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November 1, 2001

Alameda County Environmental
Health Services Agency
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502-6577

Attention: Mr. Barney Chan

Subject: Risk Management Plan
Miller Quality Meats UST Site
201 2nd Street, Oakland, California
Alameda County StID No. 3700
GA Project No. 105-06-021

Ladies and Gentlemen:

Pursuant to your request, this letter provides a Risk Management Plan (RMP) for the 201 2nd Street underground storage tank (UST) site in Oakland, California. This RMP provides: (1) A summary of potential risks posed by residual hydrocarbons present at the site; and (2) A plan to limit risks of exposure to residual hydrocarbons associated with potential future construction-related activities at the site.

SITE BACKGROUND AND RISK SUMMARY

Site Background

The project site is located near downtown Oakland, on the southwest corner of 2nd Street and Jackson Street (see Figure 1). The project site is located in an area of Oakland that has been transitioning from industrial and commercial use to high-density residential and retail/commercial uses.

Information provided by Alameda County Health Services indicates that one 550-gallon gasoline UST was removed from the southwest 2nd Street sidewalk adjacent to the Miller Quality Meats warehouse at 201 2nd Street in November 1989. Soil samples collected during removal of this UST contained up to 180 parts per million (ppm) of Total Petroleum Hydrocarbons as Gasoline(TPH-G) and 1.0 ppm of Benzene.

One 500-gallon gasoline UST was removed by Scott Company on August 6, 1996. This UST was located in the west Jackson Street sidewalk, adjacent to the Miller Quality Meats offices and warehouse at 201 2nd Street. Groundwater was encountered in the excavation cavity at a depth of about 5.5 feet below ground surface. One soil sample collected at about 5.5 feet in depth beneath the removed gasoline UST contained 1,700 ppm of TPH-G, 0.54 ppm of Benzene, and no detectable Methyl-t-butyl Ether (MTBE) or Total Lead.

On August 23, 1996, Scott Company conducted overexcavation and dewatering of the 500-gallon gasoline UST excavation cavity, and approximately 15 cubic yards of soil was removed from the UST cavity. This soil was combined with soil excavated during UST removal activities and was hauled to Bay Area Soils in Richmond, California for thermal desorption. Also, during overexcavation, groundwater was removed from the UST cavity for offsite disposal. Four sidewall soil samples and one grab groundwater sample were collected from the gasoline UST overexcavation cavity. The westerly and southerly sidewall soil samples from this excavation cavity contained TPH-G concentrations of 310 ppm and 390 ppm, respectively. The grab groundwater sample from the gasoline UST overexcavation cavity contained 34 ppm of TPH-G and 0.071 ppm of Benzene. Following completion of overexcavation and sampling activities, the UST excavation cavity was backfilled with clean imported sand and resurfaced to match existing surface grade.

On June 15, 2001, Gribi Associates conducted a soil boring investigation for the site, as reported in *Report of Soil and Groundwater Investigation, Miller Quality Control UST Site* (Gribi Associates, July 11, 2001). The soil and groundwater investigation included the drilling and sampling of eight soil borings, IB-1 through IB-8, to investigate the three separate former UST sites, including two gasoline USTs adjacent to the 201 2nd Street project site building and one bunker oil UST adjacent to the 206 2nd Street project site building. The goal of the investigation was to assess soil and groundwater conditions in an expected downgradient (southerly) direction from the previously removed USTs in order to address regulatory site closure.

Results from this investigation and from previous UST removal sampling activities clearly show that while some hydrocarbon releases occurred from the three USTs, these releases are very localized and have not migrated significantly. It appears that there are only two small areas of hydrocarbon-impacted soil: (1) Immediately south-southwest from the former bunker oil UST, which showed elevated levels of TPH-D, but no significant BTEX or PNA constituents; and (2) Immediately south-southwest from the former Jackson Street gasoline UST, which showed elevated levels of TPH-G, but relatively low levels of BTEX constituents. The only groundwater sample with elevated hydrocarbons was the sample from IB-1, located adjacent to the former bunker oil UST. This sample contained an elevated concentration of TPH-D, but no significant BTEX or PNA constituents. Grab groundwater samples from borings IB-1 through IB-7 contained no detectable Benzene or MTBE.

Based on the limited extent of hydrocarbon impacts and the lack of significant Benzene and MTBE, residual hydrocarbons at the site would appear to pose no significant environmental or human health risk. Based on these results, Gribi Associates requested that Alameda County Health Agency grant regulatory closure for the site. Alameda County Health Agency issued a letter on September 20, 2001 indicating that regulatory closure would be considered and requesting that a Risk Management Plan be prepared for the site.

Summary of Site Risks

Project site conditions and impacts related to former UST releases at the site are summarized in Table 1.

Table 1
SUMMARY OF SITE CONDITIONS AND IMPACTS
201 2nd Street UST Site

Site Condition	*550-Gallon Gasoline UST (2nd Street Sidewalk, Removed 11/89)*	*500-Gallon Gasoline UST (Jackson Street Sidewalk, Removed 08/96)*
SOIL IMPACTS		
Soil Type	Merritt Sand	Merritt Sand
Impacted Depth Interval	Below 9 feet in depth	3 to 6 feet in depth
Lateral Plume Description	Not defined, but expected to be small.	Southwest below sidewalk & street, less than 40 feet in length.
Maximum Contaminant Impacts		
TPH-G	39 ppm	1,700 ppm
B	0 10 ppm	2.1 ppm
T	0.056 ppm	7.1 ppm
E	0.36 ppm	11 ppm
X	1.5 ppm	25 ppm
MTBE	ND	ND
TPH-D	ND	--
GROUNDWATER IMPACTS		
Depth to Groundwater	4.5 feet	5.0 feet
Groundwater Plume Description	Not defined, but expected to be minimal.	Southwest below sidewalk & street, 40 feet in length.
Maximum Contaminant Impacts		
TPH-G	ND	0.440 ppm
Benzene	ND	ND
Toluene	ND	0.0040 ppm
Ethylbenzene	ND	0.0028 ppm
Xylenes	0.006	0.0060 ppm
MTBE	ND	ND
TPH-D	ND	--

TPH-G = Total Petroleum Hydrocarbons as Gasoline
MTBE = Methyl-t-Butyl Ether
TPH-D = Total Petroleum Hydrocarbons as Diesel

Results of a preliminary evaluation of all potential exposure pathways for three UST sites are summarized in Table 2.

Table 2
PRELIMINARY EXPOSURE PATHWAY SCREENING
201 2nd Street UST Sites

Exposure Pathway	Complete?	Discussion
Air Exposure Pathway		
Surface soil volatilization. to ambient air	Possible	Residential and commercial receptors
Subsurface soil volatilization to ambient air	Possible	Residential and commercial receptors
Subsurface soil volatilization to enclosed space	No	Hydrocarbon impacts are below sidewalks & streets
Groundwater volatilization to ambient air	Possible	Residential and commercial receptors
Groundwater volatilization to enclosed space	No	Hydrocarbon impacts are below sidewalks & streets
Soil Exposure Pathway		
Dermal contact/ingestion of surface soils	Possible	Construction worker only
Dermal contact/ingestion of subsurface soils	Possible	Construction worker only
Groundwater Exposure Pathway		
Soil leaching to groundwater, ingestion	No	No nearby water use wells.
Dissolved/free phase groundwater ingestion	No	No nearby water use wells
Surface Water Exposure Pathway		
Soil leaching to surface water	No	No nearby surface water bodies.
Groundwater plume discharge to surface water	No	No nearby surface water bodies.

In summary, potential risks of exposure to residual hydrocarbons at the site are primarily related to possible construction worker exposure during any construction-related activities, particularly within the 2nd Street and Jackson Street public right-of-way. The primary route of exposure that would be expected from future construction-related activities would include worker dermal contact to hydrocarbon-impacted near-surface soil, subsurface soil, and groundwater.

RISK MANAGEMENT PLAN

The following risk management plan shall be implemented for the site in order to reduce identified exposure risks. Note that because there is a chance that site records identifying hydrocarbon risk areas might be lost in the future, this risk management plan shall apply to the entire site. The risk management plan shall incorporate the following measures:

1. A soil management plan must be provided if soils are generated during construction activities. This measure is meant to place controls on the use or disposal of soils from the site that may contain petroleum hydrocarbons.

2. A groundwater management plan must be provided if groundwater is generated during construction activities. The purpose of this measure is to assure that extracted groundwater is handled properly given the potential that groundwater may be impacted with petroleum hydrocarbons.

3. Groundwater from beneath the site shall not be used for any purpose unless approved by Alameda County Environmental Health Services (ACHES) or another appropriate regulatory agency. This measure is meant to place controls on the use of groundwater from beneath the site that may contain petroleum hydrocarbons.

4. Wells shall not be installed at the site unless approved by the Water Resources Section of the Public Works Agency. The purpose of this measure is to reduce the possibility that vertical conduits to deeper groundwater sources are introduced at the site.

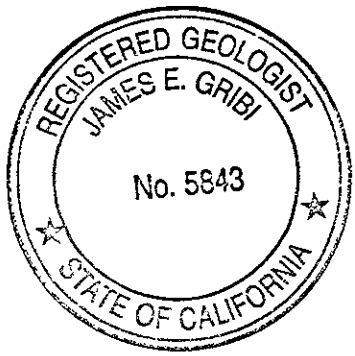
5. Before any development occurs at the site, a health and safety plan shall be implemented to cover all possible worker exposure risks. The purpose of this measure is to assure that workers and the general public are protected from the potential hazards associated with subsurface petroleum impacts.

6. Records for the site, including investigative report, shall be retained on file with the City of Oakland Public Works Agency. Proper documentation can help all parties control potential risks associated with the site.

We appreciate the opportunity to present this Risk Management Plan for your review. Please contact us if you have questions or require additional information.

Very truly yours,

James E. Gribi
Registered Geologist
California No. 5843



JEG/ct
Enclosure

c Mr. Victor Lewkowitz, Miller Quality Meats

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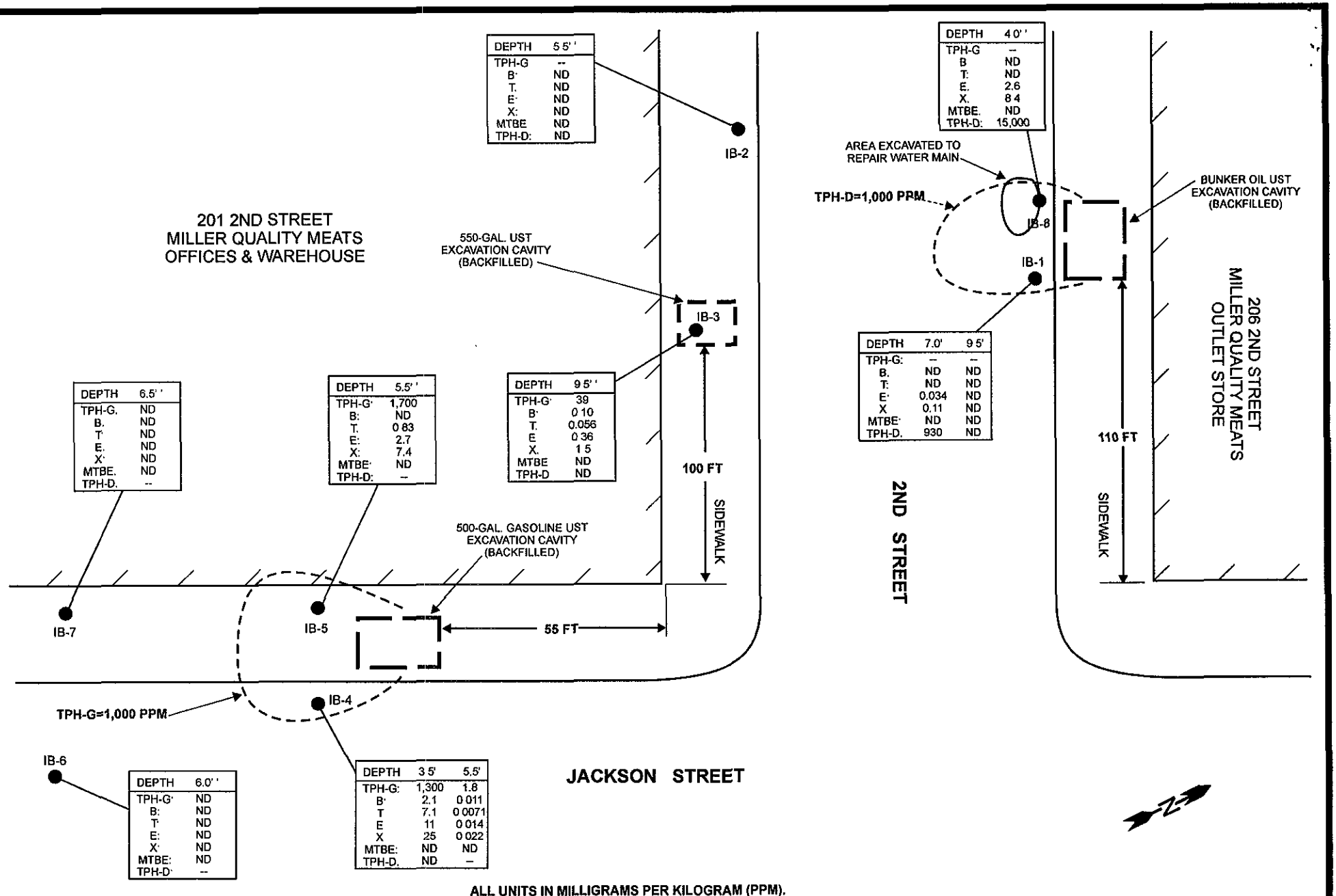

ALL UNITS IN MILLIGRAMS PER KILOGRAM (PPM).

DESIGNED BY:	CHECKED BY:
DRAWN BY: JG	SCALE:
PROJECT NO. 199-01-01	

SOIL HYDROCARBON RESULTS

MILLER QUALITY MEATS
201 & 206 2ND STREET
OAKLAND, CALIFORNIA

DATE: 11/01/01 | FIGURE: 1

GRIBI Associates