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Sent: Friday, March 13, 2015 12:32 PM
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Cc: Nowell, Keith, Env. Health; Roe, Dilan, Env. Health; Ed Weyrens
Subject: Fuel Leak Case RO219 - Unocal #5043, 449 Hegenberger Rd., Oakland, CA
Attachments: 20150313 2705191 Draft Workplan.pdf

Mr. Beretta:

Attached is the Draft text of the Well Destruction Workplan describing how Antea Group proposes to destroy the two monitoring wells on your property. To save time and money I have included a section for waste characterization on the retail gas station property in this workplan. This does not concern you or your property so you can skip over this section. Don't hesitate to contact me if you have any questions.

Best Regards,

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Work Plan - Well Destruction and Waste Characterization

*76 Station No. 5191/5043
449 Hegenberger Road
Oakland, CA*

*Alameda County Health Care Services
Agency Fuel Leak Case No. R00000219*

*San Francisco Bay, Regional Water Quality
Control Board Case No. 01-1601*

GeoTracker Global ID No. T0600101476

Antea Group Project No. I42705191

March 16, 2015

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Work Plan

Well Destruction and Waste Characterization 76 Station No. 5191/5043

1.0 INTRODUCTION

Antea Group is pleased to submit this *Work Plan – Well Destruction and Waste Characterization*, for the references site in Oakland, California (**Figure 1**). The proposed destruction of two (2) off-site monitoring wells is in response to the site meeting held at the Alameda County Health Care Services Agency (ACHCSA) office on February 24, 2015. In addition, three (3) soil borings will be advanced for the purpose of waste characterization in the areas of the proposed on-site soil excavation activities as detailed in the *Corrective Action Plan (CAP)*, dated November 22, 2013, and submitted to the ACHCSA.

1.1 Site Description

The subject site is an operating 76 station located on the southwestern corner of Hegenberger Road and Edgewater Drive in Oakland, California (**Figure 1**). This site contains six fuel dispensers on two islands under a single canopy, three fuel underground storage tanks (USTs) on the north side of the site, a carwash facility on the west side of the site, and a station building in the central portion of the site. The current site features are shown on **Figure 2**. A summary of previous site assessment, environmental investigations, remedial activities, and sensitive receptors are presented in **Appendix A**.

2.0 PROPOSED ACTIVITIES

2.1 Health and Safety

Before commencing field activities, Antea Group will prepare a Health and Safety Plan in accordance with state and federal requirements for use during investigation activities. Drilling permits will be obtained for the well destruction and soil borings from the Alameda County Public Works Agency (ACPWA). Prior to well destruction and soil boring advancement, Underground Service Alert (USA) will be notified, as required by law, and a private utility locator will be employed to clear the well and boring locations for underground utilities.

2.2 Well Destruction

Antea Group proposes destroying monitoring wells MW-7 and MW-8 as agreed upon during the meeting held at ACHCSA on February 24, 2015. Locations of monitoring wells MW-7 and MW-8 are shown on **Figure 2**. Prior to the destruction of each of the monitoring wells, the total depth of each monitoring well will be measured to assess if any obstruction or sediment is present. Well logs from the two monitoring wells are included as **Appendix B**. Subsequent to measuring the depths of the wells, the wells will be cleared to 5 feet below ground surface (bgs) using an air-knife to clear for underground utilities. Subsequent to air-knifing, the monitoring well will be destroyed by either pressure grouting using neat cement or over-drilling.

Pressure grouting will consist of attaching a hose from the cement mixer directly to the top of the well casing and pumping neat cement into the monitoring well, under pressure (a minimum of 25 pounds per square inch (psi)) for five minutes or pumping refusal. Subsequent to pressure grouting, the top 5 feet of well casing will be removed and backfilled with soil removed during air-knifing and capped with concrete dyed to match existing grade.

Over-drilling will consist of using a truck mounted drill rig equipped with 8-inch outside diameter hollow-stem augers to drill out the well casing and annular material to the total constructed depths of the two monitoring wells. Subsequent to over-drilling, each borehole will be backfilled with neat cement to just below ground surface. Each borehole will then be capped with concrete dyed to match existing grade.

2.3 Waste Characterization

In preparation for the proposed soil excavation activities, Antea Group must collect soil samples to properly characterize waste soil for disposal at an approved facility. One (1) sample is required for every 500 cubic yards of waste material. Based on the footprint and depth of the proposed excavation areas, it is estimated that approximately 1,475 cubic yards of material will be removed from the site during the excavation(s); therefore, three (3) samples must be collected from the site to satisfy the waste characterization requirements. Locations of the proposed soil borings for collection of soil samples are presented on **Figure 3**. The soil borings will be cleared to 5 feet bgs using a hand auger to clear for underground utilities. Subsequent to hand auger, the borings will be advanced to 12 feet bgs, the vertical extent of the proposed soil excavations, using direct push technology. Upon completion, the borings will be backfilled with neat cement and capped with concrete dyed to match existing grade.

Soil samples retained for laboratory analysis will be given a unique sample number, placed in an ice-cooled chest, and recorded on the chain-of-custody. All soil samples collected during borehole advancement activities will be submitted to Pace Analytical (Pace), a state of California Environmental Laboratory Accreditation Program (ELAP) certified laboratory (Certification No. 08263CA), and analyzed for the following constituents:

- Total petroleum hydrocarbons – gasoline range organics (TPHg), carbon chain range C05 – C12, and full suite of volatile organic compounds (VOCs) by Environmental Protection Agency (EPA) Method 8260B; and
- Total petroleum hydrocarbons – diesel range organics (TPHd) [silica gel treated] and total petroleum hydrocarbons – motor oil range organics (TPHmo) by EPA Method 8015; and
- LUFT 5 Metals, including cadmium, chromium, lead, nickel, and zinc by EPA Method 6010.

2.4 Disposal of Drill Cuttings and Waste Water

Drill cuttings and decontamination water generated during well destruction soil boring advancement activities will be placed into properly labeled 55-gallon Department of Transportation (DOT) approved steel drums and temporarily stored on the station property. Samples of the drill cuttings, and decontamination wastewater will be collected, properly labeled and placed on ice for submittal to a California-certified laboratory and will be analyzed for total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and total xylenes (BTEX), and methyl tertiary-butyl ether (MTBE) by Environmental Protection Agency (EPA) Method 8260, and lead by EPA Method 6010. A chain-of-custody will accompany the samples during transportation to the laboratory. Subsequent to receiving the laboratory analytical results, the drummed drill cuttings and decontamination wastewater will be profiled, transported, and disposed of at an approved facility.

2.5 Reporting

A summary report, describing the well destruction and soil boring activities will be submitted no later than 60 days after the field work has been completed. Required electronic submittals will be uploaded to the State GeoTracker database.

3.0 REMARKS

The recommendations contained in this report represent Antea USA, Inc.'s professional opinions based upon the currently available information and are arrived at in accordance with currently accepted professional standards. This report is based upon a specific scope of work requested by the client. The contract between Antea USA, Inc. and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Antea USA, Inc.'s client and anyone else specifically identified in writing by Antea USA, Inc. as a user of this report. Antea USA, Inc. will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea USA, Inc. makes no express or implied warranty as to the contents of this report.

Edward T. Weyrens, G.I.T.
Project Professional

Date: _____

Reviewed by:

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Figures

- Figure 1 Site Location Map
- Figure 2 Site Plan
- Figure 3 Site Plan with Proposed Boring Locations

Appendix A

Previous Investigation and Site History Summary

Appendix B

Well Logs