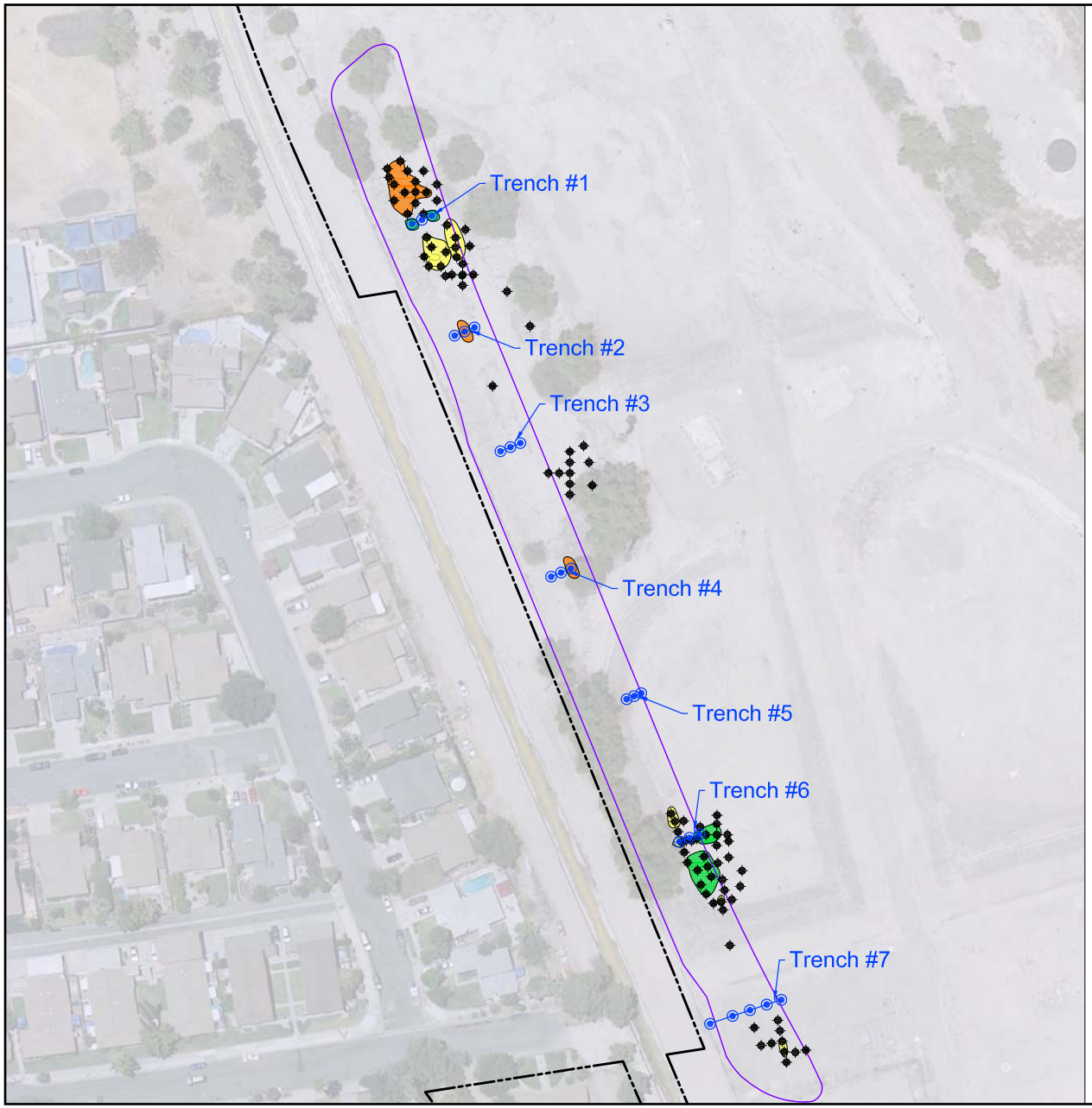

EXPLANATION

- Soil Excavation Depth to 3 Feet Below Ground Surface (ft bgs)
- Soil Excavation Depth to 7 ft bgs
- Soil Excavation Depth to 10 ft bgs
- Soil Boring (2006-2011)
- Trench Sampling Location (2012)
- Property Boundary
- Consolidation Area Boundary

Notes:
1. Soil excavation areas are preliminary (data validation pending).
2. Excavated soil will be stockpiled and placed back in the Consolidation Area after it has been fully excavated to accommodate contaminated Site soil.

N

0 50 100
Scale in Feet

URS

EXCAVATION AREAS WITHIN
THE PROPOSED CONSOLIDATION AREA

Proj. No.: 30990336	Date: February 2013
Project: TEXACO PCPL SUPERFUND SITE FILLMORE, CALIFORNIA	Figure: 4

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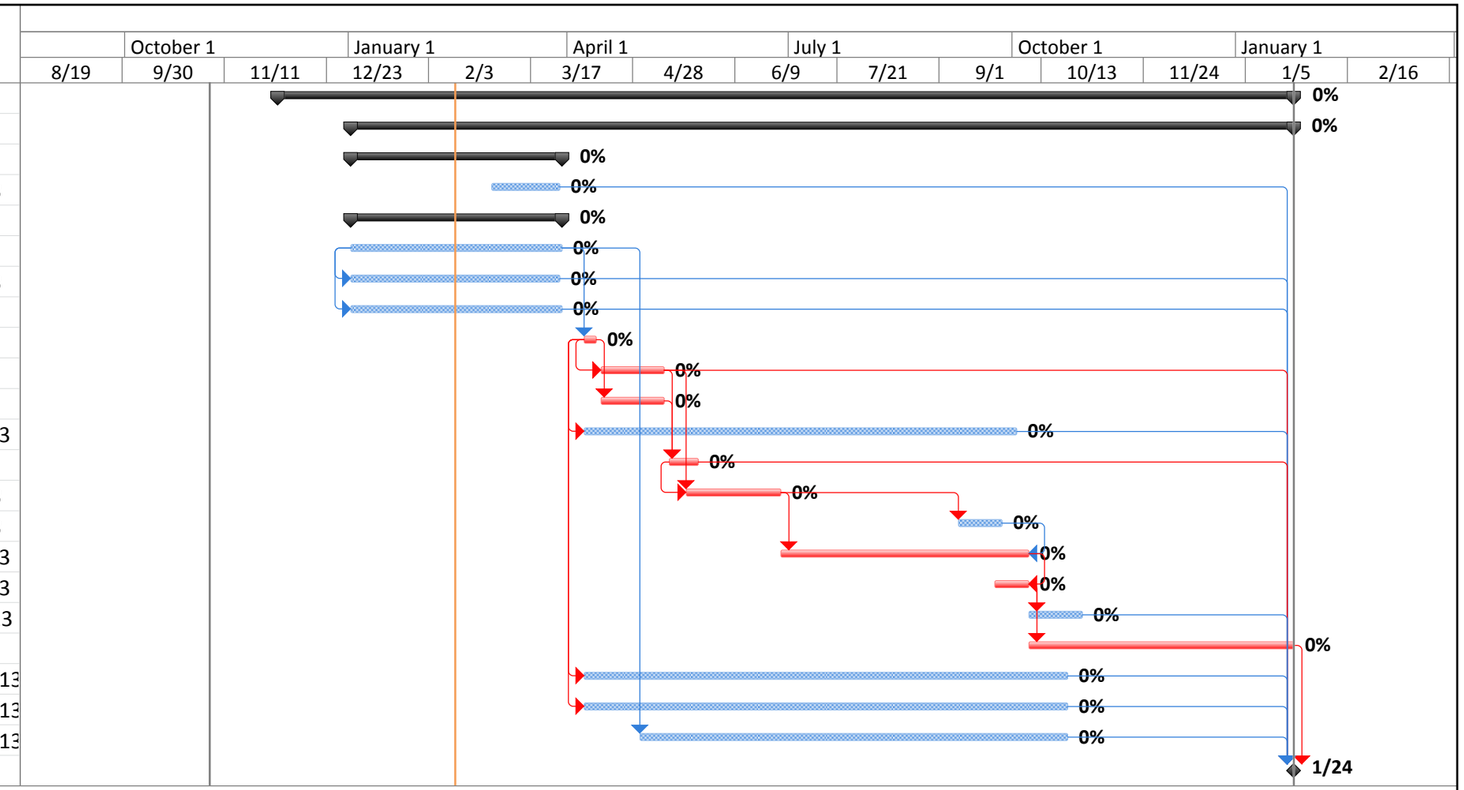
ID	CEMC WBS	Task Name	Duration	Start	Finish
1	--	**PCPL Fillmore**	**291 days**	**Mon 12/3/12**	**Fri 1/24/14**
7	--	**Soil Remediation Grading**	**271 days**	**Wed 1/2/13**	**Fri 1/24/14**
8	--	**Pre Field Activities**	**63 days**	**Wed 1/2/13**	**Fri 3/29/13**
9	05.01	Pre Job Deliverables (HASP)	20 days	Fri 3/1/13	Thu 3/28/13
10	--	**Permitting**	**63 days**	**Wed 1/2/13**	**Fri 3/29/13**
11	02.03	Modify Grading Permit	63 days	Wed 1/2/13	Fri 3/29/13
12	02.03	SWPPP	62 days	Wed 1/2/13	Thu 3/28/13
13	02.03	General Permitting	63 days	Wed 1/2/13	Fri 3/29/13
14	05.01	Mob Site Prep	5 days	Mon 4/8/13	Fri 4/12/13
15	15.03	Remaining Infrastructure	20 days	Mon 4/15/13	Fri 5/10/13
16	05.01	Clear and Grub	20 days	Mon 4/15/13	Fri 5/10/13
17	05.01	Erosion Control (SWPPP)	125 days	Mon 4/8/13	Wed 10/2/13
18	19.01	Build Consolidation Area	10 days	Mon 5/13/13	Fri 5/24/13
19	19.01	Remedial Excavation and Backfill	28 days	Mon 5/20/13	Thu 6/27/13
20	19.08	Engineered Cap	14 days	Mon 9/9/13	Thu 9/26/13
21	19.03	Mass Grading	70 days	Fri 6/28/13	Mon 10/7/13
22	05.02	Fencing and DeMob	10 days	Tue 9/24/13	Mon 10/7/13
23	07.11	Install Vapor Probe	16 days	Tue 10/8/13	Tue 10/29/13
24	04.19	Construction Report Prep	75 days	Tue 10/8/13	Fri 1/24/14
25	02.08	Construction Management	140 days	Mon 4/8/13	Wed 10/23/13
26	07.11	Technical Mgmt	140 days	Mon 4/8/13	Wed 10/23/13
27	07.01	Surveying	123 days	Wed 5/1/13	Wed 10/23/13
28	M	Soil Remediation Grading Complete	0 days	Fri 1/24/14	Fri 1/24/14



Critical		Split		Finish-only		Baseline Milestone		Manual Summary	Inactive Task
Critical Split		Task Progress		Duration-only		Milestone		Project Summary	Inactive Milestone
Critical Progress		Manual Task		Baseline		Summary Progress		External Tasks	Inactive Summary
Task		Start-only		Baseline Split		Summary		External Milestone	Deadline

Note: Confirmation sampling will be performed during all excavation activities

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PROJECT SCHEDULE

Proj. No.: 30990336	Date: February 2013
Project: TEXACO PCPL SUPERFUND SITE FILLMORE, CALIFORNIA	Figure: 5

2/19/13 hk T:\Chevron Fillmore\Graphics\Jan13\Fig5_schedule_jan13.ai

Appendices

Appendix A
Remedial Grading Plans and Specifications – Final EPA Design

Appendix B
Construction Quality Assurance Plan

Appendix C
Quality Assurance Project Plan

Appendix D
Stormwater Pollution Prevention Plan

Appendix E
Dust Suppression and Air Monitoring Plan

Appendix F
Contingency Plan