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LEAKING UNDERGROUND FUEL TANK **INVESTIGATION AND MONITORING WORKPLAN**

TACO BELL

1900 WEBSTER STREET

ALAMEDA, ALAMEDA COUNTY, CALIFORNIA

LRA ENVIRONMENTAL JOB NUMBER: E-9170

INTRODUCTION:

Location:

The property in question, a Taco Bell restaurant, is located at 1900 Webster Street, Alameda, Alameda County, California. The property is located at approximately 122°16'31" west longitude and 37°46'27" north latitude. This corresponds to the County of Alameda APN 73-426-12.

Background/Site History:

1. Current and previous property owners and contact persons:

The property in question is an operational Taco Bell franchise. LRA ENVIRONMENTAL has been provided with a current list of property owners. The property is currently owned and managed by Dolan Foster Enterprises and is supervised by Dan Mundy, the site construction manager. Contact can be made with Mr. Mundy at 510-887-7260.

A complete list of previous owners of the (chain of title) subject site can be found in appendix A of this workplan.

2. Current and previous business activities on the property:

Currently, the property supports a Taco Bell restaurant and customer parking facilities. This operational franchise has been owned and operated by Dolan Foster Enterprises since 1976. This Taco Bell franchise is a fast food take-out restaurant and has never been involved with the storage or dispensing of any hazardous materials or petroleum products.

An informal historical investigation of the property revealed that this site has in the past been used as a service station. The first service station on this site initially began dispensing gasoline in 1928 from 2 (two) 550 (five hundred fifty) gallon tanks. From that time until 1976 the property has been in continual use as a service and gasoline dispensing station. A total of 8 (eight) different tanks of varying sizes have been used for underground gasoline storage. These tanks have ranged in size from 550 (five hundred fifty) to 8000 (eight thousand) gallons. From 1967 to 1974, underground gasoline storage totaled 14,000 (fourteen thousand) gallons. Alameda City Fire Department records show that all



Departments mandate for work to define the extent of contamination at the subject property. Specifically, this workplan is proposed as the means whereby the "Preliminary Site Assessment" phase of investigation can be implemented in order to determine if groundwater has been impacted, to define the site history insofar as possible, and to identify the source of the pollutant(s).

SITE DESCRIPTION

Vicinity Map:

The vicinity map appears as plate 1 in the Appendix portion of this workplan.

Site Map:

The site map appears as plate 2 in the Appendix portion of this workplan.

Description of topography and surface features, i.e. watercourses, lakes, and groundwater recharge facilities:

The description of the local geography is based solely upon an examination of the latest editions of the U.S.G.S. Topographic map sheets and visual reconnaissance in the field for the area in question marked on the vicinity map.

The U.S.G.S. Oakland West, California 7.5 minute quadrangle (topographic) edition of 1959 and 1980 depict the subject property as a developed site with one building present. The property is bounded on the west by Webster Street and on the south by Eagle Avenue. A single building is located to the north of the subject property and a vacant lot to the east. The elevation of the subject property is approximately 10 feet above sea level.



analysis will be tabulated and presented in the Technical Report.

All additional samples acquired but not remanded to the custody of the analytical laboratory for chemical analysis will be analyzed by field methods for volatile organic compounds. This procedure will consist of emptying the contents of the brass tube into a "ziplock" style plastic bag. The bag and its contents will be placed into direct sunlight or under an alternative heat source for a period of time, and the bag will be pierced and the "headspace" within tested for volatile organic compound with a portable photoionizing hydrocarbon detection device. Results of the field analysis will be tabulated and presented in the Technical Report.

Based upon the "headspace" test results and field observations any sample with apparent contamination may be subjected to laboratory analysis at the discretion of the site supervisor. A sample from the first or second interval below the level believed to be contaminated may be analyzed to facilitate assessment of the vertical extent of contamination.

Equipment decontamination procedures:

Decontamination procedures will be the same as those noted in the section of this report that addressed the installation of the monitoring well

Disposal of contaminated or potentially contaminated materials:

Disposal protocols for materials generated from the sampling procedures will be the same as those set in the well installation section of this workplan.

Quality assurance and control procedures:

Every effort should be made to follow the established sampling, transportation and chain of custody protocols to insure the integrity of the samples



A site reconnaissance was conducted. The entire lot was found to be covered by either concrete, asphalt, or the Taco Bell building. No unusual odors were present on site during the reconnaissance. No water ponding was observed on the site.

Site topography:

Alameda Island is a piece of the mainland that has been dissected by an estuary. The coastal geologic process is mainly tide dominated with wave influence and has produced an estuarine soil sequence. Land elevation on the island varies from sea level to thirty five (35) feet at it's highest elevation. The entire island has been developed and supports residential, commercial, and industrial interests.

The subject site is approximately one hundred thirty (130) feet by one hundred (100) feet. It is commercially developed and supports a Taco Bell restaurant with parking facilities. The property lies on the northeast corner of a major cross-road and is bounded by commercial development on the north and east side.

The depth to regional groundwater was recorded at 8-10 feet below ground surface. This approximately coincides with mean sea level.

METHODS AND PROCEDURES

Well Installation

Rationale for monitoring well/soil boring locations:

In compliance with Alameda County Health Department standards, a plan for the placement of four (4) temporary groundwater monitor wells is herein



proposed. These wells will be sited on the property to assess groundwater quality. It is proposed that these wells be placed on alternating sides (east and west) of the property and spaced in forty (40) foot intervals.

If the installation of permanent groundwater monitoring wells is deemed to be necessary, the American Society for Testing and Materials (A.S.T.M.) standard designated D5092-90, "Standard Practice for Design and Installations of Groundwater Monitoring Wells in Aquifers", will be the applicable specification for well construction pursuant to this workplan. A detail of the A.S.T.M. Standard D5092-90 well for traffic areas is included in Appendix A of this document.

After temporary installation of the wells is complete, soil and groundwater samples obtained during construction will be remanded to the custody of a State of California approved analytical laboratory. Two (2) soil samples will be taken in each temporary monitor well boring. One from the depth of five (5) feet and the other from ten (10) feet below ground surface level. One (1) water sample will be taken from the first water aquifer encountered.

Disposal of contaminated or potentially contaminated material during monitoring well installation:

If auger cuttings (bulk soils generated during the drilling operation) produced during the advancement of the borings to their terminal depth are found to be contaminated, they will be placed in approved drums which will be sealed, labeled, and stored on site prior to disposal which will be conditional upon analytical results.

In the event that they are required, all water obtained from the development of permanent groundwater monitor wells will also be placed in approved drums



which will be sealed, labeled, and stored on site prior to disposal which will be conditional upon analytical results.

Equipment decontamination procedures during monitor well construction:

Drilling equipment including, but not limited to, samplers, drop hammers, drill rods, plug, augers, etc. will be steam cleaned prior to use in each drilling location.

Sampler and drilling parts not subjected to steam cleaning will be triple rinsed in two tap water immersions and then distilled water after being decontaminated in a solution of an appropriate detergent and water. These rinse waters and the decontamination wash will be contained in the appropriate drums, documented, sealed, and stored prior to the appropriate disposal.

Geotechnical evaluation of subsurface soils:

Soil samples from each major stratigraphic unit will be collected for particle size analysis. The results of these analyses will be tabulated and presented in the Technical Report.

Soil Sampling

Soil sampling locations and depths during monitoring well installation:

Under the direction of the Field Geologist, soil samples will be acquired from five (5) feet and ten (10) feet below ground surface. Additional samples may be taken either at each change in lithology or at elevations where contamination is obvious by sense of smell. In each boring location the soils encountered will be logged, and these logs will be included in the Technical Report.



Soil sampling methods and equipment:

Soil samples will be acquired by advancing a two (2) inch diameter Modified California or Split Spoon sampler into the soils a minimum of eighteen (18) inches using a one hundred and forty (140) pound hammer dropped thirty (30) inches. Blow counts will be recorded for every six (6) inch segment of the eighteen (18) inch drive, and will be included in the boring logs. Borings will be advanced using truck mounted drilling rigs. LRA Environmental reserves the right to employ other drilling equipment and technologies based upon need and site specific conditions.

The soil samples will be retained in clean brass tubes contained within the sampling device. Those samples acquired for the purpose of chemical analysis will be sealed at both ends with teflon foil sheets and then be sealed with plastic end caps and taped. These samples will then be sequestered in an ice chest containing dry ice.

It is anticipated that two brass liners containing soil will be retrieved during each sampling drive. One of these two liners, a six (6) inches long by two (2.0) inch diameter brass tube containing a portion of soil sample will be remanded to the custody of the analytical laboratory. The contents of the second tube will be analyzed by field methods for volatile organic compounds. This procedure will consist of emptying the contents of the brass tube into a "ziplock" style plastic bag. The bag and its contents will be placed either into direct sunlight or under an alternative heat source for a period of time. The bag will then be pierced and the "headspace" within tested for volatile organic compounds with a portable photoionizing hydrocarbon detection device. Results of the field



in the field and during transport to the laboratory.

Quality assurance and control procedures in the laboratory setting will consist of those measures commonly employed to insure the accuracy and quality of the data generated from the laboratory analysis of the individual soil sample. The minimum quality assurance and control procedures for this investigation will consist of spike analysis and duplicate analysis. Quality assurances and control reports will be required from the laboratory for all samples that are analyzed and will be included in the Technical Report.

GROUNDWATER SAMPLING

Temporary Groundwater Monitoring Wells

Each temporary groundwater monitoring well will be drilled to five (5) feet below the first verified groundwater aquifer. A two (2) inch PVC screen will be inserted into the boring through the hollow stem auger. The auger will then be removed and the PVC screen will be left in place in order to maintain the opening into the aquifer. The temporary well will then be left for a period of time to stabilize and allow sediment in the water column to settle. A clear acrylic bailor will then be used to extract a sample of the water to be collected for laboratory analysis. The sample in the bailor will also be inspected for visible and olfactory evidence of contamination. After the water sample has been collected, the PVC will be extracted and the well boring will be backfilled with a neat cement slurry. All decontamination procedures previously described will be employed between each temporary well boring in order to prevent cross-contamination between wells.

Permanent Groundwater Monitoring Wells



Observation of free product, odor, or sheen:

The water level in each well will be measured using mean sea level datum as determined by available local monuments.

After the depth to water in each monitoring well has been established, and prior to purging the well, a water sample will be collected in a clear acrylic bailer. The sample will be visually assessed for the presence of free product and/or sheen. The sample will be assessed for the presence of detectable odor by sense of smell of the sample collection personnel. It will also be measured for pH, temperature, and specific conductivity.

Water and product level:

Determination of the methods used to measure the water level will be made after the well is complete and the appropriate technology can be ascertained. Water level measurements, regardless of the technology used to establish depth, will be made to the nearest 1/10th of a foot. Product level will have been ascertained by use of a clear acrylic bailer as noted in the previous section. Depth to water and level of product data will be tabulated and included in the Technical Report.

Purging procedures:

The appropriate purging equipment will be decided upon after completion and development of any permanent monitoring well. After the depth of water has been established, the wetted casing volume will be determined. A minimum of five (5) wetted casing volumes will be pumped from the well. Water quality parameters include PH, temperature, and specific conductivity will be monitored



for every casing volume purged. The well will be considered stable when three (3) consecutive well casing volumes are purged that exhibit the characteristics outlined below.

The stability criteria for the parameter measurements for this project will be established as follows:

pH: plus or minus 0.1

Temperature: plus or minus 0.5 degrees fahrenheit

Specific conductivity: plus or minus 1.0%

The exact pieces of monitoring equipment which will be employed on this project will likely not be selected until immediately prior to the dispatch of the sampling crews; technical data addressing the accuracy of the equipment cannot be provided at this time. Technical data addressing the accuracy and sensitivity of the monitoring equipment may be included in the technical and or semi-annual monitoring reports if the regulatory agencies involved deems such data to be necessary.

The water level in the monitoring well will be allowed to recover to a minimum of eighty (80) percent of the wetted casing volume prior to obtaining the samples to be subjected to chemical analysis.

Sample collection equipment and procedures:

Water samples will be obtained with a clean bailer, and placed in the appropriate sample containers prepared and provided by the analytical laboratory. The samples will be acidified to the appropriate PH in order to assure preservation.



tanks, tank filler lines, and dispenser lines were removed on Feb. 8, 1974, prior to the sale of the property to Dolan Foster Enterprises.

Gasoline storage tank operators and dates of tank placement for the property are as follows:

<u>OPERATOR</u>	<u>DATE OF TANK PLACEMENT</u>
Humble Oil Service Station	November 29, 1967
Signal Oil Company	October 27, 1941
P.S. Ray	May 11, 1933
F. Burrington	October 11, 1928

3. Spill, leak, or leachate migration history on the site:

Prior to January 15, 1992, no spill, leak, nor leachate migration reports had been filed with the Alameda County Health Department. However on that date, Dolan Foster Enterprises filed an Underground Storage Tank Unauthorized Release Contamination Site Report with the Health Department. This report was precipitated by results found by LRA Engineering while conducting geotechnical soil borings. One (1) of the soil borings yielded discolored and odorous material. Dolan Foster Enterprises was appraised of the situation and they, in turn, initiated the preliminary site contamination investigation process. The unauthorized leak report is in the custody of the Alameda County Health Department.

OBJECTIVE OF THE PROPOSED WORK

The purpose of this workplan is to comply with the Alameda County Health



Sample shipping procedures:

Samples acquired from the monitoring well will be delivered directly to the laboratory within twenty four (24) hours after collection. The chain of custody form that will be utilized for this investigation appears in the Appendix section of the workplan.

Equipment decontamination procedures:

Sampling such as bailers, pumps etc. will be decontaminated between uses by washing in an appropriate detergent solution followed by two (2) tap and one (1) distilled water rinses. Purge pumps and other related hardware will be decontaminated prior to each use by steam cleaning all exterior faces, fittings etc. The pump interiors will be decontaminated by circulating an appropriate detergent solution through the pump, followed by a fresh water rinse.

Disposal of contaminated material

Disposal methodologies have been noted in previous sections of this workplan. There will be no divergence from those methods for this portion of the work.

Quality assurance/Quality control procedures:

Quality assurance and control procedures will incorporate the use of "blanks" as mandated by the prevailing standards or care for investigations of this type. Laboratory quality assurance and control procedures will be typical of those used to meet all state and federal mandates. At a minimum, quality assurance and control measures in the laboratory setting will include duplicate, spike, and



standard reference sample (when applicable) analysis.

STATEMENT OF FINDINGS (RESULTS)

Lab analysis:

Results of the laboratory analysis will be included in the Technical Report.

Interpretation of data:

Interpretations of data will be presented in such a manner so as to satisfy the requirements of the Alameda County Health Department.

CONCLUSIONS

LRA Environmental will draw conclusions as to the condition of the site, extent of contamination, or other issues based upon review of the data obtained through the implementation of this workplan. Data to be provided for review are to include as-built plans of the monitoring wells as well as geologic logs of all borings.

RECOMMENDATIONS FOR SUBSEQUENT ACTIONS

LRA Environmental will make recommendations based upon the review of the data developed through the implementation of this workplan, and in accordance with the applicable local, state, and federal regulations.

PROPOSED SCHEDULE OF IMPLEMENTATION



Submission of workplan:

Per the agreement that exists between A.C.H.D. and L.R.A. Engineering, a draft copy of the workplan will be presented to the A.C.H.D. before the construction of any permanent groundwater monitor wells.

Permit application:

The application process required to obtain the appropriate construction and well drilling permits should commence concurrently with the submission of the draft workplan.

Drilling and well construction:

It will be necessary to arrange through Dolan Foster Enterprises, measures to mitigate, insofar as possible, any conflicts that may arise as a result of the drilling operations. Consequently, drilling, well installation, acquisition of soil samples and other related work will commence within a maximum of thirty-five (35) working days after acquisition of the construction and well drilling permits.

Issuance of analytical results:

Samples of soil and groundwater will be remanded to the custody of the analytical laboratory within twenty-four (24) hours of acquisition. Turnaround time for the actual analysis will be twelve (12) working days from the date of receipt of the samples by the laboratory. Written reports from the laboratory will follow in as timely a manner as possible.

Alameda County Health Department



Semi Annual Monitoring Reports:

Pursuant to State of California Guidelines, frequency of groundwater monitoring subsequent to the initial sampling and analytical protocols will be established by the lead agency; in this case the A.C.H.D.

If required, semiannual monitoring reports shall be submitted to the A.C.H.D. by the 15th day of the month following the calendar quarter in which the samples were taken or observations made. Should subsequent monitoring be mandated, the ground water surface elevation (in feet and hundredths, M.S.L.) in the well shall be measured and used to determine any changes in elevation of ground water surface. This information shall be displayed in a tabular form so as to characterize any elevation changes. The results of any monitoring done more frequently than required at the location of the monitoring well shall be reported to the A.C.H.D. in as timely a manner as possible.

Issuance of the Technical Report:

The Technical Report will be compiled and published in a minimum of forty-five (45) working days after the geotechnical and analytical procedures are completed for ALL soil and water samples acquired as the result of the implementation of this workplan and the construction of the monitoring wells.

The Technical Report will be formatted in accordance with California Regional Water Quality Control Board requirements unless otherwise instructed by the A.C.H.D.



SIGNATURE STATEMENT

This workplan has been prepared by the staff of LRA ENVIRONMENTAL and has been reviewed and approved by the "professionals" whose signatures appear below.

The recommendations, specifications, and methodologies presented herein were prepared and presented, within the parameters set by the California Regional Water Quality Control Board, in accordance to generally accepted engineering practices at the time that this workplan was prepared, and are true and correct to the best of our knowledge. No other warranty is express or implied. This workplan was prepared through the use of information and data provided by others. LRA ENVIRONMENTAL in no way warrants the validity or accuracy of any information provided by these sources.

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