

BLYMYER

ENGINEERS, INC.

ENVIRONMENTAL
PROTECTION

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April 19, 1996
BEI Job No. 88288.001

Mr. Dale Klettke
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502-6577

**Subject: Workplan for Installation of Free Product Recovery Well and Continuation of Free Product Recovery and Semi-Annual Groundwater Monitoring
G.I. Trucking Facility
1750 Adams Avenue
San Leandro, California
STID 1373**

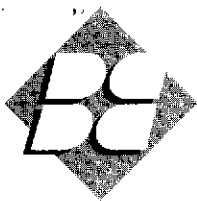
Dear Dale:

Blymyer Engineers, Inc., on behalf of G.I. Trucking Company, is pleased to present this workplan to expedite free phase diesel product recovery and continue groundwater monitoring at the subject site (Figures 1 and 2).

Background

Blymyer Engineers was retained by Milne Truck Lines in July 1986 to conduct precision testing and to install a monitoring system for three 12,000-gallon diesel, one 12,000-gallon gasoline, and one 800-gallon waste oil underground storage tank (UST) at the site, which is currently occupied by G.I. Trucking Company. All of the USTs were constructed of fiberglass. During precision testing, which required that the USTs be filled to capacity with product, all of the USTs tested tight except for the waste oil UST. The waste oil UST was uncovered to identify the source of the leak and to attempt to repair the UST. It was observed by a representative of the UST manufacturing company that the bottom of the waste oil UST was ruptured and damaged beyond repair. In December 1986, when the waste oil UST was removed, it was observed that the pea gravel and native soil surrounding the UST contained waste oil and there was approximately 3 inches of waste oil on the groundwater surface.

Groundwater and waste oil were removed from the waste oil UST basin during two pumping events, leaving a sheen on groundwater. Approximately 45 cubic yards of contaminated pea gravel and native soil were removed and disposed of. It was noted that once the contaminated soil was removed, diesel fuel flowed into the excavation from the direction of the diesel USTs. The diesel fuel was removed via pumping on two occasions, leaving a sheen on groundwater. The excavation was subsequently filled to just below grade surface (bgs) with pea gravel and resurfaced. A 12-inch-diameter free product recovery well with a passive skimmer, presently



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designated RW-1 (MW-1), was installed in the center of the former waste oil UST basin to recover any diesel fuel that accumulated after backfilling the excavation.

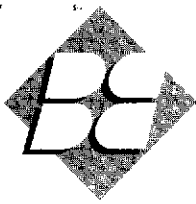
Four monitoring wells with total depths of approximately 25 feet bgs were also installed in the vicinity of the UST system to assess the extent of soil and groundwater contamination associated with the diesel USTs. The native soil consisted predominantly of sandy clay or clayey sand and silty clay. The soil samples collected from the soil bores contained petroleum hydrocarbon concentrations ranging from 71 to 210 parts per million, quantified using EPA Method 3550. No concentrations of Total Oil and Grease, by an unspecified analytical method, were detected in groundwater samples collected from the four monitoring wells.

The diesel USTs were re-tested in April 1987 during which all three USTs were certified as tight. Based on the test results, it was assumed by Blymyer Engineers that the diesel fuel removed from the excavation did not result from a UST leak, but that a damaged product line may have been the source. Any released diesel fuel was likely contained in the relatively higher permeability pea gravel.

Quarterly groundwater monitoring of the monitoring wells, presently designated MW-2 through MW-5, began in Fourth Quarter 1988. Since monitoring began, only groundwater samples collected from monitoring wells MW-2 and MW-3 have contained detectable concentrations of the analytes. Therefore, groundwater sample analysis for monitoring wells MW-4 and MW-5 was discontinued after Third Quarter 1995 in accordance with the Alameda County Health Care Services Agency's (ACHCSA's) letter dated August 14, 1995. Low concentrations of Total Petroleum Hydrocarbons (TPH) as diesel have been detected in groundwater samples collected from monitoring well MW-2 since Fourth Quarter 1994 and TPH as diesel has consistently been detected in groundwater samples collected from monitoring well MW-3 since First Quarter 1990. Low concentrations of toluene, below the California Department of Health Services and Environmental Protection Agency Maximum Contaminant Level (MCL), were detected in a groundwater sample collected from monitoring well MW-2 during First Quarter 1995 and in a groundwater sample collected from monitoring well MW-3 during Third Quarter 1994. Groundwater flow direction has historically ranged between south and southeast.

Free product ranging in thickness from less than 0.2 feet to a sheen has been measured on groundwater in recovery well RW-1 (MW-1) since quarterly monitoring began, and approximately 1.18 gallons of free product has been recovered since recovery activities began in November 1993.

During Fourth Quarter 1994 and First Quarter 1995, additional analyses of the waste oil suite were performed for groundwater samples collected from monitoring wells MW-2 and MW-3 in accordance with the request of the ACHCSA. Although the waste oil released from the former

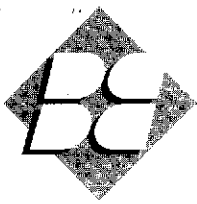


waste oil UST was removed, the ACHCSA requested that the waste oil suite of analyses be performed for confirmation. Analysis of TPH as motor oil was also performed in First Quarter 1995 to provide additional groundwater contaminant data. The analytical results, which were either non-detectable or below MCLs, indicated that diesel fuel, not waste oil, was the cause of groundwater contamination at the site.

Based on the data accumulated since 1988, Blymyer Engineers requested site closure from the ACHCSA in April 1995, considering the recent changes in the regulatory climate regarding plume definition and necessary closure conditions. In its letter dated July 27, 1995, the ACHCSA granted a reduced sampling frequency and discontinuation of the waste oil suite of analyses. Blymyer Engineers inquired whether TPH as gasoline analysis was to be continued, because the status was not discussed in the ACHCSA letter. The ACHCSA stated that the need for the analysis would be evaluated, but that minimally, analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and TPH as diesel should be performed. The ACHCSA also stated that the concentrations of toluene, the "unstabilized" TPH as diesel concentrations, and the presence of free product, although minimal, needed to be addressed before closure could be granted.

Blymyer Engineers discussed these issues with the ACHCSA in August and November 1995. Because the toluene concentration units were misread as milligrams per liter, instead of micrograms per liter, the ACHCSA thought the toluene concentrations detected in groundwater collected from monitoring well MW-3 exceeded MCLs. Therefore, the ACHCSA's main concern was that a sheen or free product layer still exists in recovery well RW-1 (MW-1) and the secondary concern was that the TPH as diesel concentrations were the highest during First Quarter 1995. It was concurred by Blymyer Engineers and ACHCSA that if an additional recovery well was installed in the backfill, downgradient of the southwest corner of the diesel UST basin (the inferred source), free product recovery would be expedited and the TPH as diesel concentrations in groundwater would likely decrease. In the meantime, the ACHCSA requested that quarterly free product recovery and semi-annual groundwater monitoring be continued.

In February 1996, Blymyer Engineers notified the ACHCSA that installation of an additional recovery well was under consideration while free product recovery and groundwater monitoring are ongoing. At that time, the ACHCSA confirmed that analysis of TPH as gasoline was no longer necessary based on the existing data and that once source removal was achieved, closure of the site as a low risk groundwater case, per the San Francisco Bay Region Water Quality Control Board's (RWQCB's) *Interim Guidance on Required Cleanup at Low-Risk Fuel Sites*, dated January 5, 1996, would become more tangible. The First Quarter 1996 groundwater



samples collected from monitoring wells MW-2 and MW-3 did not contain detectable concentrations of BTEX, and TPH as diesel concentrations, similar to historic levels, were detected. Unlike during Fourth Quarter 1995, the passive skimmer in recovery well RW-1 (MW-1) was submerged during the First Quarter 1996 visit, preventing free product recovery.

The scope of work to install one free product recovery well and the modified free product recovery and groundwater monitoring scopes of work developed by Blymyer Engineers are outlined below. Although quarterly free product recovery and semi-annual groundwater monitoring are ongoing, each scope of work is re-described in this workplan with the proposed modifications, which Blymyer Engineers has previously discussed with the ACHCSA.

Scopes of Work

Blymyer Engineers proposes to perform the following scopes of work:

Task 1.0 Install one free product recovery well

- **Prepare a site-specific health and safety plan**

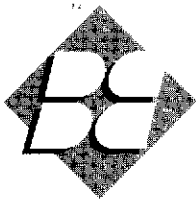
A health and safety plan will be prepared outlining potentially hazardous work conditions and contingencies for an emergency.

- **Prepare this workplan and secure all required permits**

In addition to preparation of this workplan for submittal to the ACHCSA and RWQCB, a well permit will be obtained from the Zone 7 Water Agency.

- **Drill one soil bore**

Using a hollow-stem auger drill rig, one soil bore will be drilled to approximately 14 feet bgs, the total depth of the bottom of the UST basin. The soil bore will be located in the southwest, downgradient corner of the UST basin (Figure 2). In order to not encounter a UST or product line, the contact between native soil and the backfill material will be accurately located before choosing the final soil bore location and up to the first 5 feet of backfill will be hand-augered if possible.



- **Install a free product recovery well in the soil bore**

The soil bore will be converted to a 4-inch-diameter free product recovery well, RW-2. No annular well construction materials will be used for the installation, except for approximately 2 feet of bentonite and a well box, concreted in place. A well construction log will not be prepared. Blymyer Engineers expects that, once the casing is emplaced, the existing pea gravel will fill the annular space. Because the well is intended for free product recovery only, the well will not be developed.

- **Transfer passive skimmer from recovery well RW-1 (MW-1) to proposed recovery well RW-2**

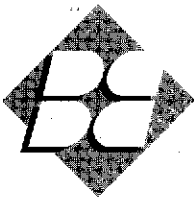
The EZY[®] passive skimmer in recovery well RW-1 (MW-1) will be transferred to proposed recovery well RW-2. Hydrophobic petroleum absorbent socks will be placed in recovery well RW-1 (MW-1), which are more appropriate for the volume of available sheen/free product typically recovered from this well. The socks will be placed so that the maximum surface area of groundwater is covered by the pliable sock for maximum absorbance of sheen/free product.

- **Prepare a letter report documenting the recovery well installation**

A letter report, documenting all work performed, will be prepared for submittal to the ACHCSA and the RWQCB.

- **Drum soil cuttings and coordinate drum disposal**

All soil cuttings will be stored on-site in Department of Transportation-approved, 55-gallon drums pending disposal. A composite sample of the cuttings will be submitted for analysis of BTEX by EPA Method 8020 for characterization. Disposal of the soil cuttings will be coordinated on a yearly schedule that coincides with the disposal of the drums associated with free product recovery and groundwater monitoring, assuming the contents will not be characterized as a hazardous waste.



Task 2.0 Continue free product recovery

- **Remove free product from passive skimmer in recovery well RW-2**

The free product accumulated in the passive skimmer will be removed and the skimmer returned to the well. The depth to groundwater, the thickness of any ponded free product, and the volume of recovered free product will be recorded. Blymyer Engineers anticipates that free product removal will be performed bi-weekly for the first month to determine the rate of free product recovery. Subsequently, free product recovered by the skimmer will be removed during monthly site visits. Two visits a year will coincide with a groundwater monitoring event. All recovered product will be disposed of in the shop waste oil drum.

- **Check petroleum absorbent socks in recovery well RW-1 (MW-1)**

The socks in recovery well RW-1 (MW-1) will be checked for remaining absorbent capacity and replaced with new socks, if necessary, during the site visits for passive skimmer maintenance.

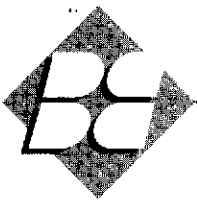
- **Contain spent socks and coordinate disposal**

The spent socks will be stored on-site in Department of Transportation-approved, 55-gallon drums pending disposal. Petroleum-absorbent material will be placed in the bottom of the drum to absorb any product that drains from the socks once placed in the drum. Disposal of the drummed socks will be coordinated on a yearly schedule that coincides with the disposal of the drums associated with the recovery well installation and groundwater monitoring, assuming that the contents will not have characteristics of a hazardous waste.

Task 3.0 Continue semi-annual groundwater monitoring

- **Gauge monitoring wells**

Monitoring wells MW-2 through MW-5 will be gauged using standard protocols in order to determine the groundwater flow direction and gradient.



- **Collect groundwater samples**

Groundwater samples will be collected from monitoring wells MW-2 and MW-3 on a semi-annual basis using standard groundwater sampling protocols. All groundwater samples will be collected in accordance with the previously forwarded Blymyer Engineers' *Standard Operating Procedure No. 3 Groundwater Monitoring and Well Sampling Using a Bailer or Hand Pump, Revision No. 1.*

- **Field test groundwater samples and submit for laboratory analysis**

The groundwater samples will be field tested for dissolved oxygen levels semi-annually in the first and third quarters of the respective year, to provide additional data on aquifer conditions near the inferred source. The groundwater samples will also be submitted for analysis of BTEX by EPA Method 8020, TPH as diesel by modified EPA Method 8015, and total dissolved solids once during Third Quarter 1996, to assess groundwater quality.

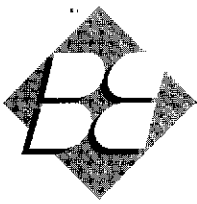
- **Prepare a semi-annual free product recovery and groundwater monitoring letter report**

A letter report will be prepared after each groundwater monitoring event to be submitted to the ACHCSA and the RWQCB. The letter report will document all work performed and provide a summary of the data collected during the past six months, including free product recovery data.

- **Contain purge and decontamination water and coordinate disposal**

All purge and decontamination water will be stored on-site in Department of Transportation-approved, 55-gallon drums pending disposal. Disposal of the drummed water will be coordinated yearly, on a schedule that coincides with disposal of the drums associated with the recovery well installation and free product recovery, assuming the groundwater will not be characterized as a hazardous waste.

All work will be completed in accordance with the applicable Blymyer Engineers' *Standard Operating Procedures.*



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Proposed Work Schedule

The work described under Task 1.0 will begin upon approval of this workplan by the ACHCSA. The final report documenting Task 1.0 will be submitted to the ACHCSA within approximately 45 days from receipt of the composite soil sample analytical results. Pending approval of Task 1.0, quarterly free product recovery from recovery well RW-1 (MW-1) and semi-annual groundwater monitoring will continue on the existing schedule.

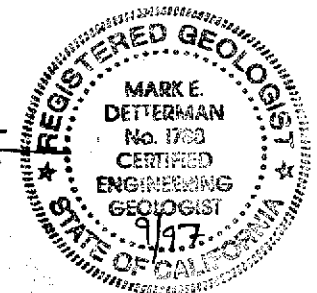
Please call Deborah Underwood at (510) 521-3773 with any questions or comments.

Sincerely,

Blymyer Engineers, Inc.

By: Deborah Underwood
Deborah Underwood
Geologist

And: Mark E. Dettman
Mark Dettman, C.E.G. 1788
Senior Geologist



Enclosures:

- Figure 1. Site Location Map
- Figure 2. Site Plan

- cc: Mr. Eddy So, San Francisco Bay Regional Water Quality Control Board, 2101 Webster Street Suite 500, Oakland, California 94612
Mr. Mike Bakaldin, San Leandro Fire Department, 835 East 14th St., San Leandro, California 94577
Mr. Mike Rogers, ABF Freight System, Inc., 3801 Old Greenwood Rd., Fort Smith, Arkansas 72903
Mr. Bob Hogencamp, G.I. Trucking Company, 12727 Alondra Blvd., La Mirada, California 90638
Mr. Tom McGuire, G.I. Trucking Company, 1750 Adams Ave., San Leandro, California, 94577



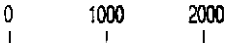
UNITED STATES GEOLOGICAL SURVEY 7.5' QUAD. "SAN LEANDRO, CA", ED. 1959, PHOTOREVISED 1980.



QUADRANGLE LOCATION



BLYMYER
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SCALE IN FEET



SITE LOCATION MAP

G.I. TRUCKING FACILITY
1750 ADAMS AVE.
SAN LEANDRO, CA

FIGURE

1

BEI JOB NO. 88288

DATE 9/19/95



APPROXIMATE GROUNDWATER FLOW DIRECTION



12,000 GAL. DIESEL UST

12,000 GAL. DIESEL UST

12,000 GAL. DIESEL UST

12,000 GAL. DIESEL UST

RW-2 (PROPOSED)

PUMP ISLAND

MW-3

RW-1 (MW-1)

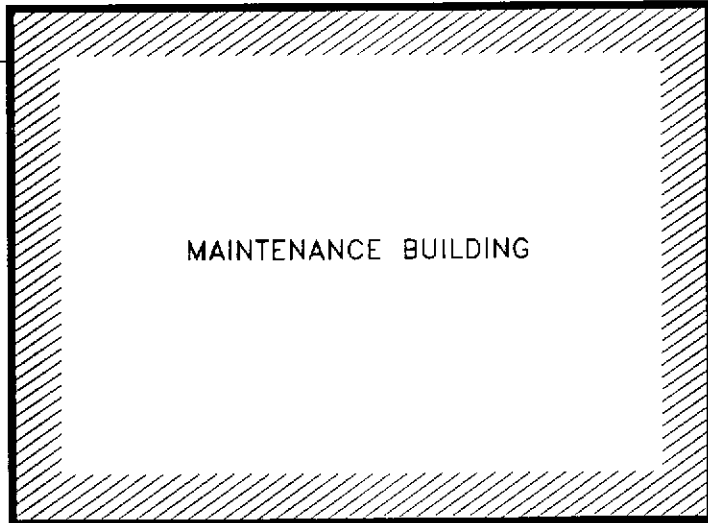
MW-5

FORMER LOCATION OF WASTE OIL UST

MW-2

FORMER EXTENT OF EXCAVATION

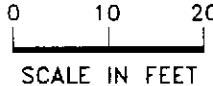
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CURB



ADAMS AVENUE



- LEGEND
- UST UNDERGROUND STORAGE TANK
 - ⊕ MONITORING WELL
 - RECOVERY WELL
 - ⊗ PROPOSED RECOVERY WELL

SITE PLAN
 APRIL 4, 1996
 G.I. TRUCKING FACILITY
 1750 ADAMS AVE.
 SAN LEANDRO, CA

FIGURE
 2

BEI JOB NO.
 88288.001

DATE
 4/4/96