PORT OF OAKLAND

March 20, 2002

MAR 22 2002

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

Subject: **Foundation Removal Activities and Request for Case Closure, Pacific Dry Dock Yard II, Oakland, CA**

Dear Mr. Chan:

Please find enclosed the supplemental report to Baseline's March 2001 Fourth Quarterly Groundwater Monitoring Report and Request for Case Closure, Pacific Dry Dock Yard II, Oakland. Upon receipt of the March 2001 report, Alameda County Health Care Services Agency (ACHCSA) requested sampling of soil surrounding the pipelines from the former underground storage tanks beneath the foundations of Buildings G-301 and G-303 prior to the site being considered for case closure. This report describes field activities performed during foundation demolition, presents analytical results of soil sampling, and provides a recommendation for case closure consideration by ACHCSA

If you have any questions, please do not hesitate to contact me at (510) 627-1184.

Sincerely,

Douglas P. Herman
Associate Port Environmental Scientist

Cc: w/encl: Betty Graham, RWQCB
Gretchen Snoey, Lowney Associates
Michele Heffes
Bruce Flushman

Cc w/o encl: Yane Nordhav, Baseline
Joyce Washington

\projects\crowleyII\foundation removal and case closure request

530 Water Street ■ Jack London Square ■ P.O. Box 2064 ■ Oakland, California 94604–2064
Telephone: (510) 627-1100 ■ Facsimile: (510) 627-1826 ■ Web Page: *www.portofoakland.com*

BASELINE

ENVIRONMENTAL CONSULTING

MAR 22 2002

1 March 2002
98379-35

Mr. Douglas Herman
Port of Oakland
EH and SC Department
530 Water Street, 2nd Floor
Oakland, CA 94607

Subject: Foundation Removal Activities and Request for Case Closure Report, Pacific Dry Dock Yard II, 321 Embarcadero, Oakland, California

Dear Mr. Herman:

This report is a supplement to BASELINE's *January 2001 Fourth Quarterly Groundwater Monitoring Report and Request for Case Closure*, Pacific Dry Dock Yard II, 321 Embarcadero, Oakland, California (the site), dated March 2001. Two underground storage tanks (USTs) were formerly located adjacent to Buildings G-301 and G-303, respectively (Figures 1 and 2). Pipes from these tanks led toward the building foundations and were presumed to be located underneath portions of the foundations. The recommendations in the March 2001 report included sampling of soil surrounding pipelines underneath the foundations of Buildings G-301 and G-303 prior to the site being considered for closure by Alameda County Health Care Services Agency (County), Department of Environmental Health. This report describes field activities performed during site demolition, presents analytical results of soil sampling, and provides a recommendation for case closure consideration by the County.

Field Activities

In December 2001, BASELINE was retained by the Port of Oakland to observe foundation removal activities and to collect soil samples surrounding former UST pipelines. On 13 and 14 December 2001 and 3 January 2002, BASELINE observed the removal of the foundations where the pipelines were presumed to be located. Observations confirmed that the pipelines entered through the foundation of the buildings adjacent to the tanks. Photographs, dated 3 January 2002, showing pipeline locations are presented in Attachment A. The pipelines did not run underneath the buildings, as previously presumed. Therefore, no samples were collected because the pipelines had not been in contact with site soils and the former UST areas had been investigated previously.

5900 Hollis Street, Suite D • Emeryville, CA 94608 • (510) 420-8686 • FAX: (510) 420-1707
Emeryville Petaluma San Francisco

During foundation removal activities, a small UST, approximately 100 gallons in size, was discovered southeast of former UST GF-12. The UST was discovered when an excavator was working in the area. The excavator bucket moved the tank approximately two feet upwards from its original position. On 8 January 2002, BASELINE personnel met at the site with Port of Oakland personnel and Keith L. Matthews, Hazardous Materials Inspector from the City of Oakland's Fire Services Agency. Mr. Matthews required permitting of the tank removal and collection of a soil sample beneath the tank.

Prior to field activities, BASELINE prepared a Site Health and Safety Plan for tank removal and sampling activities (Attachment B). A tank removal permit was obtained from the City of Oakland's Fire Services Agency (Attachment C).

On 9 January 2002, the tank was removed and transported by Foss Environmental as a non-hazardous waste. The dimensions of the tank were approximately 2.5 feet wide by 2.5 feet long by 2.5 feet high. The tank was empty, and no petroleum odor was noticed from the tank. The tank was transported to Schnitzer Steel Product in Oakland, California and recycled. A recycling ticket is presented in Attachment D.

Once the tank was removed, a soil sample was collected approximately four feet bgs with a stainless-steel tube and EnCore™ containers. The sample containers were sealed, labeled, stored in a cooler with ice, and submitted to McCampbell Analytical, a California certified laboratory. The sample was analyzed for total petroleum hydrocarbons as diesel (TPHd) and motor oil (TPHmo) with silica gel cleanup, as gasoline (TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl-tertiary butyl ether (MTBE), polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), and cadmium, total chromium, lead, nickel, and zinc.

Photographs, dated 9 January 2002, showing the a sample location and tank relative to the surrounding area are included in Attachment A.

Analytical Results

The analytical results for the soil sample are presented in Table 1. TPHd was reported at 3.4 mg/kg and TPHmo was reported at 7.1 mg/kg. TPHg was not reported above the laboratory reporting limits.

BTEX, MTBE, PAHs, and cadmium were not reported at concentrations exceeding laboratory reporting limits. Chromium, lead, nickel, and zinc were reported at concentrations of 16, 9.8, 17, and 71 mg/kg, respectively. A copy of the laboratory report is included in Attachment E.

Conclusions and Recommendations

Analytical results for the soil sample collected from underneath the 100-gallon UST were all below the San Francisco Regional Water Quality Control Board's (SFRWQCB) risk-based screening levels (RBSL) for commercial/industrial land uses, except for total chromium. Total chromium was detected in the soil sample at 16 mg/kg. The RBSL for total chromium, 12 mg/kg, is based on direct human contact with soil by industrial/commercial workers and is back-calculated from an excess lifetime cancer risk of 1×10^{-6}. Exposure of the industrial/commercial worker to 16 mg/kg total chromium would contribute to a 1.33×10^{-6} excess lifetime cancer risk. This risk estimate is within the range of estimates (1×10^{-4} to 1×10^{-6}) considered of no significant risk by regulatory agencies. In addition, the site concentration of chromium (16 mg/kg) is below the background concentration of chromium (91.4 mg/kg) from soil samples collected in the Bay Area as reported by Lawrence Berkeley National Laboratory (1995, Protocol for Determining Background Concentrations of Metals in Soil at Lawrence Berkeley National Laboratory, August). Total chromium concentrations at the site do not present an unacceptable health risk for future site users and therefore warrant no further action at this time.

The site should be considered for case closure since residual soil and groundwater contamination at the site does not pose an unacceptable risk to the environment or human health. The site also meets the other SFRWQCB criteria of a low risk groundwater case as presented in our previous report dated March 2001.

This report should be submitted to Mr. Barney Chan at the Alameda County Department of Environmental Health for consideration for case closure. If case closure were granted, all existing wells should be abandoned in accordance with the requirements of Alameda County Public Works Agency. Purged and decontamination water stored in on-site drums should be properly disposed of at an off-site location in accordance with local, State, and Federal regulations.

If you have any questions or comments, do not hesitate to contact us at your convenience.

Sincerely,

Yane Nordhav
Principal
Reg. Geologist No. 4009

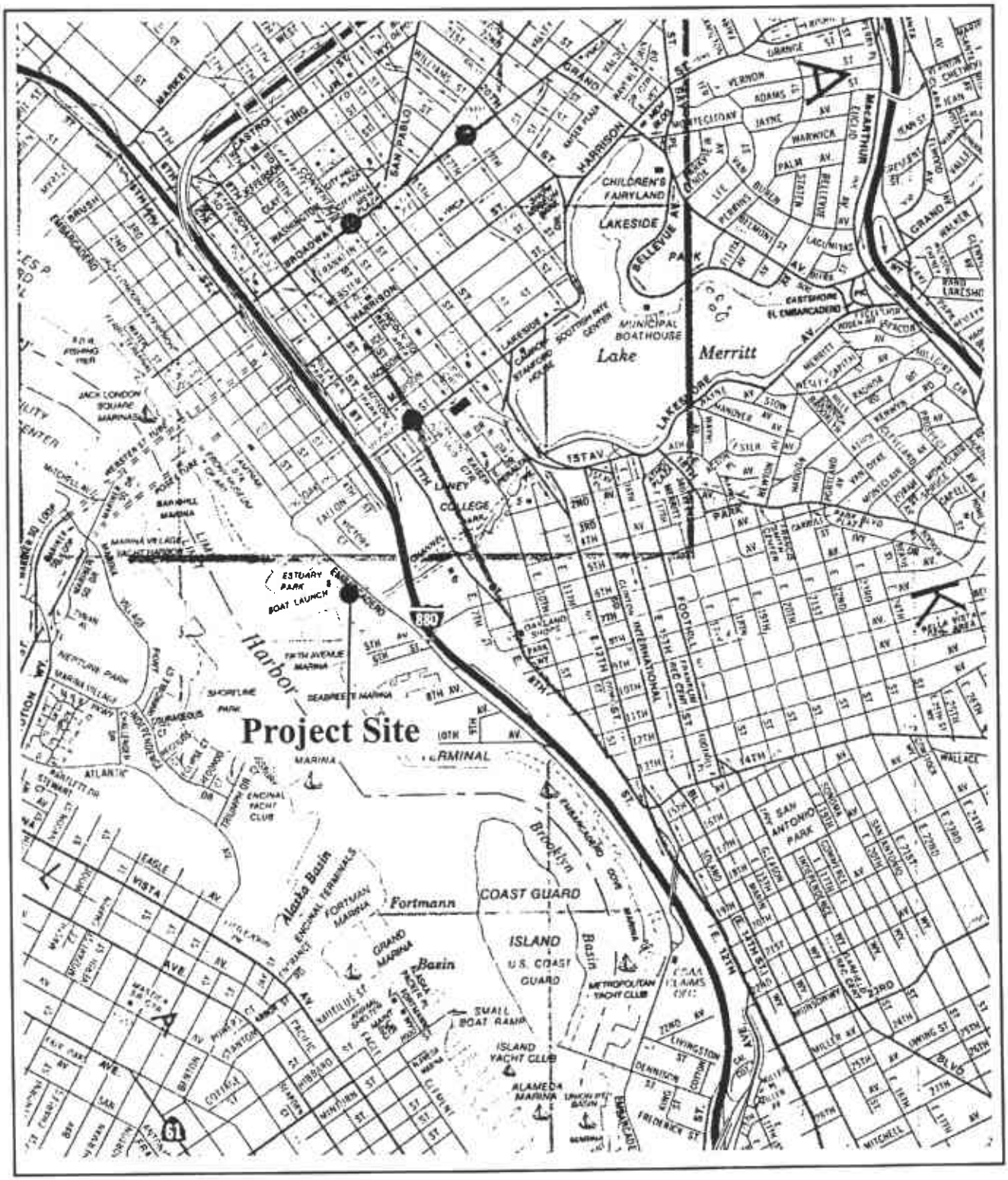
Ragnar K. Stefansson
Project Engineer

YN:RKS:km
Attachments

98379-35.fnl.wpd-3/1/02

REGIONAL LOCATION

Figure 1



Pacific Dry Dock Yard II
321 Embarcadero
Oakland, California

BASELINE

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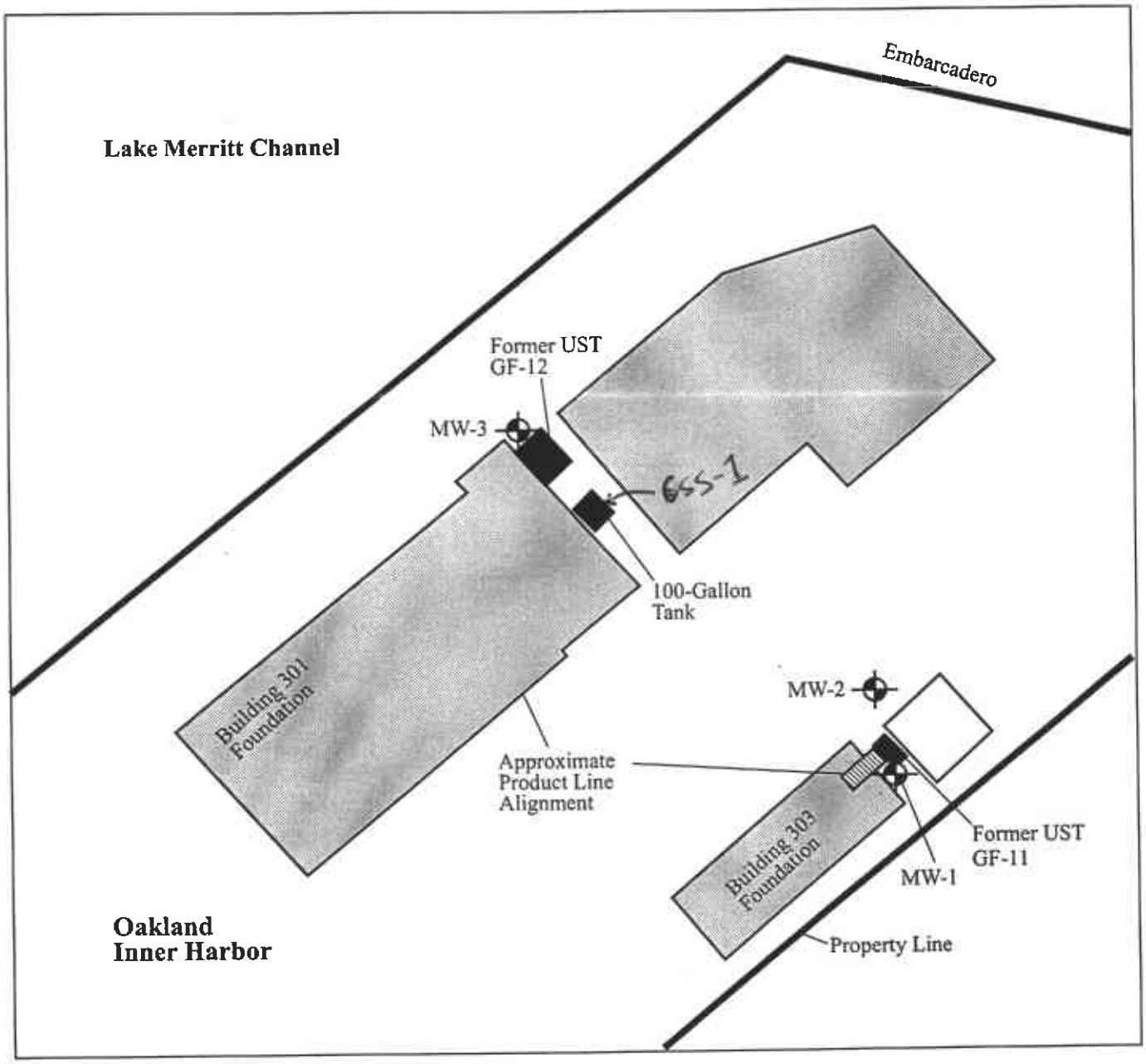
SITE PLAN
FOUNDATION REMOVAL - JANUARY 2002

Figure 2



Legend

Monitoring Well Location

100-Gallon Tank

Pacific Dry Dock Yard II
321 Embarcadero
Oakland, California

0 75 Feet

BASELINE

D:\Graphics\98379-35\Figure 2 SP.cdr 1/30/02

TABLE 1: **Summary of Analytical Results, Soil, Pacific Dry Dock, Yard II, 321 Embarcadero, Oakland, California (mg/kg)**

Sample Number / Sample Date	GSS-1[1] 01/09/2002	RBSL for Soil[2]
Petroleum Hydrocarbons (8015M with silica gel cleanup)		
TPH as diesel	3.4	500
TPH as motor oil	7.1	1,000
Volatile Hydrocarbons (Method 8020)		
TPH as gasoline	<1.0	400
MTBE	<0.005	1.0
Benzene	<0.005	0.39
Toluene	<0.005	8.4
Ethylbenzene	<0.005	24
Xylenes (total)	<0.005	1.0
Polycyclic Aromatic Hydrocarbons (Method 8270)		
Naphthalene	<0.33	4.9
Acenaphthylene	<0.33	130
Acenaphthene	<0.33	16
Fluorene	<0.33	5.1
Phenanthrene	<0.33	11
Anthracene	<0.33	2.9
Fluoranthene	<0.33	40
Pyrene	<0.33	55
Benzo(a)anthracene	<0.33	1.8
Chrysene	<0.33	4.7
Benzo(b)fluoranthene	<0.33	1.8
Benzo(k)fluoranthene	<0.33	1.8
Benzo(a)pyrene	<0.33	0.18
Dibenzo(a,h)anthracene	<0.33	0.51
Benzo(g,h,i)perylene	<0.33	5.3
Indeno(1,2,3-cd)pyrene	<0.33	1.8
2-methylnaphthalene	<0.33	0.25
Total polycyclic aromatic hydrocarbons	<0.33	--
Metals (Method 6010)		
Cadmium	<0.5	12
Chromium	16	12
Lead	9.8	750
Nickel	17	150
Zinc	71	600

Notes: -- = Not applicable.
<xx = Compound not identified above reporting limit of xx.
mg/kg = Milligram per kilogram.
RBSL = Risk-based screening level.
TPH = Total petroleum hydrocarbons.
Laboratory report is included in Attachment D.

[1] Sample also analyzed for volatile organics by EPA Method 8260. No compounds were identified above the laboratory reporting limit.

[2] RBSLs are for industrial/commercial land use for near-surface soils (<3 m) where groundwater is not a current or potential source of drinking water (San Francisco Regional Water Quality Control Board, 2000, Application of Risk-Based Screening Levels and Decision Making to Sites with Impacted Soil and Groundwater, Interim Final).

ATTACHMENT A

PHOTOGRAPHS

Photograph 1: Foundation of Building 303, showing pipe (looking west).

Photograph 2: Pipes underneath foundation of Building 303 (looking west).

Photograph 3: Corner of foundation of Building 301 showing pipe (looking south).

Photograph 4: 100-gallon underground storage tank discovered during foundation removal of Building 301 (looking west).

Photograph 5: Soil sample location (GSS-1 from former tank location).

Photograph 6: Former tank location (looking south).

ATTACHMENT B

HEALTH AND SAFETY PLAN

SITE HEALTH & SAFETY PLAN

PROJECT/CLIENT INFORMATION

Project No:	Project Manager:	Site Health and Safety Manager:	Field Activities Date:
98379-35	Yane Nordhav	Ragnar Stefansson	9 January 2001

Client: Port of Oakland
530 Water Street
Oakland, California

Contact Person: Doug Herman Phone: (510) 272-1100 (general number)

Site Address:
Pacific Dry Dock Yard II
321 Embarcadero
Oakland, California

Subcontractor:

PROJECT DESCRIPTION: One 100-gal UST will be removed off-site by Foss Environmental. Baseline will collect one soil sample beneath the UST. BASELINE will also measure the size of the tank, record field observation data and photograph the area in order to prepare a tank removal report. The soil sample will be submitted to the Port's contract laboratory under chain-of-custody procedures for analysis, in accordance with the scope of work. No confined space entry or site excavation activities requiring a permit are anticipated as part of this scope of work.

Two diesel underground storage tanks were removed from the site in 1998 in the area where the 100-gal UST was found. Waste oil was removed from the tanks prior to tank removal. Total petroleum hydrocarbons as diesel, motor oil, and oil and grease were identified in soil at up to 2,8000, 3,1000, and 650 mg/kg, respectively, and in groundwater samples collected at the site (91 mg/L, --, and 56 mg/L, respectively). Semi-volatile organic compounds were reported up to 30.56 mg/kg in soil samples collected at the site, and in groundwater samples up to 8.06 mg/L. Total petroleum hydrocarbons as gasoline were reported above laboratory reporting limits in soil and groundwater (8.9 mg/kg and 1 mg/L, respectively). Ethylbenzene, xylenes, and MTBE were also reported above the laboratory reporting limits in groundwater samples (0.0013, 0.0005, and 0.0038 mg/L, respectively). Chlorobenzene, 1,4-dichlorobenzene and 1,2-dichlorobenzene were reported slightly above laboratory reporting limits in soil samples collected, and were above reporting limits for groundwater samples (0.032, 0.0089, and 0.0055 mg/L). Chromium, lead, nickel, and zinc were also reported above laboratory reporting limits in soil and groundwater samples collected at the site.

The site is undergoing demolition of concrete foundations . No potable water or power is available on-site. Subsurface conditions encountered during the previous investigation included fill materials (gravel, sand, silt, clay) resting on top of Bay Mud at approximately 15 to 20 feet bgs. Groundwater was encountered at approximately 2-5 feet bgs.

The site is accessible by Embarcadero Street. The topography of the site is flat, and approximately 5 to 8 feet above mean sea level.

KEY PERSONNEL AND RESPONSIBILITIES: Yane Nordhav is the Project Manager and Principal-in-charge. Other BASELINE personnel include: Ragnar K. Stefansson, Project Engineer, and William Scott, R.G., C.E.G., Field Geologist. Yane Nordhav shall be: 1) present by telephone during on-site work, 2) have overall responsibility for preparation, implementation, and modifications to this Plan, and 3) designate a BASELINE Site Health and Safety Manager to carry out the requirements of this Plan during sampling activities. The responsibilities of Ragnar Stefansson, the designated BASELINE Site Health and Safety Manager include, 1) being present at all times during on-site work, 2) enforcing this Site Health and Safety Plan, 3) stopping field operations if personnel safety and health may be jeopardized, 4) requesting site evacuation, if necessary, 5) conducting and evaluating or supervising the collection/evaluation of air monitoring data for the purpose of making decisions regarding the safety of on-site personnel, 6) designating other qualified personnel to work under the direction of the Site Health and Safety Manager, for purpose of implementing this Plan, 7) overseeing the effectiveness of decontamination procedures and changing these procedures if they are found not to be effective, and 8) overseeing completion of the sampling activities, as described above.. Bill Scott will be consulted via phone if necessary due to his familiarity with the site.

TRAINING REQUIREMENTS: All on-site workers with potential soil contact (or entering into the warm or hot zone) must be 40-hour trained in accordance with the OSHA Hazwoper standard (including annual refresher training, supervisor training, and 3-days of supervised field experience), must be medically surveilled, and have received annual respirator training and fit testing in accordance with the requirements of the company's health and safety plan. All visitors to the site must be 40-hour trained. The Site Health and Safety Manager will inquire whether each visitor is trained.

A copy of this site-specific health and safety plan will be provided at the site, and will be reviewed by the Site Health and Safety Manager or designated personnel prior to the start of work at the site, as part of a tail-gate safety meeting. This site-specific Plan applies to all BASELINE employees engaged in hazardous materials activities on-site. This Plan, or an equally protective plan, shall be adopted by the subcontractor, and regulatory agency personnel (if present), as a supplement to their existing health and safety programs. All on-site personnel will be asked to sign a consent form included in this Plan, prior to each day of field work, indicating that they have read the Plan, have participated in the tail-gate safety meeting, meet the training requirements, and agree to all Plan conditions. Should other employers elect to adopt this Plan, BASELINE shall be held harmless and indemnified against any claims associated with this Plan.

This Site Health and Safety Plan is intended to act as an extension of BASELINE's in-house Health and Safety Program, including Medical Surveillance Program, Hazard Communication Program, Hearing Conservation Program, Respiratory Protection Program, Personal Protective Equipment Program, Injury and Illness Prevention Program, Emergency Action Plan, and Fire Prevention Plan. BASELINE employees receive initial and annual training in these programs.

CHEMICAL HAZARDS

Chemical	Description	Health and Safety Standards	Persons Exposed* and Potential Routes of Exposure	Symptoms of Acute Exposure
MTBE (methyl tert butyl ether)	Aromatic HC	REL/TLV = 40 ppm OT = 0.053 ppm	Inhalation, dermal, eyes, ingestion	See symptoms for xylene and ethylbenzene below
Xylenes	Aromatic HC, flammable, aromatic odor LEL = 2.2% UEL = 7.0%	PEL=100 ppm REL/TLV = 100 ppm STEL = 150 ppm C = 300 ppm IDLH = 1000 ppm OT = <1 ppm	Inhalation, dermal, eyes, ingestion	Headache, dizziness, minor skin irritation, eye and respiratory irritation, excitement, drowsiness, staggering gait, nausea, vomiting, uncoordination
Ethylbenzene	Aromatic HC, flammable, aromatic odor LEL = 0.8% UEL = 6.7%	PEL = 100 ppm REL/TLV = 100 ppm STEL = 125 ppm IDLH = 2000 ppm OT = 2.3 ppm	Inhalation, dermal, eyes, ingestion	Headache, dizziness, minor skin irritation, irritation or burns, eyes and respiratory irritation
Gasoline	Hydrocarbon, carcinogen (engine exhaust), flammable LEL = 1.4% UEL = 7.6%	PEL = 300 ppm REL/TLV = 300 ppm STEL = 500 ppm OT = 0.3 ppm	Inhalation, dermal, eyes, ingestion	Eye and skin irritation, headache, fatigue, dermatitis, blurred vision, dizziness, slurred speech, confusion, convulsions
Diesel (also motor oil and oil and grease)	Combustible liquid, may contain carcinogenic middle distillates LEL = 0.7% UEL = 5.0%	No PEL	Skin, ingestion, eyes	Minor eye/skin irritation
Polynuclear aromatic hydrocarbons (PNAs) (examples of two PNAs are listed below)	Semi-volatile, black or dark brown residues, some are carcinogens	Varies, depending on chemical	Varies, depending on chemical	Varies, depending on chemical
Benzo(a)pyrene	Carcinogen, reproductive toxin, combustible (aka coal tar pitch volatiles) LEL = NA UEL = NA	PEL = 0.2 mg/m^3 REL/TLV = 0.2 mg/m^3 IDLH = 700 mg/m^3	Inhalation, eyes, skin, ingestion	Dermatitis, bronchitis

Chemical	Description	Health and Safety Standards	Persons Exposed* and Potential Routes of Exposure	Symptoms of Acute Exposure
Naphthalene	Colorless to brown solid with a moth-ball odor, combustible LEL = 0.9% UEL = 5.9%	PEL = 10 ppm REL/TLV = 10 ppm STEL = 15 ppm IDLH = 500 ppm OT = 0.015 ppm	Inhalation, dermal, eyes, ingestion	Eye irritation, headache, confusion, excitement, malaise, profuse sweating, dermatitis, blood in urine, jaundice, bladder irritation, optical problems
Chlorobenzene	Flammable liquid, organic	PEL = 10 ppm (46 mg/m^3) REL/TLV = 10 ppm IDLH = 2400 ppm OT = 0.741 ppm	Eyes, skin, respiratory system, ingestion	Eye, skin, and respiratory irritation, drowsiness, CNS depression, injury to liver, lung and kidneys
1,4-Dichlorobenzene	Colorless or white crystalline solid with a mothball-like odor LEL = 2.5 % UEL = NA	PEL = 75 ppm (450 mg/m^3) REL/TLV = 10 ppm C = 200 ppm STEL = 110 ppm (675 mg/m^3) IDLH = 1000 ppm OT = 0.741 ppm	Eyes, skin, ingestion, inhalation	Eye irritation, runny nose, headache, nausea, vomiting, headache, difficulty breathing, and other effects
1,2-Dichlorobenzene	Colorless to pale-yellow liquid with a pleasant aromatic odor	PEL = 25 ppm (150 mg/m^3) REL/TLV = 25 ppm C = 50 ppm IDLH = 1000 ppm OT = <1 ppm	Eyes, skin, ingestion, inhalation	Eye and nose irritation, skin blisters, kidney damage
Chromium	Hexavalent form: carcinogen, non combustible solid, blue-white to steel gray, odorless LEL = NA UEL = NA	PEL = 0.05 mg/m^3 REL/TLV = 0.05 mg/m^3 C = 0.1 mg/m^3 IDLH = 30 mg/m^3	Inhalation, eyes, ingestion	Eyes, skin and respiratory irritation, lung fibrosis
Lead	Carcinogen, reproductive toxin, soft gray solid LEL = NA UEL = NA	PEL = 0.05 mg/m^3 REL/TLV = 0.05 mg/m^3 IDLH = 700 mg/m^3	Inhalation, eyes, ingestion	Weakness, lassitude, insomnia, abdominal pain, constipation, anemia, tremor, eye irritation
Nickel	Odorless solid, lustrous, silvery LEL = NA UEL = NA	PEL = 1 mg/m^3 TLV = 1.5 mg/m^3	Skin, inhalation, ingestion	Skin dermatitis, asthma, difficulty breathing
Zinc	Odorless solid LEL = NA UEL = NA	PEL = 5 mg/m^3 TLV = 10 mg/m^3 STEL = 10 mg/m^3	Not available	Not available

* Contractor and samplers.

Notes: Health and safety standards refer to airborne concentrations to which nearly all workers may be repeatedly exposed daily without harmful effects. The concentrations are time-weighted averages for a normal 8-hour work period.
IDLH = Immediately dangerous to life and health; a condition from which one cannot escape within 30 without permanent damage or death.
LEL = Lower explosive limit.
NA = Not available or Not applicable.
PEL = Permissible exposure limit. Time-weighted average concentrations for a normal 8-hour work period for a 40-hour work week; PELs are enforced by OSHA.
REL = Recommended exposure limit. Time-weighted average concentrations for up to a 10-hour day during a 40-hour work week. RELs are recommended by NIOSH, but are not regulatorily enforceable.
C = Ceiling limit. A limit that must not be exceeded during any part of a work day.

STEL = Short term exposure limit. A 15-minute time weighted average exposure that is not to be exceeded at any time during a work day even if the 8-hour time-weighted average is below the PEL; regulated by OSHA.
TLV = Threshold limit value, American Conference of Government Industrial Hygienists. See also PEL.
UEL = Upper explosive limit.
-- = None.

PHYSICAL HAZARDS:

Fire and explosion, heavy equipment, heat/cold stress, over and underground utilities, tripping and falling hazards, and noise. BASELINE employees will follow standard operating procedures for soil sampling and quality assurance/control as found in BASELINE's Quality Assurance Program Plan.

BASELINE employees shall observe the following precautions:

1) Watch for slippery ground;
2) Wear safety hard hats and safety footwear (and other personal protective equipment);
3) Prevent strain injuries by using small sample shipping containers and/or material handling aids.
4) Avoid heat/cold stress by taking regular work breaks, liquids intake, and appropriate attire, as needed.
5) Watch for heavy equipment during sampling activities.

PERSONAL PROTECTIVE EQUIPMENT REQUIRED: Standard Operating Procedures (SOPs) shall be implemented to minimize exposure to hazardous materials potentially occurring at the Site. However, it is anticipated that SOPs cannot completely prevent exposures to all hazardous materials at the site. Potential hazards include inhalation and dermal contact with contaminated materials during sampling events. Ingestion of hazardous materials is assumed to be negligible if personal hygiene measures discussed below are implemented. Hard hats, respirators equipped with high efficiency filters and/or organic vapor cartridges (use to be designated by Site Health and Safety Manager), nitrile gloves, safety goggles (use to be designated by Site Health and Safety Manager), rubber or steel-toed boots, water supply for washing, decontamination, and for drinking, disposable overalls (non-coated), first-aid kit, noise protection (ear plugs), and fire extinguisher (to be provided by tank removal contractor). Rain gear may also be warranted. No contact lenses at the site. On-site workers must be trained, as provided by their employer, in PPE use, care, proper fitting (including respirator fit-testing), donning and doffing, and limitations on at least an annual basis. All PPE must be properly maintained and stored to ensure it is in good working condition at the time of use. All PPE must be inspected prior to and following use (BASELINE's PPE Program is included in BASELINE's Health and Safety Program).

The rationale for selection of the PPE above is based on the known and/or suspected hazardous materials at the site, the anticipated amount of contact with potentially contaminated materials as part of site-specific tasks, and PPE performance characteristics. The need for respiratory protection shall be selected based on the results of the air monitoring (See Air Monitoring Strategy below). On-site personnel shall be required to don respiratory protection (Level C) if deemed necessary by the designated Site Health and Safety Manger. The need for Level B PPE (respiratory protection) is not anticipated at the site. In the event that Level B respiratory protection is warranted, on-site personnel will be asked to leave the area immediately by the Site Health and Safety Manager and the Manger will notify the BASELINE Project Manager to determine future site actions. If PPE is deemed to be ineffective by the Site Health and Safety Manager, the Manager or his/her designee shall take immediate action to mitigate the problem(s).

AIR MONITORING STRATEGY (INCLUDING ACTION LEVELS): Before field work begins, collect background readings using PID and combustible gas indicator/four gas meter. Monitor worker breathing zone using the using the combustible gas indicator and PID to ensure that Permissible Exposure Levels (PELs), Action Levels, or other appropriate limits are not exceeded, or have the potential to be exceeded. If PELs, Action Levels, or other exposure levels are exceeded (or have the potential to do so), personnel will be instructed by the Site Health and Safety Manager to wear appropriate respiratory protection to reduce potential exposure below the applicable exposure limits. In addition, personnel will be asked to don respirator with HEPA filters and goggles if dusty conditions.

Level C respiratory protection shall be deemed to be warranted if organic compounds measured using the PID are 1 to 10 ppm above background levels (for more than 1 minute). Direct reading tubes may be used to characterize vapors. Level B respiratory protection shall be deemed to be warranted in excess of 10 ppm above the background concentrations or ten times the exposure limit for other contaminants (for half-face respirators). If >20% LEL in the tank, stop work to air out tank with dry ice until <20% LEL. The results of air monitoring shall be related to on-site workers. Air monitoring equipment shall be maintained and calibrated in accordance with the manufacturer's specifications and BASELINE's Quality Assurance Program Plan.

SITE CONTROL MEASURES: Sampling personnel will define and demarcate exclusion, decontamination, and clean zones at the sampling location. Site communications will take place verbally. No eating and drinking permitted in exclusion zone. Workers may go through partial decontamination (wash gloves, hands and arms) to consume fluids in the warm zone. Avoid skin and eye contact with soil to maximum extent possible. Personal hygiene is imperative to prevent prolonged skin contact with site soils and dusts. Hand-digging may be performed where utilities are suspected (even though not identified through USA). Dispose of decontamination equipment and personal protective gear in on-site containers.

In the event of a minor (incidental) release of hazardous material, the spill will be immediately cleaned up by on-site BASELINE personnel and the spill cleanup materials placed in labeled drums (provided by tank removal contractor) for off-site disposal. In the event of a larger than incidental (major) spill, follow the emergency procedures below.

DECONTAMINATION PROCEDURES (PERSONAL AND EQUIPMENT): All personal and equipment decontamination procedures shall be implemented prior to leaving the site. Decontamination of sampling equipment shall also be required prior to sampling and between sampling locations to avoid cross-contamination, as will decontamination or replacement of gloves at a new sampling location. Decontaminate boots, non-disposable PPE, and sampling equipment on-site using TSP (or Alcanox) with water, rinse with water, and then finally rinse with DI water.

Dispose of disposable PPE and sampling equipment in labeled containers/bags and leave on-site for disposal as municipal waste. Antiseptic (alcohol) towelettes will be used for cleaning respirators and washing hands and arms. Decontamination procedures shall be monitored by the Site Health and Safety Manager to determine their effectiveness. If decontamination procedures are found to be ineffective, the Site Health and Safety Manager shall take appropriate action to immediately correct any deficiencies.

All personnel should shower as soon as possible after leaving the site.

OTHER: Illumination is not expected to be required, as all work will be performed during daylight hours. The location of the nearest restroom will be identified prior to beginning field work. Drinking water will be provided by BASELINE for use on-site.

If any deficiencies in this Site Health and Safety Plan are identified by the Site Health and Safety Manager, they shall be immediately corrected. On-site workers, identifying any deficiencies in this Plan shall immediately notify the Site Health and Safety Manager of such deficiencies.

EMERGENCY PROCEDURES: A cellular phone is maintained by BASELINE personnel. In the event of a major emergency (fire, major spill, medical, explosion), use the cellular phone to contact 911, Yane Nordhav (510) 420-8686, and the client (phone number listed above), and other emergency numbers listed below, as applicable. The Site Health and Safety Manager shall verbally request evacuation of site personnel (personnel must first go through decon prior to evacuation) to outside the affected area, and direct emergency responders to the emergency. The Site Health and Safety Manager shall account for all personnel following evacuation. Any injured personnel shall be brought to the decon area prior to evacuation, and shall be assisted in decontamination, according to the procedures above, unless the transport or decontamination may potentially cause further injury, where transport and decon shall be requested by paramedics. Rescue and medical duties shall be provided by off-site emergency responders (e.g., paramedics, fire fighters); however first aid/CPR may be administered by trained personnel prior to the time that off-site emergency responders arrive at the site.

Other emergency notifications may be required, for example, Office of Emergency Services [(800) 852-7550], Alameda County Department of Environmental Health [(510) 567-6700], or the local Office of Emergency Services [(510) 238-3938]. Coordinate with Port personnel in contacting the emergency numbers listed above. All notifications shall be documented.

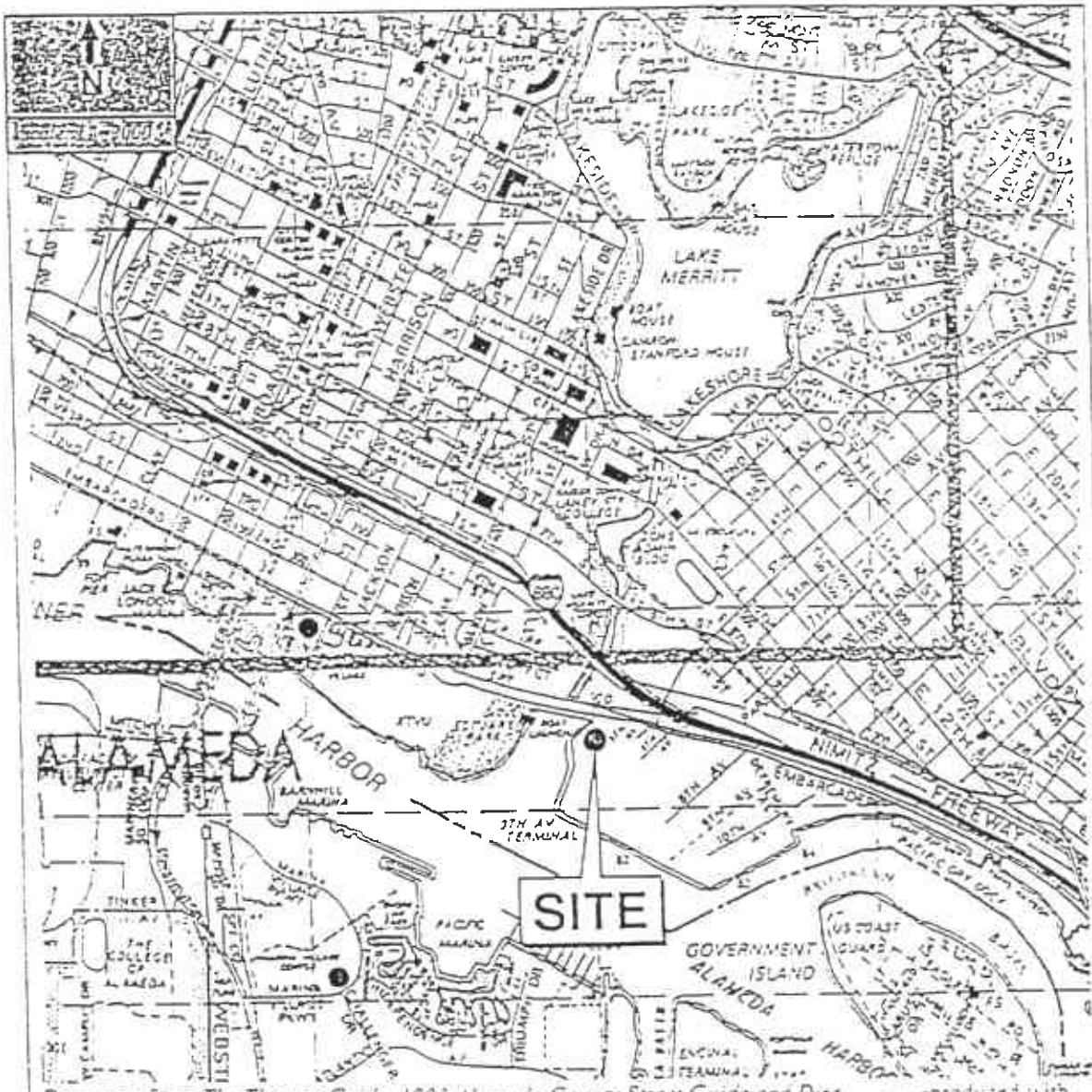
Following the emergency, the Site Health and Safety Manager shall be responsible for preparing a post-incident critique, for the purpose of identifying the cause of the emergency, response initiated, and need for additional training, procedures, or equipment. The Site Health and Safety Manager and Project Manager shall take corrective action to prevent reoccurrence of the emergency.

Hospital/Clinic Name and Address:	Hospital Phone:	Paramedic/Fire & Police Dept. Phone:
Summit Medical Center 34th & Webster, Oakland	(510) 835-4500 (510) 869-6600	911

Prepared by:	Date:	Reviewed/Approved by:	Date:
Ragnar K. Stefansson	01/09/02	Yane Nordhav	1/9/02

Read by/Date:

Ragnar K. Stefansson 1/09/02



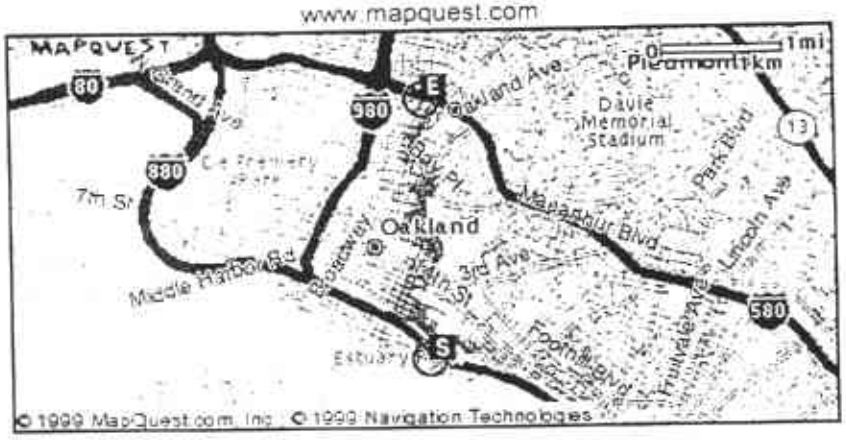
Base map from *The Thomas Guide, 1995 Alameda County Street Guide and Dire...* reproduced with permission from Thomas Bros. Maps.

Background Thomas Bros. Guide 1995	Site Location Pacific Dry Dock Yard II 321 Embarcadero Street, Oakland, CA	1
SCA Project No F-3070	*Work Plan by SCA Environmental, Inc.* *4 Embarcadero Center, Suite 480, San Francisco, CA 94111*	FIGURE
Drafted RC Reviewed AWH		

ROUTE

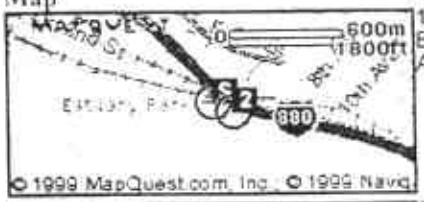
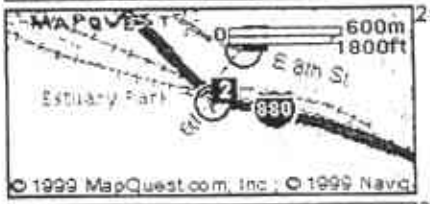
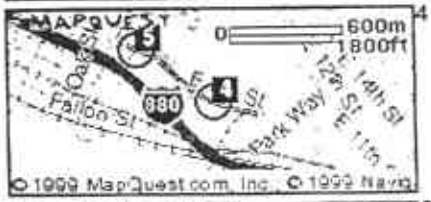
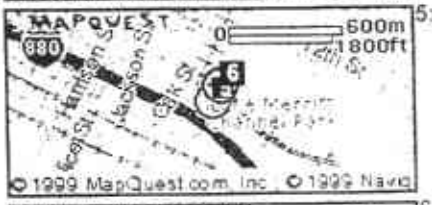
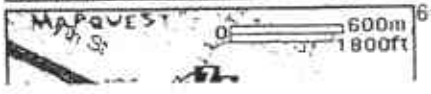
MAPQUEST

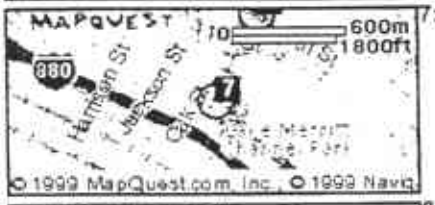
www.mapquest.com



Door to Door Directions

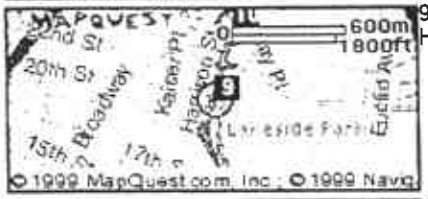
From:	321 Embarcadero Street Oakland CA
To:	34th And Webster Oakland CA

Map	Direction	Distance
	1: Start out going East on EMBARCADERO E towards 5TH AVE by turning left.	0.1 miles (0.1 km)
	2: Turn LEFT onto 5TH AVE.	0.2 miles (0.3 km)
	3: Turn LEFT onto E 8TH ST.	0.1 miles (0.2 km)
	4: E 8TH ST becomes 7TH ST.	0.3 miles (0.5 km)
	5: Turn RIGHT onto FALLON ST.	0.1 miles (0.1 km)
	6: Turn LEFT onto 8TH ST.	0.1 miles (0.1 km)



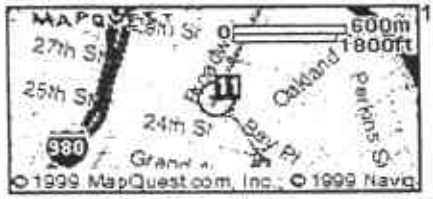
7: Turn RIGHT onto OAK ST. 0.3 miles (0.5 km)

8: OAK ST becomes LAKESIDE DR. 0.6 miles (1.0 km)

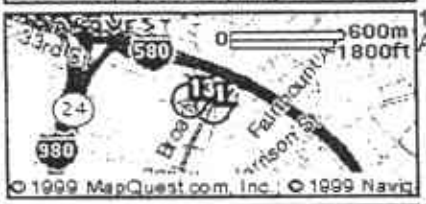


9: LAKESIDE DR becomes HARRISON ST. 0.3 miles (0.4 km)

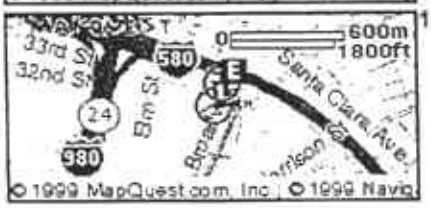
10: Turn SLIGHT LEFT onto 27TH ST. 0.2 miles (0.4 km)



11: Turn RIGHT onto BROADWAY. 0.4 miles (0.6 km)



12: Turn LEFT onto HAWTHORNE AVE. 0.1 miles (0.1 km)



13: Turn RIGHT onto WEBSTER ST. 0.1 miles

Total Distance:	2.8 miles (4.6 km)
Estimated Time:	8 minutes

Calculate New Directions

Emergency Room is located at 34th + Webster

ATTACHMENT C

TANK REMOVAL PERMIT

City Of Oakland
FIRE PREVENTION BUREAU

250 Frank Ogawa Plaza, Ste. 3341
Oakland California 94612-2032
510-238-3851

Permit To Excavate And Install, Repair, Or Remove Inflammable Liquid Tanks

Oakland, California February 26, 2002

Tank Permit Number: 10-02

Permission Is Hereby Granted To:

Remove Gasoline **Tank And Excavate Commencing:** **Feet Inside:** Property **Line.**

On The:

Site Address: 321 Embarcadero **Present Storage:** Abandoned

Owner: Port of Oakland **Address:** 530 Water St, Oakland, 94607 **Phone:** (510) 627-1184

Applicant: Port of Oakland **Address:** 530 Water St, Oakland, 94607 **Phone:** (510) 627-1184

Dimensions Of Street (sidewalk) Surface To Be Disturbed : **X** **No. Of Tanks** 1 **Capacity** 100 **Gallons, Each**

Remarks

This Permit Is Granted In Accordance With Existing City Ordinances. Owner Hereby Agrees To Remove Tanks On Discontinuance Of Use Or When Notified By The City Authorities When Installing, Removing Or Repairing Tanks, No Open Flame To Be On Or Near Premises.

CERTIFICATE OF TANK AND EQUIPMENT INSPECTION

Type Of Inspection:

Inspected And Passed On:

By:

Approved: *Fire Marshal*

UST/AST Installations/modifications:

Pressure Test: Inspected By: **Date:**

Primary Piping Test: Inspected By: **Date:**

Inspection Fee Paid: $ 540.00

Received By: ck#389134 rec#834550 Mc

Secondary Containment & Sump Testing:

Inspected By: **Date:**

Final: Inspected By: **Date:**

Before Covering Tanks, Above Certification Must Be Signed When Ready For Inspection Notify Fire Prevention Bureau 238-3851

THIS PERMIT MUST BE LEFT ON THE WORK SITE AS AUTHORITY THEREFORE

Distribution: White - Fire Prevention Bureau, Yellow - Contractor, Pink - Electrical Inspection

ATTACHMENT D

TANK RECYCLING TICKET

Weighmaster: **SCHNITZER STEEL PRODUCTS - OAKLAND**
Weighed at : 1101 EMBARCADERO WEST
OAKLAND, CA 94604
800-449-3919

TICKET NO.2002121796
TRIP: 191 SCALE: 1 (TRUCK/DOCK SCALE)

A/P TICKET

Vendor Number 1408
Vendor Name FOSS ENVIRONMENTAL
1605 FERRY POINT
ALAMEDA, CA 94501

LIC# Vehicle-N/P
Driver -R0598755
Trailer-

WEIGHMASTER CERTIFICATE : THIS IS TO CERTIFY that the following described commodity was weighed, measured or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Deputy Weighmaster JEFF FINKEL
Date 09-JAN-02 Time 10:50

Commodity	Description - Ferrous	Net lbs
103-00	Unp. HMS	440.0

Total Wt- Gross: 10880.0 lbs **Tare:** **10440.0** lbs **Net:** 440.0 lbs 776089

ATTACHMENT E

LABORATORY REPORTS

Quality Control Checklist
for Review of Laboratory Report

Job No.: 98379-35 Site: FORMER PACIFIC DRY DOCK

Laboratory: CURTIS AND TOMPKINS Laboratory Report No:

Report Date: 17 JAN 2002 BASELINE Review By: RAGNAR STEFANSSON

	Yes	No	NA	
GENERAL QUESTIONS (Describe "no" responses below in "comments" section. Contact the laboratory, as required, for further explanation or action on "no" responses; document discussion in comments section.)				
1a. Does the report include a case narrative? *(A case narrative MUST be prepared by the lab for all analytical work requested by BASELINE)*	✓			
1b. Is the number of pages for the lab report as indicated on the case narrative/lab transmittal consistent with the number of pages that are included in report?		✓		SEE COMMENT 1 PAGES ARE NOT NUMBERED
1c. Does the case narrative indicate which samples were analyzed by a subcontractor and the subcontractor's name?			✓	
1d. Does the case narrative summarize subsequent requests not shown on the chain-of-custody (e.g., additional analyses requested, release of "hold" samples)?			✓	
1e. Does the case narrative explain why requested analyses could not be performed by laboratory (e.g., insufficient sample)?			✓	
1f. Does the case narrative explain all problems with the QA/QC data as identified in the checklist (as applicable) ?		✓		SEE COMMENT 5)
2a. Is the laboratory report format consistent and legible throughout the report?	✓			
2b. Are the sample and reported dates shown in the laboratory report correct?	✓			
3a. Does the lab report include the original chain-of-custody form?		✓		SEE COMMENT
3b. Were all samples appropriately analyzed as requested on the chain-of-custody form?	✓			
4. Was the lab report signed and dated as being reviewed by the laboratory director, QA manager, or other appropriate personnel? (Some lab reports have signature spaces for each page). (This requirement also applies to any analyses subcontracted out by the laboratory)	✓			
5a. Are preparation methods, cleanup methods (if applicable), and laboratory methods indicated for all analyses?	✓			
5b. If additional analytes were requested as part of the reporting of the data for an analytical method, were these included in the lab report?			✓	
6. Are the units in the lab report provided for each analysis consistent throughout the report?	✓			
7. Are the detection limits (DL) appropriate based on the intended use of the data? (e.g., DL below applicable MCLs for water quality issues?)	✓			
8a. Are detection limits appropriate based on the analysis performed? (i.e., not elevated due to dilution effects)	✓			
8b. If no, is an explanation provided by the laboratory?			✓	

	Yes	No	NA
9a. Were the samples analyzed within the appropriate holding time? (generally 2 weeks for volatiles, and up to 6 months for total metals)	✓		
9b. If no, was it flagged in the report?			✓
10. If samples were composited prior to analysis, does the lab report indicate which samples were composited for each analysis?			✓
11a. Do the chromatograms confirm quantitative laboratory results? (petroleum hydrocarbons)	✓		
11b. Is a standard chromatogram(s) included in the laboratory report?	✓		
11c. Do the chromatograms confirm laboratory notes, if present (e.g., sample exhibits lighter hydrocarbon than standard)	✓		
12. Are the results consistent with previous analytical results from the site? *(If no, contact the lab and request review/reanalysis of data, as appropriate)*	✓		
13a. REVISED LAB REPORTS ONLY. Is the revised lab report or revised pages to a lab report signed and dated as being reviewed by the laboratory director, QA manager, or other appropriate personnel?			✓
13b. REVISED LAB REPORTS ONLY. Does the case narrative indicate the date of revision and provide an explanation for the revision?			✓
13c. REVISED LAB REPORTS ONLY. Does the revised lab report adequately address the problem(s) which triggered the need for a revision?			✓
13d. REVISED LAB REPORTS ONLY. Are the data included in the revised report the same as data reported in the original report, except where the report was revised to correct incorrectly reported data?			✓
QA/QC Questions Field/Laboratory Quality Control - Groundwater Analyses			
14. Are field blanks reported as "ND"? (groundwater samples) *A field blank is a sample of DI water which is prepared in the field using the same collection and handling procedures as the other samples collected, and used to demonstrate that the sampling procedure has not contaminated the sample.*			✓
15. Are trip blanks reported as "ND"? (groundwater samples/volatile analyses) *A trip blank is a sample of contaminant-free matrix placed in an appropriate container by the lab and transported with the field samples collected. Provides information regarding positive interference introduced during sample transport, storage, preservation, and analysis. The sample is NOT opened in the field.*			✓
16. Are duplicate sample results consistent with the original sample? (groundwater samples) *Field duplicates consist of two independent samples collected at the same sampling location during a single sampling event. Used to evaluate precision of the analytical data and sampling technique. (Differences between the duplicate and sample results may also be attributed to environmental variability).*			✓

	Yes	No	NA	
Batch Quality Control (Samples are batched together by matrix [soil, water] and analyses requested. A batch generally consists of 20 or fewer samples of the same matrix type, and is prepared using the same reagents, standards, procedures, and time frame as the samples. QC samples are run with each batch to assess performance of the entire measurement process.)				
17. Do the sample batch numbers and corresponding laboratory QA/QC batch numbers match?		✓		SEE COMMENT 4
18a. Are method blanks (MB) for the analytical method(s) below the laboratory reporting limits? *Used to assess lab contamination and prevent false positive results. MBs should be "ND."*	✓			
18b. If no, is an explanation provided in the case narrative to validate the data?			✓	
18c. Are analytes which may be considered laboratory contaminants reported below the laboratory reporting limit? *Common lab contaminants include acetone, methylene chloride, diethylhexyl phthalate, and di-n-octyl phthalate.*			✓	
18d. If no, was the laboratory contacted to determine whether reported analyte could be a potential laboratory contaminant and was an explanation included in the case narrative?			✓	
19. Are laboratory control samples (LCS) and LCS duplicate (LCSD) [a.k.a., Blank Spike (BS) and BS duplicates (BSD)] within laboratory reporting limits? Limits should be provided on the report. *LCS is a reagent blank spike with a representative selection of target analyte(s) and prepared in the same manner as the samples analyzed. The LCS should be spiked with the same analytes as the matrix spike (below). The LCS is free from interferences from the sample matrix and demonstrates the ability of the lab instruments to recover the target analytes. Accuracy (recovery information) is generally reported as % spike recovery; precision (reproducibility of results) between the LCS and LCSD is generally reported as the relative percent difference (RPD). LCS/LCSD can be run in addition to or in lieu of, matrix QC data.*	✓			SEE COMMENT 3
20a. Are the Matrix QC data (i.e., MS/MSD) within laboratory limits? Limits should be provided on the lab report. *The lab selects a sample from the batch and analyzes a spike and a spike duplicate of that sample. Matrix QC data is used to obtain precision and accuracy information and is reported in the same manner as LCS/LCSD. If the MS/MSD fails, the results may still be considered valid if the MB and either the LCS/LCSD or BS/BSD is within the lab's limits (failure is probably due to matrix interference).*			✓	SEE COMMENT
20b. If no, is the MB and either LCS/LCSD or BS/BSD within lab limits to validate the data?			✓	

	Yes	No	NA
Sample Quality Control			
21a. Are the surrogate spikes reported within the lab's acceptable recovery limits? *A surrogate is a non-target analyte, which is similar in chemical structure to the analyte(s) being analyzed for, and which is not commonly found in environmental samples. A known concentration of the surrogate is spike into the sample or QA "sample" prior to extraction or sample preparation. Results are usually reported as % recovery of the spike. Failure to meet lab's limits for primary and secondary surrogates results in rebatching and reanalysis of the sample; failure of only the primary or the secondary surrogate may be acceptable under certain circumstances. Failure generally is due to coelution with the sample matrix.*	✓		
21b. If no, is an explanation given in the case narrative to validate the data?			✓

Comments:

1) PAGES ARE NOT NUMBERED; ALL PAGES APPEAR TO BE INCLUDED.
2) McCAMPBELL DOES NOT RETURN ANY ORIGINAL COC'S TO CLIENTS
3) AS PER DAVE McCAMPBELL LAB DIRECTOR THE MS/MSD DATA PRESENTED IS ACTUALLY LC/LCS DATA. NO ACTUAL MS/MSD ANALYSIS WAS PERFORMED. LC/LCS LIMITS ARE 70 – 130%. RESULTS ARE WITHIN LIMITS
4) BATCH NO.'S ARE NOT PROVIDED, AS PER LAB DIRECTOR. McCAMPBELL IS CURRENTLY CHANGING COMPUTER SYSTEMS AND WILL PROVIDE BATCH NO.'S IN ~~FUT~~ FUTURE REPORTS. BATCH NO.'S ARE RECORDED AND QC DATA PROVIDED WAS COMPILED FOR THE BATCH ASSOCIATED WITH THE SAMPLE, AS PER DOE
5) PROBLEMS WITH THE QC DATA IS DESCRIBED ABOVE. THE CASE NARRATIVE INCORRECTLY STATES "THE RESULTS OF 2 SAMPLES..."; ONLY ONE SAMPLE WAS ANALYZED

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Baseline 5900 Hollis Street, Ste. D Emeryville, CA 94608	Client Project ID: #98379-35; Soil Sampling at Former Pacific Dry Dock II Site	Date Sampled: 01/09/2002
		Date Received: 01/10/2002
	Client Contact: Ragnar Stefansson	Date Extracted: 01/10/2002
	Client P.O:	Date Analyzed: 01/10/2002

01/17/2002

Dear Ragnar:

Enclosed are:

1). the results of **2** samples from your **#98379-35; Soil Sampling at Former Pacific Dry Dock II Site** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director

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	Client P.O:	Date Analyzed: 01/10/2002

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030) using Encore Method 5035

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
88059E	GSS-1	S	ND	---	ND	ND	ND	ND	109
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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Baseline 5900 Hollis Street, Ste. D Emeryville, CA 94608	Client Project ID: #98379-35; Soil Sampling at Former Pacific Dry Dock II Site	Date Sampled: 01/09/2002
		Date Received: 01/10/2002
	Client Contact: Ragnar Stefansson	Date Extracted: 01/10/2002
	Client P.O:	Date Analyzed: 01/10/2002

Diesel Range (C10-C23) and Oil-Range (C18+) Extractable Hydrocarbons as Diesel and Motor Oil with Silica Gel Clean Up*

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	TPH(mo)+	% Recovery Surrogate
88059	GSS-1	S	3.4,b,g	7.1	107
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	250 ug/L	
		S	1.0 mg/kg	5.0 mg/kg	

*water samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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Baseline 5900 Hollis Street, Ste. D Emeryville, CA 94608	Client Project ID: #98379-35; Soil Sampling at Former Pacific Dry Dock II Site	Date Sampled: 01/09/2002
		Date Received: 01/10/2002
	Client Contact: Ragnar Stefansson	Date Extracted: 01/10/2002
	Client P.O:	Date Analyzed: 01/11/2002

Volatile Organics By GC/MS

EPA method 8260 using Encore Method 5035

Lab ID	88059E
Client ID	GSS-1
Matrix	S

Compound	Concentration*	Reporting Limit W	Reporting Limit S	Compound	Concentration*	Reporting Limit W	Reporting Limit S
Acetone [b]	ND	5.0	25	trans-1,3-Dichloropropene	ND	1.0	5.0
Benzene	ND	1.0	5.0	Ethylene dibromide	ND	1.0	5.0
Bromobenzene	ND	1.0	5.0	Ethylbenzene	ND	1.0	5.0
Bromochloromethane	ND	1.0	5.0	Hexachlorobutadiene	ND	5.0	25
Bromodichloromethane	ND	1.0	5.0	Iodomethane	ND	1.0	5.0
Bromoform	ND	1.0	5.0	Isopropylbenzene	ND	1.0	5.0
Bromomethane	ND	1.0	5.0	p-Isopropyl toluene	ND	1.0	5.0
n-Butyl benzene	ND	1.0	5.0	Methyl butyl ketone [d]	ND	1.0	5.0
sec-Butyl benzene	ND	1.0	5.0	Methylene Chloride [c]	ND	1.0	5.0
tert-Butyl benzene	ND	1.0	5.0	Methyl ethyl ketone [f]	ND	2.0	10
Carbon Disulfide	ND	1.0	5.0	Methyl isobutyl ketone [g]	ND	1.0	5.0
Carbon Tetrachloride	ND	1.0	5.0	Methyl tert-Butyl Ether (MTBE)	ND	1.0	5.0
Chlorobenzene	ND	1.0	5.0	Naphthalene	ND	5.0	25
Chloroethane	ND	1.0	5.0	n-Propyl benzene	ND	1.0	5.0
2-Chloroethyl Vinyl Ether [c]	ND	1.0	5.0	Styrene [k]	ND	1.0	5.0
Chloroform	ND	1.0	5.0	1,1,1,2-Tetrachloroethane	ND	1.0	5.0
Chloromethane	ND	1.0	5.0	1,1,2,2-Tetrachloroethane	ND	1.0	5.0
2-Chlorotoluene	ND	1.0	5.0	Tetrachloroethene	ND	1.0	5.0
4-Chlorotoluene	ND	1.0	5.0	Toluene [l]	ND	1.0	5.0
Dibromochloromethane	ND	1.0	5.0	1,2,3-Trichlorobenzene	ND	5.0	25
1,2-Dibromo-3-chloropropane	ND	2.0	10	1,2,4-Trichlorobenzene	ND	5.0	25
Dibromomethane	ND	1.0	5.0	1,1,1-Trichloroethane	ND	1.0	5.0
1,2-Dichlorobenzene	ND	1.0	5.0	1,1,2-Trichloroethane	ND	1.0	5.0
1,3-Dichlorobenzene	ND	1.0	5.0	Trichloroethene	ND	1.0	5.0
1,4-Dichlorobenzene	ND	1.0	5.0	Trichlorofluoromethane	ND	1.0	5.0
Dichlorodifluoromethane	ND	1.0	5.0	1,2,3-Trichloropropane	ND	1.0	5.0
1,1-Dichloroethane	ND	1.0	5.0	1,2,4-Trimethylbenzene	ND	1.0	5.0
1,2-Dichloroethane	ND	1.0	5.0	1,3,5-Trimethylbenzene	ND	1.0	5.0
1,1-Dichloroethene	ND	1.0	5.0	Vinyl Acetate [m]	ND	5.0	25
cis-1,2-Dichloroethene	ND	1.0	5.0	Vinyl Chloride [n]	ND	1.0	5.0
trans-1,2-Dichloroethene	ND	1.0	5.0	Xylenes, total [o]	ND	1.0	5.0
1,2-Dichloropropane	ND	1.0	5.0	**Comments:**			
1,3-Dichloropropane	ND	1.0	5.0	**Surrogate Recoveries (%)**			
2,2-Dichloropropane	ND	1.0	5.0	Dibromofluoromethane	94		
1,1-Dichloropropene	ND	1.0	5.0	Toluene-d8	103		
cis-1,3-Dichloropropene	ND	1.0	5.0	4-Bromofluorobenzene	114		

*water and vapor samples are reported in ug/L, soil and sludge samples in ug/kg, wipes in ug/wipe and all TCLP / SPLP extracts in ug/L

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) 2-propanone or dimethyl ketone; (c) (2-chloroethoxy) ethene; (d) 2-hexanone; (e) dichloromethane; (f) 2-butanone; (g) 4-methyl-2-pentanone or isopropylacetone; (h) lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content; (k) ethenylbenzene; (l) methylbenzene; (m) acetic acid ethenyl ester; (n) chloroethene; (o) dimethylbenzenes.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Baseline 5900 Hollis Street, Ste. D Emeryville, CA 94608	Client Project ID: #98379-35; Soil Sampling at Former Pacific Dry Dock II Site	Date Sampled: 01/09/2002
		Date Received: 01/10/2002
	Client Contact: Ragnar Stefansson	Date Extracted: 01/10/2002
	Client P.O:	Date Analyzed: 01/11/2002

Semi-Volatile Organics By GC/MS

EPA method 625 and 3510 or 8270 and 3550

Lab ID	88059
Client ID	GSS-1
Matrix	S

Compound	Concentration*	Reporting Limit W	Reporting Limit S	Compound	Concentration*	Reporting Limit W	Reporting Limit S
Acenaphthene	ND	10	0.33	Di-n-octyl Phthalate	ND	10	0.33
Acenaphthylene	ND	10	0.33	1,2-Diphenylhydrazine	ND	10	0.33
Anthracene	ND	10	0.33	Fluoranthene	ND	10	0.33
Benzidine	ND	50	1.6	Fluorene	ND	10	0.33
Benzoic Acid	ND	50	1.6	Hexachlorobenzene	ND	10	0.33
Benzo(a)anthracene	ND	10	0.33	Hexachlorobutadiene	ND	10	0.33
Benzo(b)fluoranthene	ND	10	0.33	Hexachlorocyclopentadiene	ND	50	1.6
Benzo(k)fluoranthene	ND	10	0.33	Hexachloroethane	ND	10	0.33
Benzo(g,h,i)perylene	ND	10	0.33	Indeno(1,2,3-cd)pyrene	ND	10	0.33
Benzo(a)pyrene	ND	10	0.33	Isophorone	ND	10	0.33
Benzyl Alcohol	ND	20	0.66	2-Methylnaphthalene	ND	10	0.33
Bis(2-chloroethoxy)methane	ND	10	0.33	2-Methylphenol (o-Cresol)	ND	10	0.33
Bis(2-chloroethyl) Ether	ND	10	0.33	3 &/or 4-Methylphenol (m &/or p-Cresol)	ND	10	0.33
Bis(2-chloroisopropyl)Ether	ND	10	0.33	Naphthalene	ND	10	0.33
Bis(2-ethylhexyl) Phthalate	ND	10	0.33	2-Nitroaniline	ND	50	1.6
4-Bromophenyl Phenyl Ether	ND	10	0.33	3-Nitroaniline	ND	50	1.6
Butylbenzyl Phthalate	ND	10	0.33	4-Nitroaniline	ND	50	1.6
4-Chloroanaline	ND	20	0.66	2-Nitrophenol	ND	50	1.6
4-Chloro-3-methylphenol	ND	10	0.33	4-Nitrophenol	ND	50	1.6
2-Chloronaphthalene	ND	10	0.33	Nitrobenzene	ND	10	0.33
2-Chlorophenol	ND	10	0.33	N-Nitrosodiphenylamine	ND	10	0.33
4-Chlorophenyl Phenyl Ether	ND	10	0.33	N-Nitrosodi-n-propylamine	ND	10	0.33
Chrysene	ND	10	0.33	Pentachlorophenol	ND	50	1.6
Dibenzo(a,h)anthracene	ND	10	0.33	Phenanthrene	ND	10	0.33
Dibenzofuran	ND	10	0.33	Phenol	ND	10	0.33
Di-n-butyl Phthalate	ND	10	0.33	Pyrene	ND	10	0.33
1,2-Dichlorobenzene	ND	10	0.33	1,2,4-Trichlorobenzene	ND	10	0.33
1,3-Dichlorobenzene	ND	10	0.33	2,4,5-Trichlorophenol	ND	10	0.33
1,4-Dichlorobenzene	ND	10	0.33	2,4,6-Trichlorophenol	ND	10	0.33
3,3-Dichlorobenzidine	ND	20	0.66				
2,4-Dichlorophenol	ND	10	0.33	Comments:			
Diethyl Phthalate	ND	10	0.33	**Surrogate Recoveries (%)**			
2,4-Dimethylphenol	ND	10	0.33	2-Fluorophenol	89		
Dimethyl Phthalate	ND	10	0.33	Phenol-d5	81		
4,6-Dinitro-2-methylphenol	ND	50	1.6	Nitrobenzene-d5	99		
2,4-Dinitrophenol	ND	50	1.6	2-Fluorobiphenyl	99		
2,4-Dinitrotoluene	ND	10	0.33	2,4,6-Tribromophenol	80		
2,6-Dinitrotoluene	ND	10	0.33	p-Terphenyl-d14	85		

*water samples are reported in ug/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range

h) lighter than water immiscible sheen is present; i)liquid sample that contains greater than ~5 vol. % sediment; j) sample diluted due to high organic content

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Baseline 5900 Hollis Street, Ste. D Emeryville, CA 94608	Client Project ID: #98379-35; Soil Sampling at Former Pacific Dry Dock II Site	Date Sampled: 01/09/2002
		Date Received: 01/10/2002
	Client Contact: Ragnar Stefansson	Date Extracted: 01/10/2002
	Client P.O:	Date Analyzed: 01/11/2002

LUFT Metals*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction°	Cadmium	Chromium	Lead	Nickel	Zinc	% Recovery Surrogate
88059	GSS-1	S	TTLC	ND	16	9.8	17	71	103
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	0.5 mg/kg	0.5	3.0	2.0	1.0	
		W	TTLC	0.005 mg/L	0.02	0.005	0.05	0.05	
		---	STLC, TCLP	0.01 mg/L	0.05	0.2	0.05	0.05	

* water samples are reported in mg/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in mg/L

+ Lead is analysed using EPA method 6010 (ICP)for soils, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC - CA Title 22

@ DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due to matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

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http://www.mccampbell.com E-mail: main@mccampbell.com

QC REPORT

EPA 8015m + 8020

Date: 01/10/02 Matrix: Soil

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 10802	Extraction: EPA 5030				Instrument: GC-7		
Surrogate1	ND	103.000	105.000	100.00	103	105	1.9
Xylenes	ND	0.322	0.328	0.30	107	109	1.8
Ethylbenzene	ND	0.104	0.106	0.10	104	106	1.9
Toluene	ND	0.103	0.105	0.10	103	105	1.9
Benzene	ND	0.098	0.101	0.10	98	101	3.0
MTBE	ND	0.090	0.093	0.10	90	93	3.3
TPH (gas)	ND	0.966	0.969	1.00	97	97	0.3
SampleID: 11002	Extraction: EPA 3550				Instrument: GC-11 A		
Surrogate1	ND	98.000	98.000	100.00	98	98	0.0
TPH (diesel)	ND	137.500	137.500	150.00	92	92	0.0

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 200$$

RPD means Relative Percent Deviation

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QC REPORT

VOCs (EPA 8240/8260)

Date: 01/11/02 **Extraction:** EPA 5030 **Matrix:** Soil

Compound	Concentration: ug/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 10902					Instrument:	GC-10	
Surrogate	ND	90.0	97.0	100.00	90	97	7.5
Toluene	ND	45.0	44.5	50.00	90	89	1.1
Benzene	ND	49.5	49.5	50.00	99	99	0.0
Chlorobenzene	ND	48.5	49.5	50.00	97	99	2.0
Trichloroethene	ND	42.0	47.5	50.00	84	95	12.3
1,1-Dichloroethene	ND	40.0	40.0	50.00	80	80	0.0

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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QC REPORT

SVOCs (EPA 8270/625/525)

Date: 01/11/02 **Extraction:** N/A **Matrix:** Soil

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 11302					Instrument:	GC-8	
Surrogate1	ND	980.0	990.0	1000.00	98	99	1.0
Pyrene	ND	920.0	880.0	1000.00	92	88	4.4
Pentachlorophenol	ND	1100.0	1070.0	2000.00	55	54	2.8
2,4-Dinitrotoluene	ND	1170.0	1150.0	1000.00	117	115	1.7
4-Nitrophenol	ND	1370.0	1350.0	2000.00	69	68	1.5
Acenaphtene	ND	880.0	880.0	1000.00	88	88	0.0
4-Chloro-3-metylphenol	ND	1500.0	1500.0	2000.00	75	75	0.0
1,2,4-trichlorobenzene	ND	880.0	880.0	1000.00	88	88	0.0
N-nitroso-di-n-propyl	ND	900.0	910.0	1000.00	90	91	1.1
1,4-Dichlorobenzene	ND	910.0	820.0	1000.00	91	82	10.4
2-Chlorophenol	ND	1790.0	1780.0	2000.00	90	89	0.6
Phenol	ND	1500.0	1470.0	2000.00	75	74	2.0

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

QC REPORT

LUFT

Date: 01/11/02 **Extraction:** TTLC **Matrix:** Soil

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 11402					Instrument: P-1 | AA		
Surrogate1	ND	97.5	104.4	100.00	98	104	6.8
Copper	ND	4.3	4.6	5.00	86	91	5.5
Zinc	ND	4.4	4.8	5.00	89	96	8.5
Lead	ND	4.5	4.7	5.00	90	95	5.2
Nickel	ND	4.7	4.9	5.00	93	97	4.1
Chromium	ND	4.6	4.7	5.00	92	95	3.5
Cadmium	ND	5.2	5.4	5.00	104	107	2.5

$$\%\ \text{Recovery} = \frac{(MS - Sample)}{AmountSpiked} \cdot 100$$

$$\text{RPD} = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

[redacted]

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
Tel: (510) 420-8686 Fax: (510) 420-1707

29584 -02.doc

CHAIN OF CUSTODY RECORD

Turn-around Time: STANDARD
Lab: McCAMPBELL
BASELINE Contact Person: RAGNAR STEFANSS.

Project No.	Project Name and Location:
98379-35	SOIL SAMPLING AT FORMER PACIFIC DRY ROCK #5 SITE

Samplers: (Signature) RGNK. SN

Sample ID No. Station	Date:	Time:	Media	Containers No.	Containers Type	Preservative None	Preservative HCl	Preservative NO_3	Preservative SO_4	Other: ICE	TPH (encore) -g BTEX	TPH-d, -mo*	METALS (LUFT)	MTBE (encore) (8260B)*	SVOCs (8270C)				Remarks/ Composite
655-1	1/9/02	14:00	SOIL	6	5 ENCORE 1 BRASSTUBES					X	X	X	X	X	X				

88059
88059E

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT

PRESERVATION APPROPRIATE ✓ CONTAINERS

VOAS	O&G	METALS	OTHER

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Conditions of Samples Upon Arrival at Laboratory:
RGNK. SN	01/10/02 1040	ER 1285	01/10/02 1040	
Relinquished by: (Signature) ER 1285	Date/Time 1510 1-10-02	Received by: (Signature) 1/10/02 D. MCNER 4:30	Date/Time	*Remarks: PERFORM TPH-MO W/SILICA GEL CLEAN-UP PKS * REPORT ALL ~~FUEL OXYGENATES~~ VOCs
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	

D:\Graphic\Chain of Custody Record\Master.cdr 4/12/00

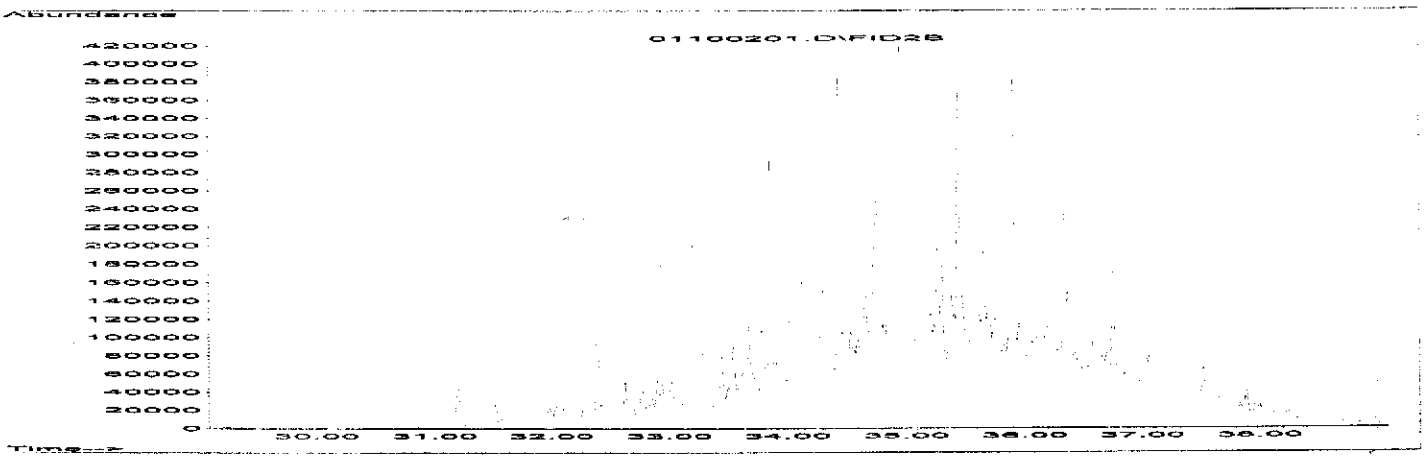
D:\HPCHEM\2\DATAB\01100201.D

Instrument Name	GC-6	DETECTOR B	
Data File Name	01100201.D	**Sample Name**	B STANDARD TPH-d, mo
Date Acquired	1/10/2002 12:00	**Data File Path**	D:\HPCHEM\2\DATAB\
Acq. Method File	GC6ANEW.M	**Misc Info**	
Vial Number	51	**Sample Multiplier**	1

NOTE: THE MULTIPLIER IS THE DILUTION FACTOR ONLY, NOT WITH THE EXTRACTION FACTOR
NOTE: S1 & S2 % recoveries are based on dilution without SS
NOTE: TPH(d,bo) and TPH(mo) values are based on diesel & motor oil calibrations, TPH(bo) and TPH(mo) use the same RL
NOTE: Ignore TPH(g) & TPH(k) values from Chem Station; after that they are based on the diesel RF & area

Name	Ret Time	CS (mg/Ls)	Area	Amount Using D & MO RFs only (mg/Ls)	Soil mg/kg)	Water (ug/L)
S1 (C9)	28.36	91.0	16690004	91.0	91%	91%
S2 (C26)	39.40	110.0	17114816	110.0	110%	110%
TPH(d)	C10-C23	316.3	273443261	316.3	158.1	7907
TPH(mo)	C18+	53.4	50461510	53.4	26.7	1335
TPH(k) [K]	C10-C18	449.3	237086684	274.2	137.1	6856
TPH(g)	<C12	293.6	57517833	66.5	33.3	1663
TPH(bo) (C10+)	C10+	244.2	283199007	244.2	122.1	6106

REPLOT(C10-C25)



File : D:\HPCHEM\2\DATAB\01100215.D
Operator : Thu
Acquired : 10 Jan 2002 11:45 pm using AcqMethod GC6ANEW.M
Instrument : GC-6
Sample Name: 88059S
Misc Info : D,MO WSG
Vial Number: 58