



76 Broadway
Sacramento, California 95818

RECEIVED

10:10 am, Apr 01, 2011

Alameda County
Environmental Health

March 31, 2011

Mr. Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

Re: **Commingled Plume Assessment Work Plan
800, 726, and 706 Harrison Street
Oakland, CA**

Dear Mr. Wickham:

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please call me at (916) 558-7604.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric G. Hetrick". The signature is stylized and somewhat cursive.

Eric G. Hetrick
Site Manager
Risk Management & Remediation

**Commingled Plume Assessment
Work Plan**

800, 726, and 706 Harrison Street
Oakland, California

Prepared for:

Ms. Shelby Lathrop
ConocoPhillips Company
76 Broadway
Sacramento, CA 95818

Prepared by:

Stantec Consulting Corporation
3017 Kilgore Road, Suite 100
Rancho Cordova, CA 95670

Stantec Project Number:

211402479



Stantec

March 31, 2011

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1.0 Introduction

On behalf of ConocoPhillips, Stantec Consulting Corporation (Stantec) has prepared this Work Plan for the 76 Station No. 0752, located at 800 Harrison Street, the Former Shell Station located at 726 Harrison Street, and the Former Arco Service Station located at 706 Harrison Street in Oakland, California (Figure 1). The Work Plan is in response to letters sent to the responsible parties from Alameda County Health Care Services (ACHCS) dated January 4, 2011 requesting a Work Plan addressing data gaps documented in Stantec's *"Site Conceptual Model, 800, 726, and 706 Harrison Street Commingled Plume, Oakland, California"* dated September 30, 2009 (SCM). An application for the owners of the sites to enter into a commingled plume agreement with the State Water Resources Control Board Underground Storage Tank Cleanup Fund is currently in process.

2.0 Site Background

Although the three sites located at 800, 726, and 706 Harrison Street each had a separate and distinct unauthorized release, data indicates that the dissolved phase hydrocarbon plumes from the sites have commingled, with the plume now extending in a southwesterly direction. The responsible parties met with Alameda County Environmental Health in April of 2008 to discuss their participation in the commingled Underground Storage Tank (UST) fund, and have been taking the necessary steps to reach that goal. An application for the owners of the sites to enter into a commingled plume agreement with the State Water Resources Control Board UST Cleanup Fund is currently in process.

2.1 SITE DESCRIPTION

The property located at 800 Harrison Street is an active 76 Service Station. Current site facilities consist of a single-story convenience store and smog shop, three product dispenser islands under two canopies, and two 12,000-gallon double-wall poly-steel gasoline USTs. The property located at 726 Harrison Street is an asphalt parking lot and facilities consist of a building (Yee property), and the property located at 706 Harrison Street is an asphalt parking lot with no current facilities (Gin Property). Locations of the properties are shown on Figure 2.

The sites are bounded to the west and northwest by Harrison Street and to the southwest by 7th Street. Eighth Street trends northwest-southeast between 800 and 726 Harrison Street. The area surrounding the sites is predominantly commercial with some residential properties upgradient.

The sites are located in the East Bay Plain sub-basin of the Santa Clara Valley groundwater basin, as identified in the California Regional Water Quality Control Board (CRWQCB) – San Francisco Bay Region's *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)*, dated January 18, 2007. This basin has been designated as having existing beneficial uses for municipal and domestic water supply, industrial process water supply, industrial service water supply, and agricultural water supply.

2.2 SUMMARY OF PREVIOUS ASSESSMENTS

For a discussion of site source areas and historical environmental data, see Stantec's *Site Conceptual Model*, dated September 30, 2009.

2.3 SENSITIVE RECEPTOR SURVEY

In April 2001, Gettler-Ryan Incorporated (GR) prepared a SCM for the subject site located at 800 Harrison Street. A one mile radius well search was conducted by Alameda County Public Works Agency in 2001. Four irrigation wells and one industrial well were identified within the one mile search radius. The closest well to the site was an irrigation well at Laney College (900 Fallon Street) cross gradient, located approximately 1,880 feet (ft) southeast of the site. The SCM referenced that the subject site is situated approximately ½ mile north/northeast of the

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Oakland Inner Harbor, the closest sensitive receptor, and ½ mile to ¾ mile west/southwest of Lake Merritt (GR, 2001).

An area well study was conducted by Aqua Science Engineers (ASE) and referenced in their December 6, 2007 *Subsurface Utility Study, Area Well Study, and Work Plan for Additional Soil and Groundwater Assessment*. According to ASE's assessment report, approximately 166 wells were located within the study area and of these wells, approximately 136 were listed as monitoring and/or testing wells, 10 were listed as piezometers, one was listed as a cathodic protection well, thirteen were listed as remediation wells, one was listed as a domestic well, one was listed as an abandoned well, two were listed as destroyed wells, and two were of unknown usage. The well labeled as domestic was owned by Western Union and was approximately 33-ft deep. It was not thought to be likely that the well was used as domestic drinking water. In their study, ASE concluded that based on the information known from these wells, (a) no water supply wells were located in the site vicinity, and (b) none of the other wells downgradient of the site appeared to present a potential conduit for the downward movement of contamination.

3.0 Scope of Work

In accordance with the recommendations made by Stantec in our SCM dated September 30, 2009, and in response to a letter from the ACHCS dated January 4, 2011 (Appendix A), this work is proposed to assess several data gaps listed below. The data gaps are presented in italics verbatim from the SCM, with proposed work presented below each paragraph. Details regarding drilling and sampling methods are presented in the following sections and Appendix B.

Data Gaps from 2009 SCM:

- 1) *The extent of hydrocarbons in soil to 15 ft below ground surface (bgs) has been assessed with the exception of the eastern portion of the UST pit and beneath the building (heavy hydrocarbons) at 800 Harrison Street, and the southwestern corner of the building at 726 Harrison Street. Research regarding the source of hydrocarbons in soil in EW-1 (Yee) is recommended. ACEH requested confirmation sampling in the southwestern tank area, and further evaluation of the northeastern 6K tank pit, at 706 Harrison Street.*

Proposed work to address the data gaps:

- A) Conduct soil sampling using direct-push technology at locations GP-1 and GP-2 at 800 Harrison Street and location GP-3 at 726 Harrison Street to assess the extent of hydrocarbons in soil from 0 to 15 ft bgs. Analyze soil samples for Total Petroleum Hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and xylene (BTEX), methyl-tert butyl ether (MTBE), ethylene dibromide (EDB), and 1,2-dichloroethane (1,2-DCA). Soil samples from GP-1 will also be analyzed for Total Oil and Grease (TOG) and hydraulic fluid, and additionally for metals and semi-volatile organic compounds (SVOCs) if TOG or hydraulic fluid is detected. More details regarding the advancement of the direct-push borings are discussed in Section 3.4 below. See Figure 2 for proposed boring locations.
- B) Conduct research regarding the source of hydrocarbons in soil at EW-1 at 726 Harrison Street through historical maps and records.
- C) Conduct confirmation soil sampling using direct-push technology at locations GP-4 through GP-7 at 706 Harrison Street to assess the effectiveness of past remediation events at this site. Analyze soil samples for TPHg, BTEX, MTBE, EDB, and 1,2-DCA. See Figure 2 for proposed boring locations. More details regarding the advancement of these direct push borings are discussed in Section 3.4 below.

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- 2) *Metals in soil appear to be below appropriate ESLs; however, additional metals and SVOC testing is recommended in the area of EB-11 at 800 Harrison Street where heavy hydrocarbons were detected above ESLs.*

Proposed work to address the data gap:

- A) Conduct soil sampling using direct-push technology at location GP-1 at 800 Harrison Street to assess extent of metals and SVOCs in soil from 0 to 15 ft bgs. Analyze soil samples for SVOCs and metals. See Figure 2 for the proposed boring location. More details are contained in Section 3.5 below.
- 3) *The extent of hydrocarbons in groundwater has been delineated laterally by the monitoring well network and cone penetrometer (CPT) borings, with the exception of MTBE to the southwest and southeast. The vertical extent of hydrocarbons in groundwater has been delineated in the northwestern portion of the plume (800 Harrison), but not downgradient. A deep groundwater monitoring well located adjacent to a shallow well in the main source area would allow evaluation of the concentrations in the deeper water-bearing zone, as well as the vertical gradient*

Proposed work to address the data gaps:

- A) Conduct grab groundwater sampling using direct-push technology at locations GP-8 through GP-10 south of 706 Harrison Street to delineate MTBE at the proposed locations shown on Figure 3. Groundwater samples will be analyzed for TPHg, BTEX, and MTBE. More details regarding the advancement of direct-push borings for the collection of grab groundwater samples are discussed in Section 3.4 below.
- B) Install monitoring well MW-6 at 726 Harrison Street to provide vertical delineation of hydrocarbons in groundwater. Based on CPT borings conducted north of the site in 2007, the existing first water-bearing zone is underlain by clay and silt from approximately 30 to 42 ft below grade. The boring for this well will be advanced into the underlying coarse-grained material through a conductor casing at the location shown on Figure 3. More details regarding the construction of this well are discussed in the next section. The newly installed monitoring well will be added to the semiannual sampling schedule consistent with the existing well network.
- 4) *Metals in groundwater appear to be below appropriate ESLs; however, groundwater analysis for metals and SVOCs in the areas of the former waste oil tanks and clarifier (MW-1 at 800 Harrison, MW-2 at 726 Harrison, and MW-3 at 706 Harrison) is recommended.*

Proposed work to address the data gap:

- A) Analysis of metals and SVOC was added to the sampling schedule for well MW-1 at 800 Harrison Street and MW-2 at 726 Harrison Street during the third quarter

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monitoring and sampling event of 2010. A discussion of metals and SVOC concentrations will be included in the First Quarter 2011 Semi-Annual Monitoring and Sampling report submitted for the sites to ACEH.

- 5) *Confirmation soil sampling for remediation implemented and assessment in the area of the 6,000 gallon UST excavation near MW-2 at 706 Harrison should be performed, as well as groundwater sampling and analysis from wells SP-3, SP-4, and SP-5.*

Proposed work to address the data gaps:

- A) Confirmation soil sampling in the area of the 6,000 gallon UST will be addressed under item 1C above.
- B) Add wells SP-3, SP-4, and SP-5 to sampling schedule consistent with the existing monitoring well network.

The proposed direct push and monitoring well locations are shown on Figures 2 and 3. Field and laboratory procedures are included in Appendix B. Details of the specific scope of work are presented below.

3.1 SITE HEALTH AND SAFETY PLAN (HASP)

As required by the Occupational Safety and Health Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120), and by the California Occupational Safety and Health Administration (Cal-OSHA) "Hazardous Waste Operations and Emergency Response" guidelines (CCR Title 8, Section 5192), a site-specific HASP will be prepared prior to the commencement of fieldwork. The HASP will be reviewed and signed by the field staff and contractors before beginning field operations at the site.

3.2 PERMITS

Soil boring and monitoring well permits will be obtained from Alameda County Department of Public Works prior to the commencement of assessment activities. An encroachment permit will be obtained as necessary from the City of Oakland, Department of Public Works prior to the commencement of assessment activities.

3.3 UNDERGROUND UTILITY LOCATION AND CLEARANCE

Prior to scheduled field work activities, the locations of the proposed borings and monitoring wells will be marked in accordance with USA guidelines. USA North will be contacted no less than 2 days prior to the start of field work to allow USA members to mark out subsurface utility locations. Additionally, a private utility locator will be contracted to locate marked USA member utility lines and investigate the presence of utility lines that are not owned or operated by USA members. The top five ft of the subsurface will be removed from each boring location using an air knife, and then a hand auger will be advanced to six ft. For borings with soil sampling, a soil sample will then be collected with a slide hammer at six ft, and then the remaining clearance will

be conducted using a hand auger advanced to 8.1 ft in order to minimize damage to subsurface utility lines that could not be located using conventional methods.

3.4 ADVANCEMENT OF DIRECT PUSH SOIL BORINGS

Ten soil borings, GP-1 through GP-10, will be advanced using direct push drilling equipment at the locations shown on Figure 2 and Figure 3. Borings GP-1 through GP-7 will be advanced to a depth of approximately 20 ft bgs to evaluate the soil stratigraphy and extent of petroleum hydrocarbon impacts to vadose-zone soil. Borings GP-8 through GP-10 will be advanced to the first encountered groundwater for grab groundwater sampling. Soils encountered will be described in accordance with the Unified Soil Classification System (USCS) by field staff under the direction of a California Professional Geologist. The boreholes will be completed with a neat cement grout mixture, and finished at the surface with materials to match the existing grade.

3.5 DIRECT PUSH SOIL SAMPLE SELECTION AND ANALYSIS

Soil samples for laboratory analysis will be collected continuously from borings GP-1 through GP-7 in acetate liners. The extracted soil samples for stratigraphic interpretation will be evaluated in the field for the presence of volatile organic compounds (VOCs) with a photo-ionization detector (PID). Based on positive PID readings and field observations, at least three samples from the vadose zone from the borings will be selected for laboratory analysis. In the event that no positive PID readings are encountered, one soil sample will be selected from just above the phreatic surface (assumed to be 15 ft bgs) and two samples will be collected from intermediate depths of six ft bgs and 10 ft bgs. Soil samples retained for lab analysis will be analyzed for TPHg; BTEX; the lead scavengers 1,2-DCA and EDB; and MTBE by EPA Method 8260B. Soil samples collected from boring GP-1 will additionally be analyzed for TOG by EPA Method 1664 and hydraulic oil by EPA Method 8015. If TOG or hydraulic fluid is detected, the samples will also be analyzed for Title 22 metals by EPA Method 6010B, and SVOCs by EPA Method 8270C. Soil samples will be sent to BC Laboratories, Inc., a California state-certified laboratory, under chain-of-custody protocol.

3.6 DIRECT PUSH GRAB GROUNDWATER SAMPLING AND ANALYSIS

Grab groundwater sampling will be conducted at locations GP-8 through GP-10 shown on Figure 3. After clearance procedures are conducted, the direct-push rods will be advanced to a depth of approximately 20 ft bgs to evaluate soil stratigraphy and the depth to water. Soils encountered will be described in accordance with the Unified Soil Classification System (USCS) by field staff under the direction of a California Professional Geologist. The direct push rods will then be advanced to a depth of two ft below the water table in new boreholes immediately adjacent to the previous locations used to evaluate soil stratigraphy. Once the depth is reached, the rod will be pulled back allowing the retractable stainless steel screen to be exposed. An electronic sounder will be used to verify the presence of water in the drill rod. A stainless steel bailer will then be used to collect a grab groundwater sample from within the drill rod. Once sampling is completed the drill rod will be removed from the borehole and the hole will be completed with a neat cement grout mixture to the surface. Grab groundwater samples

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will be analyzed for TPHg; BTEX; the lead scavengers 1,2-DCA and EDB; and MTBE by EPA Method 8260B. Grab groundwater samples will be sent to BC Laboratories, Inc., a California state-certified laboratory under chain-of-custody protocol.

3.7 DEEP MONITORING WELL CONSTRUCTION

The soil boring for monitoring well MW-6 will be advanced at the location shown on Figure 3 using hollow stem auger drilling equipment. During drilling activities, soil samples will be collected at five-foot intervals using a California-modified Split Spoon sampler for the purpose of logging stratigraphy, moisture content, odor, and other physical characteristics, but will be switched to a continuous coring device at a depth of 25 ft below grade. The extracted soil samples for stratigraphic interpretation will be evaluated in the field for the presence of VOCs with a PID. Based on positive PID readings and field observations, at least two samples from the vadose zone from the boring will be selected for laboratory analysis. In the event that no positive PID readings are encountered, one soil sample will be selected from just above the phreatic surface and one sample will be collected from an intermediate depth. The soil samples will be submitted under chain-of-custody documentation to BC Laboratories, Inc., a California state-certified laboratory, and analyzed for TPHg; BTEX; the lead scavengers 1,2-DCA and EDB; and MTBE by EPA Method 8260B.

Based on CPT borings conducted north of the site in 2007, the existing first water bearing zone in the vicinity of the sites is underlain by clay and silt from approximately 30 to 42 ft below grade, below which is coarser grained material. The boring will be advanced five feet into the underlying clay unit, at which time an 8 5/8-inch diameter steel conductor casing will be installed. Soil samples will be collected for analysis within the clay stratum based on PID readings. If no positive PID readings are encountered, samples will be collected for analysis every five feet within the clay stratum. Once the conductor casing is in place, the drilling activities will resume and the boring will be advanced into the underlying coarser grained stratigraphy a minimum of five ft. The monitoring well will be constructed with five ft of 0.020-inch machine slotted 2-inch diameter Schedule 40 PVC screen extending from an assumed depth of approximately 42 ft to 47 ft bgs, although the depth of the well and the final screen depth will ultimately be determined based on the geologic and hydrogeologic conditions encountered during drilling. The boring for this well will be advanced at the location shown on Figure 3.

3.8 MONITORING WELL DEVELOPMENT

After at least 48 hours following the completion of the well, the well will be developed by rigorously surging the length of the screen interval with a vented surge block in three foot lifts and by then purging approximately ten casing volumes of water. Field parameters including pH, conductivity, temperature, and turbidity will be monitored after each casing volume.

3.9 WELL SURVEYING

Following installation, the newly installed groundwater well will be surveyed by a licensed surveyor to a local benchmark relative to mean sea level. Survey data including elevation,

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longitude, and latitude will be included in information uploaded to the State Water Resources Control Board (SWRCB) Geotracker Database (www.swrcb.geotracker.ca.gov) in accordance with Assembly Bill (AB) 2886 requirements.

3.10 COMPLIANCE WITH AB 2886 REQUIREMENTS

Also per AB 2886 requirements, the data obtained during this investigation will be electronically uploaded into the SWRCB Geotracker Database (www.swrcb.geotracker.ca.gov). Documentation of the electronic data format (EDF) submittals will be included in the final report.

3.11 SOIL AND WATER DISPOSAL

Soil cuttings and water generated during drilling operations will temporarily be stored onsite in California Department of Transportation (DOT)-approved 55-gallon steel drums. The drums will be removed and transported by a licensed disposal contractor to an appropriate disposal facility. Soil cutting drums and rinsate/purge water drums will be temporarily stored onsite for approximately two to four weeks. Copies of the disposal manifests will be included in the report or submitted under separate cover.

4.0 Reporting and Schedule

Following the completion of field work and receipt of laboratory analyses, a report documenting the findings of the investigation will be submitted. The report will include soil boring logs including well construction details as necessary, analytical results, laboratory reports with chain-of-custody documentation, and conclusions/recommendations. The report and required information will be uploaded to the SWRCB Geotracker Database and to the ACEH FTP website.

We anticipate that the project will require approximately 16 weeks to complete.

5.0 Limitations and Certification

This work plan was prepared in accordance with the scope of work outlined in Stantec's contract with ConocoPhillips Company dated October 1, 2007 and with generally accepted professional environmental consulting practices existing at the time this work plan was prepared and applicable to the location of the site. It was prepared for the exclusive use of the joint claimants, namely, ConocoPhillips, Mr. Bo Gin, and Mr. Peter Yee, for the express purpose stated above. Any re-use of this work plan for a different purpose or by others not identified above shall be at the user's sole risk without liability to Stantec. To the extent that this work plan is based on information provided to Stantec by third parties, Stantec may have made efforts to verify this third party information, but Stantec cannot guarantee the completeness or accuracy of this information. No other warranties, expressed or implied, are made by Stantec.

Information, conclusions, and recommendations provided by Stantec in this document have been prepared under the supervision of and reviewed by the licensed professionals whose signatures appear below.

Licensed Reviewer:

Brad Shelton, P.G.
Associate Geologist

Date: March 31, 2011

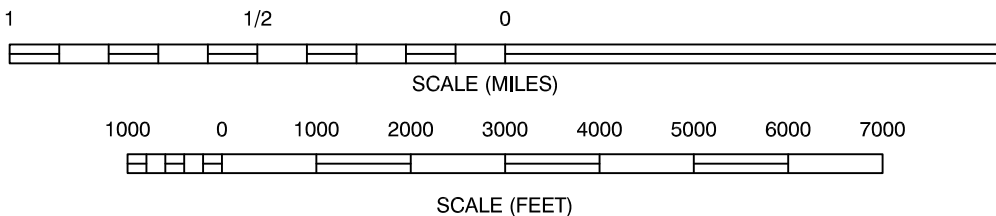
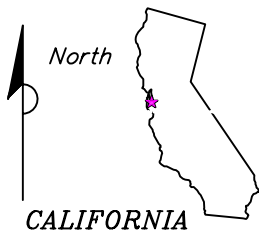
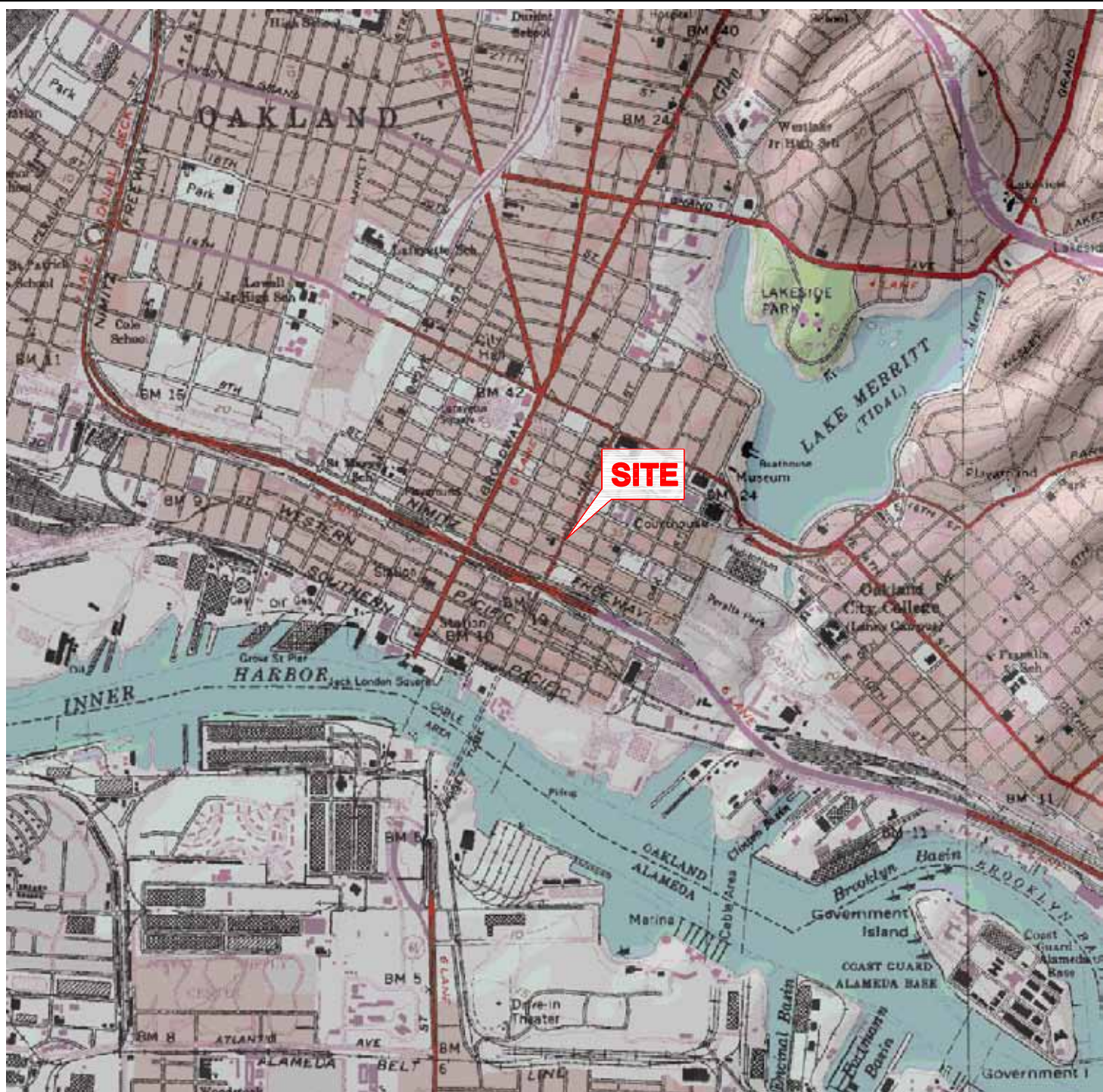
Signature:



Stamp:

Cc: Ms. Shelby Lathrop (via electronic upload to Livelink)
Mr. Robert Foss, Conestoga-Rovers & Associates (via bfoss@CRAworld.com)
Mr. Robert Kitay, Aqua Science Engineers Inc. (via rkitay@aquascienceengineers.com)
Ms. Roya Kambin (via RKLG@chevron.com)

FIGURES



REFERENCE: USGS 7.5 MINUTE QUADRANGLE, OAKLAND EAST, CALIFORNIA



Stantec

FOR:
UNOCAL NO. 0752/YEE/GIN
COMMINGLED
800/726/706 HARRISON STREET
OAKLAND, CALIFORNIA

JOB NUMBER:
211402813

DRAWN BY:
MDR

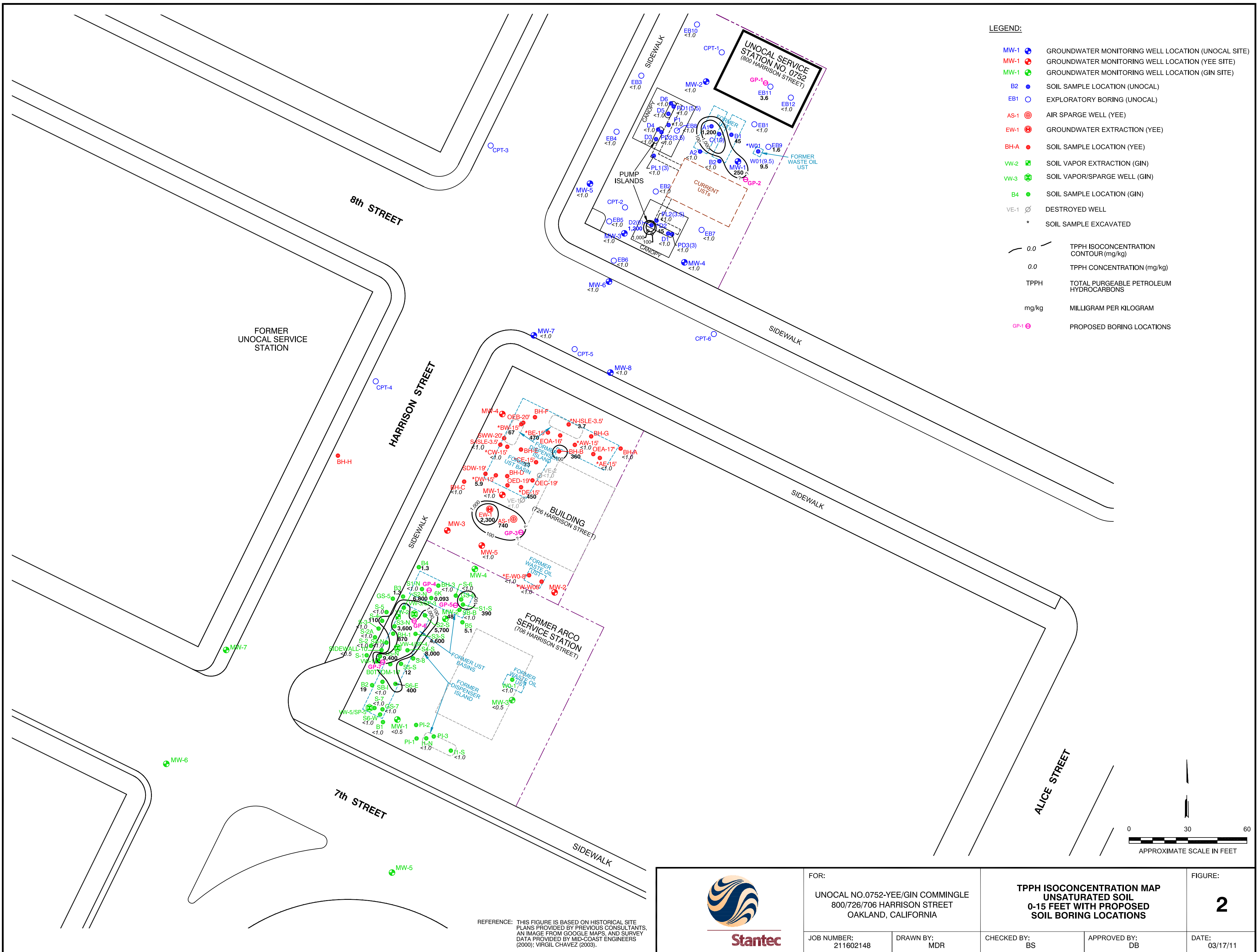
CHECKED BY:
LS

APPROVED BY:
DB

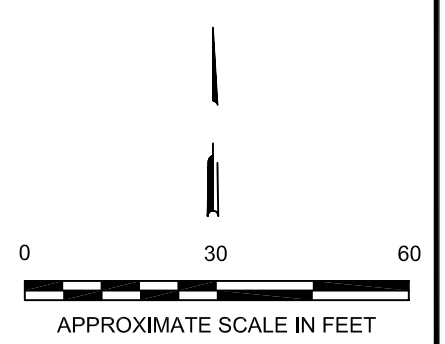
FIGURE:

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09/17/10



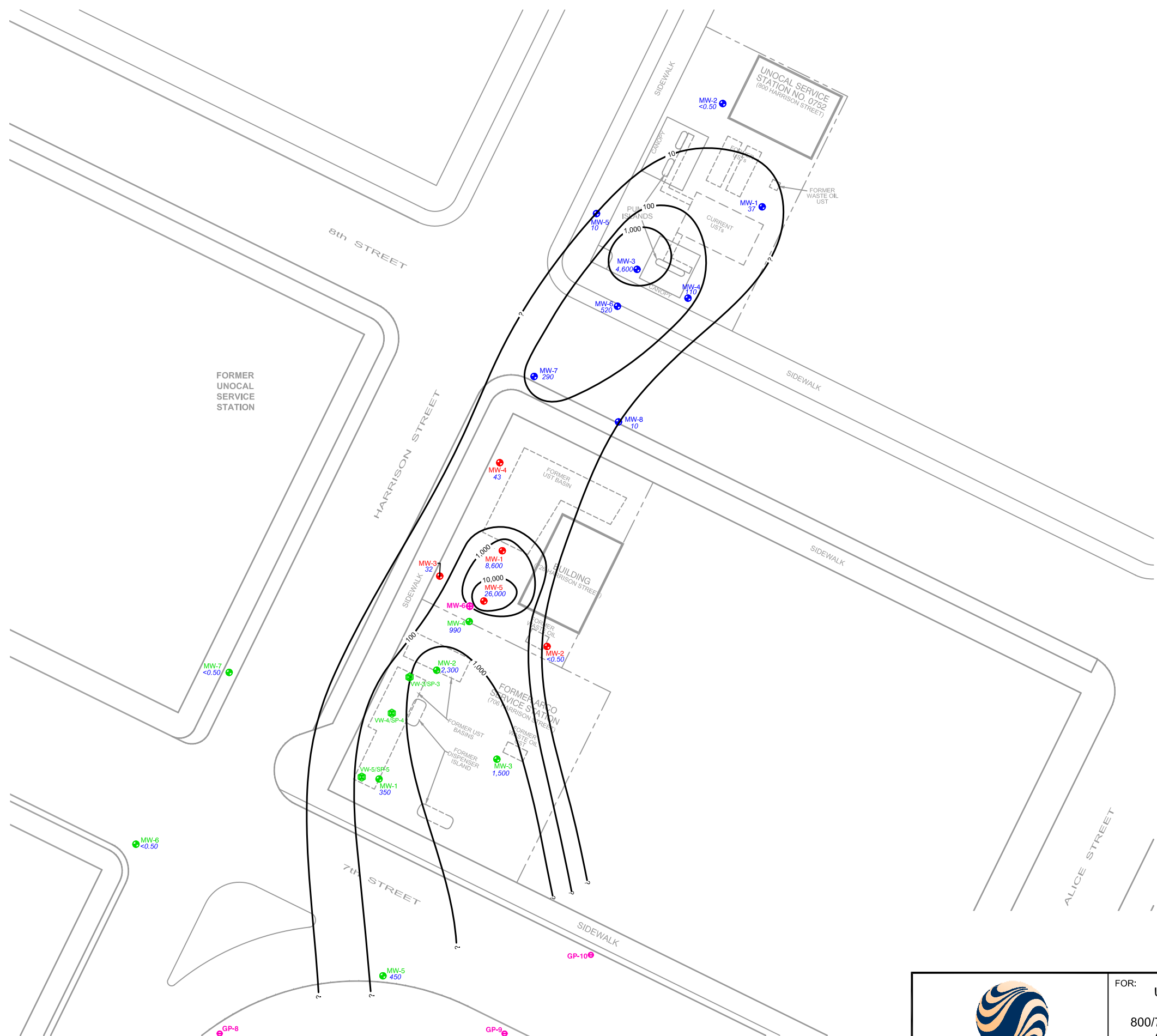
- LEGEND:**
- MW-1 (blue circle with cross) GROUNDWATER MONITORING WELL LOCATION (UNOCAL SITE)
 - MW-1 (red circle with cross) GROUNDWATER MONITORING WELL LOCATION (YEE SITE)
 - MW-1 (green circle with cross) GROUNDWATER MONITORING WELL LOCATION (GIN SITE)
 - B2 (blue circle) SOIL SAMPLE LOCATION (UNOCAL)
 - EB1 (blue circle) EXPLORATORY BORING (UNOCAL)
 - AS-1 (red circle with cross) AIR SPARGE WELL (YEE)
 - EW-1 (red circle with cross) GROUNDWATER EXTRACTION (YEE)
 - BH-A (red circle) SOIL SAMPLE LOCATION (YEE)
 - VW-2 (green square) SOIL VAPOR EXTRACTION (GIN)
 - VW-3 (green circle with cross) SOIL VAPOR/SPARGE WELL (GIN)
 - B4 (green circle) SOIL SAMPLE LOCATION (GIN)
 - VE-1 (circle with slash) DESTROYED WELL
 - *
 - 0.0 (dashed line) TPPH ISOCONCENTRATION CONTOUR (mg/kg)
 - 0.0 (solid line) TPPH CONCENTRATION (mg/kg)
 - TPPH TOTAL PURGEABLE PETROLEUM HYDROCARBONS
 - mg/kg MILLIGRAM PER KILOGRAM
 - GP-1 (pink circle with cross) PROPOSED BORING LOCATIONS



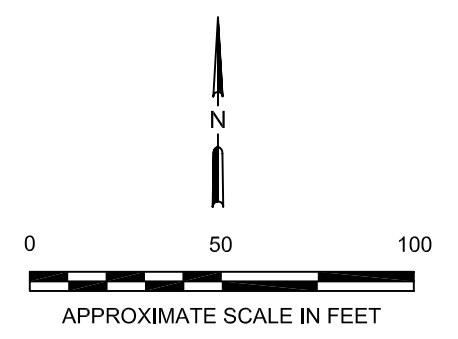
REFERENCE: THIS FIGURE IS BASED ON HISTORICAL SITE PLANS PROVIDED BY PREVIOUS CONSULTANTS, AN IMAGE FROM GOOGLE MAPS, AND SURVEY DATA PROVIDED BY MID-COAST ENGINEERS (2000); VIRGIL CHAVEZ (2003).



FOR: UNOCAL NO.0752-YEE/GIN COMMINGLE 800/726/706 HARRISON STREET OAKLAND, CALIFORNIA		TPPH ISOCONCENTRATION MAP UNSATURATED SOIL 0-15 FEET WITH PROPOSED SOIL BORING LOCATIONS		FIGURE: 2
JOB NUMBER: 211602148	DRAWN BY: MDR			CHECKED BY: BS



- LEGEND:**
- ⊕ GROUNDWATER MONITORING WELL LOCATION (UNOCAL SITE)
 - ⊕ GROUNDWATER MONITORING WELL LOCATION (YEE SITE)
 - ⊕ GROUNDWATER MONITORING WELL LOCATION (GIN SITE)
 - ⊕ SOIL VAPOR/SPARGE WELL (GIN)
 - 100 MTBE CONCENTRATION CONTOUR (µg/L)
 - 110 MTBE CONCENTRATION (µg/L)
 - MTBE METHYL TERTIARY BUTYL ETHER
 - µg/L MICROGRAMS PER LITER
 - ⊕ PROPOSED GROUNDWATER MONITORING WELL LOCATION
 - ⊕ GP-8 PROPOSED BORING LOCATIONS



No warranty is made by Stantec Consulting Corp. as to the accuracy, reliability, or completeness of these data. This figure is based on data compiled from various sources and presented by Delta. This information may not meet National Map Accuracy Standards. This product was developed electronically, and may be updated without notification. Any reproduction may result in a loss of scale and/or information.

REFERENCE: THIS FIGURE IS BASED ON HISTORICAL SITE PLANS PROVIDED BY PREVIOUS CONSULTANTS, AN IMAGE FROM GOOGLE MAPS, AND SURVEY DATA PROVIDED BY MID COAST ENGINEERS (2009).

	FOR: UNOCAL #0752/YEE/GIN COMMINGLED 800/726/706 HARRISON STREET OAKLAND, CALIFORNIA		DISSOLVED PHASE MTBE ISOCONCENTRATION MAP THIRD QUARTER 2010 WITH PROPOSED LOCATIONS		FIGURE: 3
	JOB NUMBER: 211602148	DRAWN BY: MDR	CHECKED BY: BS	APPROVED BY: DB	DATE: 03/17/11

APPENDIX A
ACHCS Correspondence

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director



ENVIRONMENTAL HEALTH SERVICES
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1131 Harbor Bay Parkway, Suite 250
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(510) 567-6700
FAX (510) 337-9335

January 4, 2011

Mr. Eric Hetrick (*Sent via E-mail to: eric.g.hetrick@conocophillips.com*)
ConocoPhillips Company
76 Broadway
Sacramento, CA 95818

Muhammad Usman
800 Harison Street
Oakland, CA 94607

Mahmood M Ali
Armsco, Inc.
P.O. Box 5427
Novato, CA 94948-5427

Subject: Case File Review for Fuel Leak Case No. RO0000231 and Geotracker Global ID T0600101486, Unocal #0752, 800 Harrison Street, Oakland, CA 94607

Dear Mr. Hetrick, Mr. Usman, and Mr. Ali:

I have been assigned as the case worker for the above referenced site. Please send future correspondence for this case my attention.

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the subject site including the document entitled, "*Site Conceptual Model, 800, 726, and 706 Harrison Street Commingled Plume, Oakland, California,*" dated September 30, 2009 (SCM) and "*Semiannual Status Summary Report, First Quarter 2010, 800, 726, and 706 Harrison Street, Oakland, California,*" dated April 15, 2010 (Summary Report). Both reports were prepared on your behalf by Stantec Consulting Corporation. The Summary Report indicates that the owners of the three adjacent sites at 800, 726, and 706 Harrison Street have applied to join the Commingled Plume Account Program, which is administered by the State Water Resources Control Board Underground Storage Tank Cleanup Fund (Fund). However, the owners of the three sites have not completed an agreement to enter the Commingled Plume Account Program. The process of completing an agreement has apparently been ongoing since 2008. Given the length of time that has passed without completing an agreement, it is necessary to move forward with work at each of the three sites either individually or as a group.

The SCM identified data gaps for each of the three sites. We request that you submit a Work Plan no later than March 31, 2011 that addresses the data gaps in the SCM in one of two ways listed below:

- 1) You complete a Commingled Plume Account agreement that allows you to move forward with one Work Plan for all three sites at 800, 726, and 706 Harrison Street or
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Responsible Parties
RO0000231
January 4, 2011
Page 2

TECHNICAL REPORT REQUEST

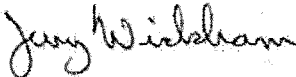
Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- **March 31, 2011** – Work Plan to Address Data Gaps Identified in SCM

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org.

Sincerely,

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist



Digitally signed by Jerry Wickham
DN: cn=Jerry Wickham, o=Alameda County
Environmental Health, ou,
email=jerry.wickham@acgov.org, c=US
Date: 2011.01.04 13:26:31 -08'00'

Attachment: Responsible Party(ies) Legal Requirements/Obligations

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032 (*Sent via E-mail to: lgriffin@oaklandnet.com*)

Laura Shook, Stantec Consulting Corporation, 3017 Kilgore Road, Suite 100, Rancho Cordova, CA 95670

Robert Foss, Conestoga-Rovers & Associates, 5900 Hollis Street, Suite A, Emeryville, CA 94608 2032 (*Sent via E-mail to: bfoss@croworld.com*)

Robert Kitay, Aqua Science Engineers, Inc., 55 Oak Ct., Suite 220, Danville, CA 94526 (*Sent via E-mail to: rkitay@aquascienceengineers.com*)

Donna Drogos, ACEH (*Sent via E-mail to: donna.drogos@acgov.org*)
Jerry Wickham, ACEH (*Sent via E-mail to: jerry.wickham@acgov.org*)

Geotracker, File

Attachment 1
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REPORT REQUESTS

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.shtml).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

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Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

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Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	REVISION DATE: July 20, 2010
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- **Do not** password protect the document. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Submission Instructions

- 1) Obtain User Name and Password
 - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
 - i. Send an e-mail to dehloptoxic@acgov.org
 - b) In the subject line of your request, be sure to include "**ftp PASSWORD REQUEST**" and in the body of your request, include the **Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.**
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- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
 - a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
 - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
 - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
 - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

January 4, 2011

Mr. Peter Yee
1000 San Antonio Avenue
Alameda, CA 94501

Kin Chan
4328 Edgewood Avenue
Oakland, CA 94602-1316

Subject: Case File Review for Fuel Leak Case No. RO0000321 and Geotracker Global ID T0600102122, Chan's Service Station/Shell, 726 Harrison Street, Oakland, CA 94607

Dear Mr. Yee and Mr. Chan:

I have been assigned as the case worker for the above referenced site. Please send future correspondence for this case my attention.

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the subject site including the document entitled, "Site Conceptual Model, 800, 726, and 706 Harrison Street Commingled Plume, Oakland, California," dated September 30, 2009 (SCM) and "Semiannual Status Summary Report, First Quarter 2010, 800, 726, and 706 Harrison Street, Oakland, California," dated April 15, 2010 (Summary Report). Both reports were prepared on your behalf by Stantec Consulting Corporation. The Summary Report indicates that the owners of the three adjacent sites at 800, 726, and 706 Harrison Street have applied to join the Commingled Plume Account Program, which is administered by the State Water Resources Control Board Underground Storage Tank Cleanup Fund (Fund). However, the owners of the three sites have not completed an agreement to enter the Commingled Plume Account Program. The process of completing an agreement has apparently been ongoing since 2008. Given the length of time that has passed without completing an agreement, it is necessary to move forward with work at each of the three sites either individually or as a group.

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Responsible Parties
RO0000231
January 4, 2011
Page 2


TECHNICAL REPORT REQUEST

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If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org.

Sincerely,



Digitally signed by Jerry Wickham
DN: cn=Jerry Wickham, o=Alameda County
Environmental Health, ou,
email=jerry.wickham@acgov.org, c=US
Date: 2011.01.04 13:28:15 -08'00'

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

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Robert Foss, Conestoga-Rovers & Associates, 5900 Hollis Street, Suite A, Emeryville, CA 94608 2032 (Sent via E-mail to: bfoss@croworld.com)

Robert Kitay, Aqua Science Engineers, Inc., 55 Oak Ct., Suite 220, Danville, CA 94526 (Sent via E-mail to: rkitay@aquascienceengineers.com)

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Jerry Wickham, ACEH (Sent via E-mail to: jerry.wickham@acgov.org)

Geotracker, File

Attachment 1
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- Reports must be named and saved using the following naming convention:

RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Submission Instructions

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 - i. Send an e-mail to dehloptoxic@acgov.org
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 - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
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ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

January 4, 2011

Mr. Bo Gin
342 Lester Avenue
Oakland, CA 94606-1317

Subject: Case File Review for Fuel Leak Case No. RO0000484 and Geotracker Global ID T0600100985, Oakland Auto Parts, 706 Harrison Street, Oakland, CA 94607

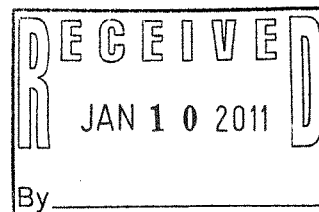
Dear Mr. Gin:

I have been assigned as the case worker for the above referenced site. Please send future correspondence for this case my attention.

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the subject site including the document entitled, "Site Conceptual Model, 800, 726, and 706 Harrison Street Commingled Plume, Oakland, California," dated September 30, 2009 (SCM) and "Semiannual Status Summary Report, First Quarter 2010, 800, 726, and 706 Harrison Street, Oakland, California," dated April 15, 2010 (Summary Report). Both reports were prepared on your behalf by Stantec Consulting Corporation. The Summary Report indicates that the owners of the three adjacent sites at 800, 726, and 706 Harrison Street have applied to join the Commingled Plume Account Program, which is administered by the State Water Resources Control Board Underground Storage Tank Cleanup Fund (Fund). However, the owners of the three sites have not completed an agreement to enter the Commingled Plume Account Program. The process of completing an agreement has apparently been ongoing since 2008. Given the length of time that has passed without completing an agreement, it is necessary to move forward with work at each of the three sites either individually or as a group.

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Responsible Parties
RO0000484
January 4, 2011
Page 2

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Sincerely,

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
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Digitally signed by Jerry Wickham
DN: cn=Jerry Wickham, o=Alameda County
Environmental Health, ou,
email=jerry.wickham@acgov.org, c=US
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Geotracker, File

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- 2) Upload Files to the ftp Site
 - a) Using Internet Explorer (IE4+), go to <ftp://alcoftp1.acgov.org>
 - i. Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
 - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
 - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
 - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
 - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
 - a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
 - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
 - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
 - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

APPENDIX B
Field and Laboratory Procedures

FIELD AND LABORATORY PROCEDURES

Utility Locating

Prior to drilling, boring locations are marked with white paint or other discernible marking and cleared for underground utilities through Underground Service Alert (USA). In addition, the first five feet of each borehole are air-knifed, or carefully advanced with a hand auger if shallow soil samples are necessary, to help evaluate the borehole location for underground structures or utilities.

Single-Wall Hydraulic Push (GEOPROBE®) Drilling

Borehole Advancement

Pre-cleaned push rods (typically one to two inches in diameter) are advanced using a hydraulic push type rig for the purpose of collecting samples and evaluating subsurface conditions. The drill rod serves as a soil sampler, and an acetate liner is inserted into the annulus of the drill rod prior to advancement. Once the sample is collected, the rods and sampler are retracted and the sample tubes are removed from the sampler head. The sampler head is then cleaned, filled with clean sample tubes, inserted into the borehole and advanced to the next sampling point where the sample collection process is repeated.

Soil Sample Collection

The undisturbed soil samples intended for laboratory analysis are cut away from the acetate sample liner using a hacksaw, or equivalent tool, in sections approximately 6 inches in length. The 6 inch samples are lined at each end with Teflon® sheets and capped with plastic caps. Labels documenting job number, borehole identification, collection date, and depth are affixed to each sample. The samples are then placed into an ice-filled cooler for delivery under chain-of-custody to a laboratory certified by the State of California to perform the specified tests. The remaining collected soil that has not been selected for laboratory analysis is logged using the USCS under the direction of a State Registered Professional Geologist, and is field screened for organic vapors using a photo ionization detector (PID), or an equivalent tool. Soil cuttings generated are stored in Department of Transportation (DOT) approved 55-gallon steel drums, or an equivalent storage container.

Borehole Completion

Upon completion of drilling and sampling, the rods are retracted. Neat cement grout is introduced via a tremmie pipe. In areas where the borehole penetrates asphalt or concrete, the borehole is capped with an equivalent thickness of asphalt or concrete patch to match finished grade.

Organic Vapor Procedures

Soil samples are collected for analysis in the field for ionizable organic compounds using a PID with a 10.2 eV lamp. The test procedure involves measuring approximately 30 grams from an undisturbed soil sample, placing this sub-sample in a Ziploc™-type bag or in a clean

glass jar, and sealing the jar with aluminum foil secured under a ring-type threaded lid. The container is warmed for approximately 20 minutes (in the sun); then the head-space within the container is tested for total organic vapor, measured in parts per million as benzene (ppm; volume/volume). The instrument is calibrated prior to drilling. The results of the field-testing are noted on the boring logs. PID readings are useful for indicating relative levels of contamination, but cannot be used to evaluate petroleum hydrocarbon levels with the confidence of laboratory analyses.

Hollow Stem Auger Drilling

Prior to drilling, the boring locations are marked with white paint or other discernible marking and cleared for underground utilities through Underground Service Alert (USA). In addition, the first 8.1 feet (ft) of each borehole are drilled with a hand auger, posthole digger, or air/water knife to evaluate the presence of underground structures or utilities.

Once pre-drilling efforts to identify subsurface structures are complete, precleaned hollow stem augers (typically eight to ten inches in diameter) are advanced using a rotary drill rig for the purpose of collecting samples and evaluating subsurface conditions. Upon completion of drilling and sampling, the augers are retracted and the borehole is either completed as a well or filled with concrete, bentonite grout, hydrated bentonite chips or pellets as required by the regulatory agency. In areas where the borehole penetrates asphalt or concrete, the borehole is capped with an equivalent thickness of asphalt or concrete patch to match finish grade.

During the drilling process, a physical description of the encountered soil characteristics (i.e. moisture content, consistency, odor, color, etc.), drilling difficulty and soil type as a function of depth are described on boring logs. The soil cuttings are classified in accordance with the Unified Soil Classification System (USCS).

Soil Sampling – Split Spoon Sampling

The pre-cleaned split spoon sampler lined with three six-inch long brass or stainless steel tubes is driven 18 inches into the underlying soils at the desired sample depth interval. The sampler is driven by repeatedly dropping a 140-pound hammer a free fall distance of 30 inches. The number of blows (blow count) to advance the sampler for each six-inch drive length are recorded on the field logs. Once the sampler is driven the full 18-inch drive length or the sampler has met refusal (typically 50 blows per six inches), the sampler is retrieved.

Of the three sample tubes, the bottom sample is generally selected for laboratory analysis. The sample is carefully packaged for chemical analysis by capping each end of the sample with a Teflon sheet followed by a tight-fitting plastic cap and sealing the cap with non-volatile organic compound (VOC), self-adhering silicon tape. A label is affixed to the sample indicating the sample identification number, borehole number, sampling depth, sample collection date and time, the sampler's name, job number, etc. The sample is then annotated on a chain-of-custody form and placed in an ice-filled cooler for transport to the laboratory.

The remaining soil samples are used for soil classification and field evaluation of headspace volatile organic vapors, where applicable, using a photo-ionization detector (PID) or flame-

ionization detector calibrated to a calibration gas (typically isobutylene or hexane). VOC vapor concentrations are recorded on the boring logs. A physical description of the encountered soil characteristics (i.e. moisture content, consistency, odor, color, etc.) and soil type as a function of depth are recorded on the boring logs. In addition, the sample recovery and sampler penetration are also noted on the boring logs. The sampled soils are classified in accordance with the USCS.

Well Construction – Hollow Stem Auger Method

A conductor casing is set if necessary prior to drilling through an aquitard beneath a saturated zone. Groundwater monitoring wells are constructed by inserting or tremmieing well materials through the annulus of the hollow stem auger. Once the borehole has been drilled to the desired depth, filter sand is placed in the bottom of the boring. A two-inch or four-inch diameter, Schedule 40 or 80 polyvinyl chloride (PVC) is then inserted through the annulus of the hollow stem augers. A sand pack is placed around the well by tremmieing the appropriate filter sand (RMC 2/12 or No. 3 sand or equivalent) through the annulus between the casing and augers while slowly retracting the augers. During this operation, the depth of the sand pack in the auger is continuously sounded to make sure that the sand remains in the auger annulus during auger retraction to avoid short-circuiting the well. The sand pack is tremmied to at least two ft above the well screen, which typically contains 0.010-inch or 0.020-inch perforations, depending on the stratigraphy anticipated beneath the site or site vicinity. Following construction of the sand pack, at least a two-foot thick bentonite seal is tremmied over the sand and hydrated in place. The remainder of the borehole is backfilled with bentonite grout, pellets, or chips. The well head is equipped with fittings for remedial piping and/or instrumentation if applicable. The well head is protected from damage with traffic-rated well box in paved areas or locking steel riser in undeveloped areas. The protective boxes or risers are set in concrete. The details of well construction are recorded on well construction logs.

Equipment Decontamination

Equipment that could potentially contact subsurface media and compromise the integrity of the samples is carefully decontaminated prior to drilling and sampling. Drill augers and other large pieces of equipment are decontaminated using high pressure hot water spray. Samplers, groundwater pumps, liners and other equipment are decontaminated in an Alconox scrub solution and double rinsed in clean tap water rinse followed by a final distilled water rinse.

The rinsate and other wastewater are contained in 55-gallon DOT-approved drums, labeled (to identify the contents, generation date and project) and stored on-site pending waste profiling and disposal.

Soil Cuttings and Rinsate/Purge Water

Soil cuttings and rinsate/purge water generated during drilling and sampling are stored on-site in DOT-approved 55-gallon steel drums pending characterization. A label is affixed to the drums indicating the contents of the drum, suspected contaminants, date of generation, and the boring number from which the waste is generated. The drums are removed from

the site by a licensed waste disposal contractor to an appropriate facility for treatment/recycling.