

September 28, 2012 Project No. 124094

Dr. Teklewold Ayalew **Los Angeles Regional Water Quality Control Board**320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject: Addendum 2 to Remedial Action Plan - Phase I

Former Athens Tank Farm Willowbrook, California 90059

Site Cleanup No. 0374, Site ID 2040306

Dear Dr. Ayalew:

On behalf of ExxonMobil Environmental Services Company (EMES), Kleinfelder West, Inc. (Kleinfelder) submits this Addendum 2 to the *Remedial Action Plan – Phase I* (RAP) (Kleinfelder, 2012b) for the former Athens Tank Farm located in Willowbrook, Los Angeles County, California (Site). This Addendum 2 responds to the Los Angeles Regional Water Quality Control Board (LARWQCB) August 8, 2012 letter titled *Review of Investigation of Ambient Metals Concentrations Report*; the LARWQCB letter also includes comments from the Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (LARWQCB, 2012).

EMES submitted the RAP in June 2012 (Kleinfelder, 2012b). The RAP describes the site background; remedial action objectives; remedial technologies and screening; proposed remedial action; and implementation, reporting, and schedule. The RAP proposed a soil vapor extraction (SVE) system for mitigation of methane and petroleum hydrocarbon volatile organic compounds (VOCs). Additionally, although not interpreted to originate with historic Site activities, nine locations where the LARWQCB asked for further assessment and delineation of lead-affected shallow soil will be excavated and disposed at an appropriately-licensed facility.

In response to LARWQCB and DTSC directives regarding arsenic, this RAP Addendum 2 proposes further assessment and future excavation to address arsenic outlier concentrations in shallow soil at five locations (Plate 1).

BACKGROUND

In its August 8, 2012 letter (LARWQCB, 2012), LARWQCB stated:

"...arsenic concentrations exceed site-specific and Southern California Regional Background Levels in shallow soil at SS-38, SS-71, SS-73, SS-75, and SS-98 and warrant further action in addition to the proposed excavation of lead-contaminated shallow soil in the [RAP]."

The Investigation of Ambient Metals Concentrations Report (Ambient Metals Report) included an evaluation of naturally occurring inorganic metals in soil at the Site (Kleinfelder, 2012a). The assessment included statistical analyses of metals concentrations in the shallow soil data set (data from soil samples collected at depths equal or less than 10 feet, referred to as the SSDS) and the deep soil data set (data from soil samples collected at depths greater than 10 feet to the maximum depth assessed, referred to as the DSDS), as well as a comparison of Site values to literature values of documented metals background concentrations found in California. To facilitate statistical analysis and consistent with United States Environmental Protection Agency (US EPA) methodology, metals outlier concentrations were identified and removed from the SSDS as presented in the Ambient Metals Report. Outlier concentrations are defined as measurements (usually larger or smaller than other data values) that are not representative of the sample population from which they were drawn and that distort statistical results if used in calculations (US EPA, 2010).

At the request of LARWQCB, this RAP Addendum 2 addresses arsenic outlier concentrations that were removed from statistical analyses of the SSDS in the Ambient Metals Report. Arsenic outlier concentrations in shallow soil were identified in the Ambient Metals Report at five locations: SS-038, SS-071, SS-073, SS-075, and SS-098 at concentrations ranging from 33.4 to 55.7 milligram per kilogram (mg/kg) (as shown on Plate 1). Although not interpreted to originate from historic Site activities, this RAP Addendum 2 proposes further assessment and excavation at the five arsenic outlier concentration locations.

ARSENIC SITE-SPECIFIC BACKGROUND CONCENTRATION

In the Ambient Metals Report (Kleinfelder, 2012a), Kleinfelder concluded that arsenic concentrations in the DSDS were not statistically different from those reported as background by Bradford et al. (1996). This was interpreted to mean that arsenic concentrations in soil at depths greater than 10 feet at the Site represent background conditions. Arsenic was detected above laboratory reporting limits in 623 of 633 deep soil samples. Reported concentrations of arsenic in the DSDS ranged from 0.253 mg/kg to 20.7 mg/kg. No arsenic outlier concentrations were identified in the DSDS. For the purpose of defining the extent of excavation at the arsenic outlier concentration locations, arsenic concentrations in shallow soil below 20.7 mg/kg are assumed to be within the range of site-specific background concentrations.

DELINEATION OF ARSENIC OUTLIER CONCENTRATIONS LOCATIONS

The five arsenic outlier concentration locations (Plate 1) will be delineated to define the lateral and vertical extent of excavation, not to exceed a depth of 10 feet below ground surface (bgs). The methodology for delineating the locations will be as directed by LARWQCB (2008) and consistent with previously approved shallow soil sampling protocols (LARWQCB, 2011).

Delineation activities will consist of the following:

- Advancement of one shallow soil boring using a hand auger at the approximate location of the five arsenic outlier concentration locations.
- Advancement of three shallow soil borings using a hand auger for delineation in a triangular pattern approximately 5 feet away and surrounding each of the central boring locations. Physical obstructions and other factors may affect the actual number and placement of the proposed delineation borings.
- Three soil samples will be collected from each boring at depths ranging from approximately 0 to 0.5 feet, 4 to 4.5 feet, and 9.5 to 10 feet bgs. The soil samples will be:
 - collected directly from the hand auger bucket and placed in laboratory-supplied 16-ounce glass jars;
 - labeled and packaged for subsequent delivery to a state-accredited laboratory for arsenic analysis by US EPA Method 6020;
 - o screened in the field with a photoionization detector (PID) for VOCs; and
 - described and logged consistent with the Unified Soil Classification System.
- Shallow soil sampling equipment will be decontaminated prior to collecting each soil sample. Soil sampling and logging will be performed under the direction of a California-licensed Professional Geologist (PG) or Civil Professional Engineer (PE). Specific protocols and standard operating procedures for sample collection, logging, and field screening of soil samples are presented in Appendix B of the RAP (Kleinfelder, 2012b).
- If soil sample laboratory analytical results for arsenic at a delineation boring location exceed 20.7 mg/kg, one additional shallow soil boring will be advanced approximately 5 feet away from the original delineation boring location. Additional delineation borings, if necessary, will be advanced and soil samples will be collected and analyzed using the methodology described above.
- Shallow soil borings will be backfilled with the soil cuttings. However, soil
 cuttings with PID readings exceeding 100 parts per million (ppm) will not be used
 for backfill and instead will be contained for subsequent disposal. The shallow
 soil boring will be subsequently backfilled with hydrated bentonite chips from

total depth to approximately one foot to surface and the remaining top foot will be backfilled with clean imported soil or sand and covered with removed top sod.

 Soil cuttings and fluids generated during equipment decontamination will be contained in Department of Transportation (DOT)-approved 55-gallon drums and transported to an appropriately licensed disposal facility.

Following delineation of arsenic outlier locations, EMES will submit an Excavation Work Plan to address the shallow soil arsenic outlier locations and lead-affected shallow soil. The shallow soil excavation at delineated arsenic outlier locations will be implemented using the same methodology as for the lead-affected shallow soil as described in Section 6.1 of the RAP (Kleinfelder, 2012b).

LIMITATIONS

Kleinfelder performed the services for this project under the Standard Procurement Agreement with Procurement, a division of ExxonMobil Global Services Company (signed on June 21, 2007). Kleinfelder states that the services performed are consistent with professional standard of care defined as that level of services provided by similar professionals under like circumstances. This report is based on the regulatory standards in effect on the date of the report. It has been produced for the primary benefit of ExxonMobil Global Services Company and its affiliates.

If you have questions about this letter or wish to discuss the proposed remedial actions, please contact us at your convenience.

No. 8329

Sincerely,

KLEINFELDER WEST, INC.

Mark E. Pate, P.G.

Senior Project Manager

Russell J. Keenan

VP Project Management

Enclosures: Regulatory Correspondence

Plate 1 – Arsenic Outlier Concentration Locations

CWC Section 13267 Statement

REFERENCES

- Bradford, GR, Chang AC, Page AL, Bakhtar D, Frampton JA, Wright H., 1996. Background Concentrations of Trace Metals and Major Elements in California Soils, Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California. March.
- Department of Toxic Substances Control (DTSC), 2012. DTSC Comments Regarding Revised Report for the Investigation of Ambient Metals Concentrations, Former Athens Tank Farm, Willowbrook, Los Angeles County. June 19.
- Kleinfelder, 2012a. Report Investigation of Ambient Metals Concentrations, Former Athens Tank Farm, Willowbrook, Los Angeles County, California. March 30.
- Kleinfelder, 2012b. Remedial Action Plan Phase I, Former Athens Tank Farm, Willowbrook, Los Angeles County, California. June 15.
- Los Angeles Regional Water Quality Control Board (LARWQCB), 2008. Approval of Work Plan for Site Assessment Investigation at Former Athens Tank Farm, Willowbrook, California, Pursuant to California Water Code, Section 13267 (Site Cleanup No. 0374, Site ID 2040306). May 12.
- LARWQCB, 2011. Approval of Soil and Soil Vapor Work Plan Pursuant to California Water Code (CWC) Section 13267 Order Former Athens Tank Farm Located at Willowbrook, Los Angeles County, California 90059 (Site Cleanup No. 0374, Site ID 2040306). February 14.
- LARWQCB, 2012. Review of Investigation of Ambient Metals Concentrations Report Pursuant to California Water Code Sections 13267 and 13304 Order Former Athens Tank Farm Located at Willowbrook, Los Angeles County, California 90059 (Site Cleanup No. 0374, Site ID 2040306). August 8.
- United States Environmental Protection Agency (U.S. EPA), 2010. *ProUCL Version* 4.00.05 Technical Guide (Draft), EPA/600/R-07/041. May.



REGULATORY CORRESPONDENCE





Los Angeles Regional Water Quality Control Board

August 8, 2012

Dok Choe ExxonMobil Environmental Services Company 12851 E. 166th Street Cerritos, CA 90703

Joe Mendoza
Deputy Director, Department of Parks & Recreation
County of Los Angeles
433 South Vermont Avenue
Los Angeles, CA 90020

Scott Stevenson
Acting Director, Construction Management Division
Community Development Commission
County of Los Angeles
4800 E. Cesar Chavez Avenue
Los Angeles, CA 90022

REVIEW OF INVESTIGATION OF AMBIENT METALS CONCENTRATIONS REPORT PURSUANT TO CALIFORNIA WATER CODE SECTIONS 13267 AND 13304 ORDER - FORMER ATHENS TANK FARM LOCATED AT WILLOWBROOK, LOS ANGELES COUNTY, CALIFORNIA 90059 (SITE CLEANUP NO. 0374, SITE ID 2040306)

Dear Mr. Choe, Mr. Mendoza and Mr. Stevenson:

The California Regional Water Quality Control Board (Regional Board), Los Angeles Region, is the public agency with primary responsibility for the protection of groundwater and surface water quality for all beneficial uses within major portions of Los Angeles and Ventura Counties, including the above referenced site (Site).

The Regional Board staff has received and completed review of the document titled *Investigation of Ambient Metals Concentrations* (Report) dated March 30, 2012, and prepared by Kleinfelder West, Inc. (Kleinfelder) on behalf of ExxonMobil Oil Corporation (ExxonMobil) for the Site. This latest Report is prepared in response to the Regional Board and the Department of Toxic Substances Control (DTSC) requirement dated September 21, 2011, for an assessment of all ambient metal concentrations in soils. On June 30, 2011, Kleinfelder submitted a report titled, *Investigation of Ambient Metals Concentrations*, Former Athens Tank Farm, Willowbrook, Los Angeles County, California. This report examined arsenic and lead detected in soil samples from the Site at concentrations that exceed the California Human Health Screening Levels (CHHSLs) while all other metals were present at concentrations less than the corresponding CHHSLs.

The Report identifies potential outliers in both the shallow and deep soil data sets, primarily concentrations that were larger than the majority of the reported concentrations for arsenic, lead and

MARIA MEHRANIAN, CHAIR | SAMUEL UNGER, EXECUTIVE OFFICER

ExxonMobil Environmental Services Company
Joe Mendoza
Deputy Director, Department of Parks & Recreation
Scott Stevenson
Acting Director, Construction Management Division

mercury, and excluded them from the statistical analyses. Based on our review of the information submitted, arsenic concentrations exceed site-specific and Southern California Regional Background Levels in shallow soil at SS-38, SS-71, SS-73, SS-75, and SS-98 and warrant further action in addition to the proposed excavation of lead-contaminated shallow soil in the *Remedial Action Plan —Phase I*, dated June 15, 2012. The Regional Board concurs with the comments provided by the DTSC dated June 19, 2012 (copy attached). Therefore, you are required to address all the DTSC comments and submit an addendum to the *Remedial Action Plan —Phase I* by **September 28, 2012**.

The submittal of the required technical reports by the specified due date above is an amendment to the existing California Water Code Section 13267 and 13304 Order dated November 14, 2007. Pursuant to section 13350 of the California Water Code, failure to submit the required reports by the due dates above may result in civil liability penalties administratively imposed upon you by the Regional Board in an amount up to five thousand dollars (\$5,000) for each day the report is not received.

The State Water Resources Control Board (State Water Board) adopted regulations requiring the electronic submittals of information over the Internet using the State Water Board GeoTracker database. You are required not only to submit hard copy reports required in this Order but also to comply by uploading all reports and correspondence prepared to date and additional required data formats to the GeoTracker system. Information about GeoTracker submittals, including links to text of the governing regulations, can be found on the Internet at the following link:

http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal

All technical reports are required to be submitted under the California Water Code (CWC) section 13267 Order. Please note that effective immediately, the Regional Board requires you to include a perjury statement in all reports submitted under the 13267 orders. The perjury statement shall be signed by a senior authorized by Exxon Mobil Environmental Services Company (and not by a consultant). The statement shall be in the following format:

"I, [NAME], do hereby declare, under penalty of perjury under the laws of State of California, that I am [JOB TITLE] for Exxon Mobil Environmental Services Company, that I am authorized to attest to the veracity of the information contained in [NAME AND DATE OF REPORT] is true and correct, and that this declaration was executed at [PLACE], [STATE], on [DATE]."

If you have any questions, please contact Dr. Teklewold Ayalew, project manager, at (213) 576-6739 (tayalew@waterboards.ca.gov), or Site Cleanup Unit III Chief, Ms. Thizar Tintut-Williams at (213) 576-6723 (twilliams@waterboards.ca.gov).

Sincerely,

Samuel Unger, PE Executive Officer

Attachment

DTSC Memorandum dated June 20, 2012

cc:

Mailing List

ExxonMobil Environmental Services Company
Joe Mendoza
Deputy Director, Department of Parks & Recreation
Scott Stevenson
Acting Director, Construction Management Division

Mailing List

Laura Richardson, Congresswoman, US House of Representatives, California's 37th District

Mark Ridley-Thomas, Supervisor, Second District, County of Los Angeles

Miriam Ingenito, Deputy Secretary, California Environmental Protection Agency

Tom Howard, Executive Director, State Water Resources Control Board

Frances McChesney, State Water Resources Control Board

Jeffrey Hiratsuka, California Department of Social Service

Charles H. Williams, U.S. Department of Housing and Urban Development

John L. Garvin, U.S. Department of Housing and Urban Development

Janet Golrick, U.S. Department of Housing and Urban Development

Maryam Tasnif-Abbasi, Department of Toxic Substances Control

C.Y. Jeng, Department of Toxic Substances Control

Stacey Lear, Department of Toxic Substances Control

Al Tizani, LA County Chief Executive Office

Yen Edward, LA County Chief Executive Office

Bryan Moscardini, Department of Parks and Recreation, Los Angeles County

Steve Duron, Department of Parks and Recreation, Los Angeles County

Bobbette Glover, County of Los Angeles – Community Development Commission

James C. Wilson, Ujima Housing Corporation

Susan K. Jones, Honey's Little Angels Child Development Center

Joe Mendoza, Department of Parks and Recreation, Los Angeles County

John Ziegler, Converse Consultants

Gary A. Meyer, Esq. Parker, Milliken, Clark, O'Hara & Samuelian

Ricky Ivie, Ivie McNeil and Wyatt Law Firm

Dok Choe, Exxon Mobil Corporation

Celeste Saenz Quiralte, Exxon Mobil Corporation

Barbara Leatherwood, Exxon Mobil Corporation

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Jeff Parker, Sheppard Mullin/Exxon Mobil

Russell J. Keenan, Kleinfelder West, Inc.

Mark E. Pate, Kleinfelder West, Inc.

Scott D. Dwyer, Kleinfelder West, Inc

Walter Hamann, Rincon Consultants

Shabaka Heru, Society for Positive Action

Randy A. Hughes, Friends and Neighbors Community Club





Matthew Rodriquez
Secretary for
Environmental Protection

Department of Toxic Substances Control

ontrol Edmund

Edmund G. Brown Jr. Governor

Deborah O. Raphael, Director 5796 Corporate Avenue Cypress, California 90630

June 20, 2012

Teklewold Ayalew, Ph.D., P.G. Engineering Geologist Regional Water Quality Control Board - Los Angeles Region 320 West 4th Street, Suite 200 Los Angeles, CA 90013

DTSC COMMENTS REGARDING REVISED REPORT FOR THE INVESTIGATION OF AMBIENT METALS CONCENTRATEIONS, FORMER ATHENS TANK FARM, WILLOWBROOK, LOS ANGELES COUNTY

Dear Dr. Ayalew:

The Department of Toxic Substances Control (DTSC) has reviewed the "Revised Report for the Investigation of Ambient Metals", dated March 30, 2012, prepared for the California Regional Water Quality Control Board – Los Angeles Region, and prepared by Kleinfelder West, Inc. (Redlands, California) on behalf of ExxonMobil Oil Corporation regarding the subject site.

Based on our review of the above-mentioned document, DTSC has prepared the attached toxicological memorandum for your review.

If you have any questions, please contact Dr. CY Jeng at (714) 484-5359 or CJeng@dtsc.ca.gov.

Sincerely,

Rania A. Zabaneh, Project Manager

Brownfields and Environmental Restoration Program - Cypress Office

Enclosure

Cc: see next page

Teklewold Ayalew, Ph.D., P.G. June 20, 2012 Page 2 of 2

cc: Thizar Tintut-Williams
Chief Site Cleanup Unit III
Regional Water Quality Control Board - Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013





Matthew Rodriguez
Secretary for
Environmental Protection

Department of Toxic Substances Control



Edmund G. Brown Jr.
Governor

Deborah O. Raphael, Director 5796 Corporate Avenue Cypress, California 90630

MEMORANDUM

TO:

Rania Zabaneh

Project Manager

Cleanup Program - Cypress

FROM:

Chawn Y. (CY) Jeng, Ph.D.

Staff Toxicologist

Human and Ecological Risk Office

DATE:

June 19, 2012

SUBJECT:

Revised Report for Investigation of Ambient Metals Concentrations,

Former Athens Tank Farm, Willowbrook, Los Angeles County

PCA: 12020

Site Code: 301380-11

At the request of the California Los Angeles Region Water Quality Control Board (LARWQCB), the Human and Ecological Risk Office (HERO) reviewed the above-referenced report dated March 30, 2012, and prepared by Kleinfelder West, Inc. (Los Angeles, CA) on behalf of ExxonMobil Environmental Services Company (EMES). Comments on the Report are described below.

Background

The former Athens Tank Farm (ATF) facility was a 122-acre petroleum bulk-storage facility located in Willowbrook, an unincorporated area within the County of Los Angeles. It was in operation from 1924 to 1965, and included twenty-two 80,000 barrel (bbl), steel aboveground storage tanks (ASTs); two concrete-lined, crude oil reservoirs with a combined capacity of 1.8 million bbls; a pipeline station; and an absorption plant. Various petroleum products were stored at the facility, including gasoline, diesel fuel, fuel oil, and crude oil. The tank farm was decommissioned and all improvements removed in the mid-1960's. The site is presently occupied by the Earvin Magic Johnson Regional Park (EMJRP) and the Ujima Village Apartments and adjacent Ujima Housing Corporation (UVA and UHC properties).

Kleinfelder prepared a report on Investigation of Ambient Metals Concentrations dated June 30, 2011, with focus on assessing ambient concentrations of arsenic and lead in shallow soils at the site. Based on the comments provided by DTSC in a letter dated August 17, 2011, the LARWQCB requested that EMES evaluate all metals among other comments. Kleinfelder subsequently submitted initial responses to the LARWQCB and DTSC comments on October 26, 2011. The current report has been revised to address ambient concentrations of 17 metals in shallow soils and other DTSC comments.

Scope of Review

The document was reviewed for scientific and technical content only. Minor typographic or grammatical errors which did not affect the review were not noted.

Comments

Overall, the report has been revised to incorporate the responses in Kleinfelder 's October 26, 2011 letter. The results of this evaluation on 17 metals support the statement "metal concentrations in the shallow soils were consistent with background concentrations measured in California soils (Bradford et al., 1996)" on Page 17 of the Human Health Risk Assessment (revised February 11, 2011). The shallow soil data sets were also shown to be comparable to the deep soil data sets (greater than 10 feet in depth) collected from the site and other studies of metal concentrations in California urban and background soils in general.

Because some outliers were identified and removed in the statistical analyses of the shallow soil data sets for some metals (e.g., arsenic, lead, and mercury), HERO wants to re-iterate that these outliers should be addressed in the Remedial Action Plan if they are shown to pose significant risks to human health and/or the environment. Furthermore, HERO recommends further discussion between the LARWQCB and EMES regarding this issue as indicated in Kleinfelder's October 26, 2011response letter.

HERO notes that the recommendations made in this memorandum are site specific and should not be construed as a policy decision applicable to other sites. For additional questions, please feel free to contact me at (714) 484-5359 or cieng@dtsc.ca.gov.

Reviewed by:

William Bosan, Ph.D. Senior Toxicologist

Human and Ecological Risk Office



PLATE



Projected Coordinate System: NAD 1983, State Plane, California V FIPS 0405 Feet Projection: Lambert Conformal Conic

Explanation

Locations of shallow soil borings with arsenic outlier concentrations



523 W. Sixth Street, Suite 620 Los Angeles, CA 90014 PH (213) 622-3706

FILE NAME:

SS_locs2.mxd

F	PROJECT NO.	124094	Arsenic Outlier Concentra Locations
	DRAWN:	09/2012	
	DRAWN BY:	R. ALVAREZ	
	CHECKED BY:	R. MACEDO	FORMER ATHENS TANK FARM

FORMER ATHENS TANK FARM 939 E. EL SEGUNDO BOULEVARD WILLOWBROOK, CALIFORNIA 90059



CWC SECTION 13267 STATEMENT



CALIFORNIA WATER CODE SECTION 13267 STATEMENT

I, Dok Choe, do hereby declare, under penalty of perjury under the laws of the State of California, that I am an EMES Project Manager for ExxonMobil Environmental Services Company and that I am authorized to attest to the veracity of the information contained in this **ADDENDUM 2 TO REMEDIAL ACTION PLAN – PHASE I**, dated September 28, 2012, and that the information contained therein is true and correct. This declaration was executed at 12851 East 166th Street, Cerritos, California, on September 27, 2012.

Dok Choe

EMES Project Manager

ExxonMobil Environmental Services Company

616