field solutions inc
ENVIRONMENTAL FIELD SERVICES

ENVIRONMENTAL PROTECTION
00 JAN 11 PM 3:52

January 10, 2000
Project 604.01.10

Mr. Phillip Grubstick
Engineering Services Manager
City of Oakland
Office of Planning and Building
250 Frank H. Ogawa Building, 2nd Floor
Oakland, California 94612

RE: RESCISSION OF MINOR ENCROACHMENT PERMIT, 1441 EMBARCADERO, OAKLAND, CALIFORNIA

Dear Mr. Grubstick:

Field Solutions, Inc. (FSI) has prepared this letter requesting rescission of a minor encroachment permit on behalf of Crowley Marine Services, Inc. (Crowley). The encroachment permit was originally issued during June 1993 for installation of groundwater monitoring well MW-5 on the shoulder of the road at 1441 Embarcadero in Oakland, California. Well MW-5 was destroyed on December 2, 1999. Permits were obtained from Alameda County and the City of Oakland before the well destruction task was initiated. Rescission of the minor encroachment permit is now being requested. Information that the City of Oakland requested to process the rescission request is included in this letter.

Groundwater monitoring at the 1441 Embarcadero site was discontinued after a March 1997 monitoring event with approval from Alameda County Health Care Services. A copy of the final monitoring report prepared by The Gauntlett Group in April 1997 is attached to this letter. Figures showing the location of well MW-5 are included in The Gauntlett Group report. Alameda County requested the final round of quarterly groundwater monitoring in a January 15, 1997 letter. No additional monitoring related to the underground storage tanks at the site has been required. In a June 28, 1999 letter, Alameda County required no further action at the 1441 Embarcadero site. Formal closure of the underground storage tank case, conditioned upon closure of the wells at the site, was received from Alameda County in a December 21, 1999 letter. Copies of the January 15, 1997, June 28, 1999, and December 21, 1999 letters from Alameda County are attached.

Well MW-5 at 1441 Embarcadero was destroyed following the procedures described in Alameda County Public Works Agency permit number 99WR673 on December 2, 1999. HEW Drilling Company, Inc. (HEW Drilling), under contract to FSI, destroyed the well. HEW Drilling used solid stem auger drilling equipment to remove the protective boxes, casing, and annular seal to a depth of 2 feet below ground surface at each of the wells. Cement grout was then pumped into the wells to complete the destruction task. The grout seal was inspected on December 3, 1999

and additional cement was added to ensure that the seal was flush with the surrounding road surface.

Please call if you have any questions or require additional information. A check in the amount of $150 is enclosed to process the rescission request. FSI understands that the City will prepare a Rescission of Minor Encroachment Permit and route the executed permit to the County Recorder for recordation.

Sincerely,

FIELD SOLUTIONS, INC.

PATRICK LACEY
FIELD SERVICES MANAGER

Attachments: April 1997 Self Monitoring Report, 1441 Embarcadero
January 15, 1997 Alameda County Health Care Services letter
June 28, 1999 Alameda County Health Care Services letter
December 21, 1999 Alameda County Health Care Services letter

cc: Stephen Wilson, Crowley Marine Services (without attachments)
Barney Chan, Alameda County Health Care Services (without attachments)
Beth Hamilton, Skjerven & Morrill (without attachments)

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9432

December 21, 1999
StID # 1420

Mr. R. Stephen Wilson
Crowley Marine Services
2401 Fourth Ave., 11th Floor
P.O. Box 2287
Seattle, WA 98111-2287

Re: Request for Well Closure at Pacific Dry Dock, Yard I, 1441 Embarcadero, Oakland, CA 94606

Dear Mr. Wilson:

This letter is to inform you that the Regional Water Quality Control Board has concurred with our office's recommendation for site closure regarding the two former underground tanks at the above referenced site. Prior to issuing formal closure, you are required to properly close the existing six (6) monitoring wells at this site. You may contact, Ms. Cindy Hutcheson of Alameda County Public Works, Water Resources at (510) 670-5248 for their specific requirements.

Please send our office a copy of the well closure report after this work is completed.

You may contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

C: B. Chan, files
Ms. D. Heinze, Port of Oakland, 530 Water St., Oakland, CA 95\4604-2064
WIclPDDI

LOP - CHANGE RECORD REQUEST FORM

printed: 11/05/1999

Mark Out What Needs Changing and Hand to LOP Data Entry
(Name/Address changes go to Annual Programs Data Entry)

Insp: BC

AGENCY # : 10000 SOURCE OF FUNDS: F SUBSTANCE: 12035
StID : 1420 LOC: -0-
SITE NAME: Pacific Dry Dock & Repair Co. DATE REPORTED : 09/24/1991
ADDRESS : 1441 Embarcadero DATE CONFIRMED: 09/24/1991
CITY/ZIP : Oakland 94606 MULTIPLE RPs : Y

SITE STATUS

CASE TYPE: O CONTRACT STATUS: 4 PRIOR CODE:2B4 EMERGENCY RESP: -0-
RP SEARCH: S DATE COMPLETED: 02/21/1992
PRELIMINARY ASMNT: U DATE UNDERWAY: 03/01/1992 DATE COMPLETED: -0-
REM INVESTIGATION: - DATE UNDERWAY: -0- DATE COMPLETED: -0-
REMEDIAL ACTION: - DATE UNDERWAY: -0- DATE COMPLETED: -0-
POST REMED ACT MON:- DATE UNDERWAY: -0- DATE COMPLETED: -0-

ENFORCEMENT ACTION TYPE: 1 DATE ENFORCEMENT ACTION TAKEN: 02/21/1992
LUFT FIELD MANUAL CONSID: 3HSC
CASE CLOSED: - DATE CASE CLOSED: -0-
DATE EXCAVATION STARTED : 09/24/1991 REMEDIAL ACTIONS TAKEN: ET

RESPONSIBLE PARTY INFORMATION

RP#1-CONTACT NAME: Mr. Steven Wilson
COMPANY NAME: Crowley Maritime Corp.
ADDRESS: 2401 Fourth Ave
CITY/STATE: Seattle, W A 98111

RP#2-CONTACT NAME: Dale Klettke
COMPANY NAME: Port Of Oakland
ADDRESS: 530 Water Street
CITY/STATE: Oakland, C A 94604-2064

INSPECTOR VERIFICATION:

NAME _____ SIGNATURE _____ DATE _____

DATA ENTRY INPUT:

Name/Address Changes Only

ANNPGMS _____ LOP____ DATE _____

Case Progress Changes

LOP _____ DATE _____

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9335 (FAX)

October 5, 1999

STID 2786

Mr. Robert A. Saia
Mission Valley Rock Company
7999 Athenour Way
Sunol, CA 94586

2nd MAILING – CORRECTED ADDRESS

NOTICE OF VIOLATION

RE: MISSION VALLEY ROCK COMPANY, 7999 ATHENOUR WAY, SUNOL

Dear Mr. Saia:

In correspondence form this office dated February 18, 1999 (attached), you were advised that your monitoring wells must be sampled and monitored following a quarterly schedule. Well MW-2 was also to be checked for the presence of free-phase product, and such product removed if encountered, following a monthly schedule. Further, technical reports documenting well sampling and monitoring, and free-phase product removal status, were to be submitted to this agency within 60 days of the completion of field activities associated with the reporting quarter.

To date, no reports have been received for the 1st and 2nd quarters of this year. The 3rd quarter report will be due in 55 days.

in correspondence from this office dated May 4, 1999 (also attached), you were also directed to comply with a request to inform this office of all current owners of fee title to the site. This request for title information was pursuant to Section 25297.15 of the Health & Safety Code. You were given 20 days to respond. To date, you have not responded.

You are currently in violation of Section 2652(d) of Title 23, California Code of Regulations for failure to submit technical reports, and Section 25297.15 of the Health & Safety Code for failure to respond to the fee title record request. Section 25299(b) of the Health & Safety Code provides for penalties of up to $5000 per day *per violation* for such violations.

Your case will be referred to the Alameda County District Attorney's Office to initiate enforcement action should the 1st and 2nd quarter 1999 reports not be submitted within 20 days of the date of this letter. Further, the requested fee title information is also to be submitted within 20 days.

CROWLEY MARINE SERVICES, INC.

ENVIRONMENTAL PROTECTION

99 SEP 15 PM 4:12

September 13, 1999

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, #250
Alameda, CA 94502-6577

RE: Pacific Dry Dock Yard I, 1441 Embarcadero, Oakland, CA 94606; STID #1420

Dear Mr. Chan:

Per your request the purpose of this letter is to outline the disposal of the soils that were excavated during the removal of the two underground storage tanks (UST) from the above referenced site.

A 400-gallon UST was removed from the eastern section of the site in 1991. The soil excavated during the removal was stockpiled on site pending analytical results. During this period it was proposed to and agreed by Alameda County Health Care Services Agency (ACHCSA) that approximately 3,500 cubic yards of soil would be excavated and treated by on-site thermal desorption. At that time the stockpiled soil was returned to the excavation, as it was to be treated on site, so that the site could be prepared for remediation activities (demolition of buildings etc.). It was subsequently agreed that the remedial activities would not be implemented at the site and that further studies would be performed. The data gathered during the UST removal and subsequent studies were included in the risk-based data that was submitted to ACHCSA.

A 500-gallon UST removed from the western section of the site in 1994. The soil excavated during the removal was sent for disposal at the Altamont landfill in California.

Sincerely

Stephen Wilson
Manager, Environmental Affairs

cc: PDDI Correspondence

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
Pier D, Berths D47-D49, Long Beach, California 90802-1098 - (310) 491-4700 - Fax (310) 491-4790 (Admin) - Fax (310) 491-4789 (Operations)
2525 C Street, Suite 303, Anchorage, Alaska 99503-2639 - (907) 278-4978 - Fax (907) 257-2828
Pier 54, San Francisco, California 94107 - (415) 546-2684 - Fax (415) 546-2606 (Admin)
Post Office Box 2110, Jacksonville, Florida 32203-2100 - (904) 727-2200 - Telex 4611037 - Fax (904) 727-2401
Maturin, Venezuela - Telephone 011-589-145-2856

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9335 (FAX)

June 28, 1999

Mr. R. Stephen Wilson
Crowley Marine Services, Inc.
2401 Fourth Avenue, 11th Floor
P.O. Box 2287
Seattle, Washington 98111

Re: Pacific Dry Dock Yards I and II, 1441 and 320 Embarcadero, Oakland, California, 94606

Dear Mr. Wilson:

For a number of years, Crowley Marine Services, Inc. and its predecessors (Crowley) operated ship repair and maintenance facilities at Pacific Dry Dock Company Yard I (1441 Embarcadero) and Yard II (321 Embarcadero) in Oakland, California. These properties, leased by Crowley, are both owned by the Port of Oakland. We have received the ***Update to the Risk Assessment Report*** (Risk-Based Decisions, Inc., July 6, 1998) and the recalculations of the potential risks (Risk-Based Decisions, January 26, 1999) posed by the referenced sites, Pacific Dry Dock Yards I and II. Both Yards have been evaluated for closure based on the Guidelines used by the San Francisco Bay Regional Water Quality Control Board (RWQCB) for low risk soil and groundwater cases. Specific information relating to each site is presented below:

Yard I

Crowley reportedly operated a boat repair and marine railway facility at Yard I from approximately 1911 to May 1991 when all repair activity ceased. Before 1913, Yard I reportedly consisted mostly of soft mud where an old creek had emptied into the Oakland Inner Harbor, with the balance covered by water. With permission of the Oakland City Council (Resolution No. 7210, dated December 30, 1913), Crowley deposited approximately 35,722 cubic yards of fill covering the entire leased premises. The fill consisted of mud taken from the bottom of Oakland Inner Harbor, covered with rock and gravel to make the filled land more solid and substantial.

When it was operational, Yard I consisted of two marine railways, machine and carpentry shops, warehouses and support offices. During its commercial life, the

primary activity at Yard I was the repair and refurbishing of boats and ocean-going vessels. Some vessels were placed on the marine railways while others remained afloat during repair work. Vessels to be placed on the marine railways were aligned at high tide and, as the tide receded, the vessels were secured to the railway platform. The platform was then pulled to the high-water line where the repair work was performed. The hulls of some of these vessels were cleaned by high-pressure water, while others were stripped using air-blown sand blast grit to remove barnacles, rust and other debris.

Soil and groundwater at Yard I have been extensively investigated since 1989, under the supervision of the Alameda County Health Services Agency (ACHSA) pursuant to agency-approved work plans. From December 1989 to January 1990 a preliminary assessment evaluated Crowley's activities at the Yards and the chemicals associated with those activities. These efforts are described in ***Site Assessment of Pacific Dry Dock Yards I and II Report,*** dated October 2, 1990, Versar, Inc. After the preliminary assessment, Yard I was divided into two sections – the eastern section and the western section – and was investigated in phases:

Western Section:

9/91 - Crowley removed an underground storage tank located in the northwestern portion of the site (tank removal, sample collection and analytical results for soil and groundwater are described in ***UST Removal Report***, dated January 14, 1992, Versar, Inc.).

10/91 and 1/92 - Investigation included drilling 48 soil borings and collecting and analyzing 11 groundwater samples and 70 soil samples (drilling, sample collection and analytical results are described in ***Preliminary Investigation and Evaluation Report (PIER), Pacific Dry Dock and Repair Yard I, Western Section***, dated May 6, 1992, Versar, Inc.).

6/93 - Crowley installed 5 groundwater monitoring wells, and collected 10 soil samples (well installation, sample collection and analytical results are described in ***Well Installation, Pacific Dry Dock and Repair Yard I, Western Section*** report, dated November 1993, Versar, Inc.). After well installation, a quarterly groundwater monitoring program was initiated at the site (analytical results are described in ***Site Assessment Report, Former Pacific Dry Dock and Repair Company Yard I Facility, Oakland, California*** report, dated May 6, 1996, Versar, Inc.).

Eastern Section:

8/92 – Crowley sampled the contents of an abandoned 500-gallon UST and drilled 16 boreholes, from which soil and groundwater samples were collected (details of the groundwater sampling activities and the analytical results are described in ***Addendum to Phase II Site Investigation Work Plan, Pacific Dry Dock Yard I*** report, dated September 18, 1992, Versar, Inc.).

2/94 – Crowley removed a 500-gallon UST from NE corner of site (described in ***Underground Storage Tank Removal Report***, dated July 29, 1994, Versar, Inc.).

6/95 - 3/96 – Crowley investigated areas of soil containing lead concentrations exceeding TTLC and STLC values, and removed approximately 40 tons of lead impacted soil for disposal; Crowley further evaluated the extent of lead impact in soil by drilling 8 soil borings, installing 1 monitoring well, and collecting and analyzing 22 soil samples (soil boring, well installation and analytical results are described in ***Site Assessment Report Former Pacific Dry Dock and Repair Company Yard I Facility, Oakland, California*** report, dated May 6, 1996, Versar, Inc.).

Remediation avtivities at Yard I are summarized below:

- An underground fuel storage tank was removed from the northwestern portion of the site in September 1991.
- An underground fuel storage tank was removed from the northeast corner of the site in February 1994.
- Approximately 40 tons of fill materials were excavated from two areas in the eastern section of the site in June and July 1995.[1]

These site characterizations revealed the presence of total petroleum hydrocarbons (TPH) as diesel (TPHd) and as gasoline (TPHg) with very low levels of benzene, toluene, ethylbenzene and xylenes (BTEX) in soil and groundwater. In addition, copper, lead, mercury and zinc were also detected at concentrations above their naturally occurring background concentrations. A risk assessment ***(Risk-Based Decisions, Inc. Risk Assessment Report for the Former Pacific Dry Dock and Repair Company Yard I Site, July, 1997)*** based on these data showed that there were no risks to human health and the environment above regulatory thresholds.

Additional sampling of soil and groundwater was conducted in 1998 and overseen by this agency. This investigation involved analyzing the collected samples testing for

[1] The remediation of the inter-tidal and supra-tidal sediments is summarized at page 6.

all previously detected chemicals and, in addition, included testing for carcinogenic and noncarcinogenic polynuclear aromatic hydrocarbons (PNAs). These additional data were used to revise the 1997 risk assessment using recalculations of potential risks under conservative exposure scenarios (***Update to the Risk Assessment Report, Risk-Based Decisions, Inc., January 26, 1999***). All of these evaluations showed there were no risks to human health and the environment above regulatory thresholds.

Based on the reports submitted by Crowley, ACHCA Staff concurs with the scope of work completed and with the conclusions of the risk assessments. Alameda County, therefore, finds that based on the information provided to it, the concentrations of constituents of concern remaining at Pacific Dry Dock Yard I do not pose an unacceptable risk to public health and the environment and require no further action.

Yard II

Crowley reportedly first acquired an interest in Yard II in the 1950s when it purchased the stock of Martinolich Ship Repair Company. Martinolich had been a sublessee of the United States Navy (the Navy) from approximately 1951 until December 31, 1962. The United States Navy was a tenant of the Port from approximately 1942 until approximately 1962. Review of the history apparently indicates that the Navy's contractor, Hurley Marine Works, leased property immediately to the east of what eventually became Yard II. The Navy's reports demonstrate the Navy's intention to establish facilities to support the assignment of a floating dry dock by the Government and to utilize to the fullest possible extent all existing ship repair facilities at the contractor's yard. Thus, even before 1944, there were apparently ship repair facilities in that area of the estuary.

When the Navy's tenancy began, the shore-side property was significantly smaller in size than it became later that year as a result of the Navy's efforts. Photographs and other documents acquired from the National Archives depict the installation of pilings, and the placement of approximately 71,000 cubic yards of earth, rock and sand fill. One of the reports describes the demolition of approximately 50,000 square feet of an old pier, old pilings and debris, and placement of fill, the

construction of buildings, and the paving of "practically the whole yard" with 3-inches of asphaltic concrete on rock base. The Port of Oakland issued permits allowing the Navy to proceed with this effort. Thus, when Martinolich became a tenant in 1951, virtually the entire facility, consisting of approximately 3.5 acres, including the fill that had been imported by the Navy, was covered with asphalt. By 1951, Yard II consisted of two large wooden buildings (a warehouse building and a service

shop/office building), a plate shop, a powerhouse, a boathouse, and a floating dry dock, all reportedly constructed or installed by the Navy.

Soil and groundwater at Yard II have been extensively investigated since 1989, under the supervision of the Alameda County Health Services Agency (ACHSA) pursuant to agency-approved work plans. From December 1989 to January 1990 a preliminary assessment evaluated Crowley's activities at the Yards and the chemicals associated with those activities. These efforts are described in ***Site Assessment of Pacific Dry Dock Yards I and II Report,*** dated October 2, 1990, Versar, Inc., and in ***Site Investigation Work Plan, Pacific Dry Dock and Repair Yard II***, dated June 13, 1991, Versar, Inc. During the preliminary assessment at Yard II, which focused on areas of industrial activity, Crowley drilled 11 boreholes and collected and analyzed 20 soil and spent sand-blast material. Subsequent investigations are described below:

5/94 Crowley drilled 18 boreholes and collected and analyzed 30 soil samples and 1 groundwater sample (described in ***Soil and Groundwater Investigation Report***, dated July 14, 1995, Versar, Inc.).

7/94 Crowley drilled 3 boreholes and installed 3 4-inch monitoring wells (described in ***Well Installation and Monitoring Report***, dated June 14, 1995, Versar, Inc.).

9/94 Crowley removed a 500-gallon underground tank, collected and analyzed soil samples (described in ***Underground Storage Tank Removal Report***, dated February, 1995, Versar, Inc.). **(Based on these results, this agency issued a site closure letter dated March 2, 1995.delete this in parenthesis)**

4/95 Crowley collected and analyzed 33 soil samples from 28 locations (described in ***Soil and Groundwater Investigation Report***, dated July 14, 1995, Versar, Inc.).

7/95 - 9/95 Crowley collected and analyzed filtered groundwater samples from 10 temporary groundwater sampling points, and installed and sampled 4 additional groundwater-monitoring wells (described in ***Monitoring Well Installation and Third Round Groundwater Monitoring Report***, dated December 1, 1995, Versar, Inc.).

Constituents of potential concern at Yard II included heavy petroleum hydrocarbons, lighter petroleum hydrocarbons in the northeastern portion of

the site, **(and delete)** metals associated with the spent sandblast grit, **chlorinated hydrocarbons and PCBs**. Remediation at Yard II has been completed as described below:

- An underground fuel storage tank was removed from the north-central portion of the site in September 1994.
- The aboveground diesel fuel storage tanks near the powerhouse were removed in March 1996.[2]

A risk assessment ***(Risk-Based Decisions, Inc. Risk Assessment Report for the Former Pacific Dry Dock and Repair Company Yard I Site, July, 1997)*** based on these data showed that there were no risks to human health and the environment above regulatory thresholds.

With the oversight of this Department, additional sampling of soil and groundwater was conducted in 1998. This investigation involved testing for all previously identified chemicals and, in addition, for carcinogenic and noncarcinogenic polynuclear aromatic hydrocarbons (PNAs), and for polychlorinated biphenyls (PCBs). These additional data were used to revise the **previously (**previuosly, **typo)** submitted risk assessment using recalculations of potential risks under conservative exposure scenarios ***(Update to the Risk Assessment Report, Risk-Based Decisions, Inc., Risk-Based Decisions, January 26, 1999)***. All of these evaluations showed that there were no risks to human health and the environment above regulatory thresholds.

Based on the reports submitted by Crowley, ACHCA Staff concurs with the scope of work completed and with the conclusions of the risk assessments. The County, therefore, finds that based on the information provided to it, the concentrations of constituents of concern remaining at Pacific Dry Dock Yard II do not pose an unacceptable risk to public health and the environment and require no further action. **An on-going investigation related to petroleum release from two underground heating fuel tanks is still under investigation with the Port of Oakland, the responsible party.**

Sediments

In addition, between 1989 and 1996, both Crowley and the RWQCB tested and evaluated the potential environmental impact of the inter-tidal and offshore sediments. An ecological risk assessment conducted by Crowley, under the supervision of the RWQCB, showed that the residual chemicals of potential concern

[2] The remediation of the inter-tidal and supra-tidal sediments is summarized at page 6.

in the sediments did not present risks to the environment above regulatory thresholds (***PTI, Supplemental Inshore Sediment Impairment Study,*** June 1994). Notwithstanding this finding, in March 1996, the RWQCB issued Cleanup and Abatement Order (CAO) No. 96-111 directing Crowley to remove spent sand-blast grit from the inter-tidal and supra-tidal areas at both Yards. In that letter the RWQCB also stated that "data from [Crowley's] 1994 study and the 1995-96 Bay Protection and Toxic Cleanup Program [BPTCP] screening study indicate that the sediments of the subtidal areas on and near the sites do not represent a significant threat to aquatic life and human health."

In March 1997, in response to CAO 96-111, Crowley removed from the supra- and inter-tidal areas at Yard I (approximately 4000 tons) and Yard II (approximately 500 tons) of spent sandblast grit and debris. These materials were classified by the California Department of Toxic Substances Control as non-hazardous (Letter from Dr. James Carlisle to R. Stephen Wilson, November 17, 1997), and were sent for appropriate disposal as landfill cover.

By letter dated April 22, 1998 the RWQCB rescinded CAO No. 96-111 for the removal and appropriate disposal of the spent sand-blast grit at Yards I and II.

In April of this year, this Department received a communication from the RWQCB explaining the listing of "Pacific Dry Dock #1 (area in front of storm drain)" as a potential toxic hot spot under the Bay Protection and Toxic Cleanup Plan. In relevant part, the RWQCB stated:

> "Although the area in front of Pacific Dry Dock Yard #1 was cleaned up [by Crowley] to the Regional Board's satisfaction, results from the PTI and BPTCP studies revealed that the sediment in front of the storm drain was more toxic than the sediment in front of the dry dock facility. BPTCP studies indicated that there was no toxicity directly in front of the dry dock facility and that the sediment in front of the storm drain contained high levels of contaminants common in urban runoff."

The RWQCB concluded as follows: "We consider the issue involving Crowley's responsibility under its former NPDES permit resolved."

Based on the results of Crowley's investigations of the soil and groundwater at Pacific Dry Dock Yards I and II, risk assessments have established that the concentrations of constituents of concern remaining at those sites do not pose an unacceptable risk to public health and the environment, we find that no further action is required at either Yard I or Yard II **in regards to the surface releases and spills (SLIC cases).**.

Very truly yours,

Madhulla Logan
ACEH

Barney Chan
ACEH

C: ACEH, files
Mee Ling Tung, Director, EHS
R. Pantages, EHS
T. Peacock, EHS
D. Heinze, Port of Oakland, 530 Water St., P.O. Box 2064, Oakland CA 94604-2064
M. Heffes, Port of Oakland
D. Herman, Port of Oakland
M. O'Brien, Port of Oakland
Joyce Washington, Port of Oakland
Karen Taberski, RWQCB, 1515 Clay St., Suite 1400, Oakland CA 94612
Loretta Barsamian, RWQCB
Mr. L. Griffin, City of Oakland, OES, 505 14th St., 7th Floor, Oakland CA 94612
Mr. I. Jamal, Risk-Based Decisions, Inc., 910 Florin Rd., Suite 202, Sacramento, CA 95831

CROWLEY MARINE SERVICES, INC.

June 21, 1999

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, #250
Alameda, CA 94502-6577

RE: Certified List of Record Fee Title Owners for Pacific Dry Dock Yard I, 1441 Embarcadero, Oakland, CA 94606; STID #1420

Dear Mr. Chan:

In accordance with section 25297.15(a) of Chapter 6.7 of the Health & Safety Code, I, Richard Stephen Wilson, being the Environmental Affairs Manager for Crowley Marine Services, Inc., certify that the following is a complete list of the record fee title owners and their mailing addresses for the above site:

Port of Oakland
530 Water Street
Oakland, California 94607.

Sincerely

Stephen Wilson
Manager, Environmental Affairs

cc: PDDI Correspondence
Diane Heinze

ENVIRONMENTAL PROTECTION
99 JUN 23 PM 3:28

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
Pier 41 (Red & White Fleet), San Francisco, California 94133 - (415) 546-2800 - Fax (415) 546-2623 (Admin & Sales)
Pier D, Berths D47-D49, Long Beach, California 90802-1098 - (310) 491-4700 - Fax (310) 491-4790 (Admin) - Fax (310) 491-4789 (Operations)
4300 B Street, Suite 507, Anchorage, Alaska 99503-5997 - (907) 563-1114 - Telex 6732564 - Fax (907) 762-3330
Pier 54, San Francisco, California 94107 - (415) 546-2684 - Fax (415) 546-2606 (Admin)
Post Office Box 2110, Jacksonville, Florida 32203-2100 - (904) 727-2200 - Telex 4611037 - Fax (904) 727-2401

CROWLEY MARINE SERVICES, INC.

Ms. Diane Heinze, P. E.
Environmental Scientist
Port of Oakland
Second Floor
530 Water Street
Oakland, CA 94607

June 21, 1999

Reference: **Notice of Proposed Action Submitted to Local Agency for Pacific Dry Dock Yard I, 1441 Embarcadero, Oakland, CA 94606; STID #1420**

Dear Diane:

Enclosed please find copies of letters dated June 16th 1999 from Alameda County Health Care Services Agency. I am supplying copies of these letters to you pursuant to section 25297.15 of Chapter 6.7 of the California Health and Safety Code, to notify the Port of Oakland that the County intends to make a determination that no further action is required at this site.

Sincerely,

Stephen Wilson
Manager Environmental Affairs

Enclosure:

Cc: Barney Chan w/o enclosure
Beth Hamilton w/enclosure
Bruce Love w/enclosure
Chuck Headlee w/o enclosure
Joyce Washington w/enclosure

ENVIRONMENTAL PROTECTION
99 JUN 23 PM 3:28

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
Pier 41 (Red & White Fleet), San Francisco, California 94133 - (415) 546-2800 - Fax (415) 546-2623 (Admin & Sales)
Pier D, Berths D47-D49, Long Beach, California 90802-1098 - (310) 491-4700 - Fax (310) 491-4790 (Admin) - Fax (310) 491-4789 (Operations)
4300 B Street, Suite 507, Anchorage, Alaska 99503-5997 - (907) 563-1114 - Telex 6732564 - Fax (907) 762-3330
Pier 54, San Francisco, California 94107 - (415) 546-2684 - Fax (415) 546-2606 (Admin)
Post Office Box 2110, Jacksonville, Florida 32203-2100 - (904) 727-2200 - Telex 4611037 - Fax (904) 727-2401

CROWLEY MARINE SERVICES, INC.

June 21, 1999

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, #250
Alameda, CA 94502-6577

RE: Notice of Proposed Action Submitted to Local Agency for Pacific Dry Dock Yard I, 1441 Embarcadero, Oakland, CA 94606; STID #1420

Dear Mr. Chan:

In accordance with section 25297.15(a) of Chapter 6.7 of the Health & Safety Code, I, Richard Stephen Wilson, being the Environmental Affairs Manager for Crowley Marine Services, Inc., certify that I have notified all responsible landowners of the enclosed proposed action. Check space for applicable proposed action(s):

____ Cleanup proposal (corrective action plan)
____ Site closure proposal
__X__ Local agency intention to make a determination that no further action is required
____ Local agency intention to issue a closure letter.

Sincerely

Stephen Wilson
Manager, Environmental Affairs

cc: PDDI Correspondence
Diane Heinze

ENVIRONMENTAL PROTECTION
99 JUN 28 PM 3:59

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
Pier 41 (Red & White Fleet), San Francisco, California 94133 - (415) 546-2800 - Fax (415) 546-2623 (Admin & Sales)
Pier D, Berths D47-D49, Long Beach, California 90802-1098 - (310) 491-4700 - Fax (310) 491-4790 (Admin) - Fax (310) 491-4789 (Operations)
4300 B Street, Suite 507, Anchorage, Alaska 99503-5997 - (907) 563-1114 - Telex 6732564 - Fax (907) 762-3330
Pier 54, San Francisco, California 94107 - (415) 546-2684 - Fax (415) 546-2606 (Admin)
Post Office Box 2110, Jacksonville, Florida 32203-2100 - (904) 727-2200 - Telex 4611037 - Fax (904) 727-2401

RISK-BASED DECISIONS, INC.
AN ENVIRONMENTAL CONSULTING COMPANY
910 FLORIN ROAD, SUITE 202
SACRAMENTO, CALIFORNIA 95831
PHONE (916) 395-4964 FAX(916) 395-0536

FACSIMILE TRANSMITTAL SHEET

TO: MR. BARNEY CHAN/MS. LOGAN	FROM: IJAZ JAMALL
ALAMEDA CO. DEPT. ENV. HEALTH	DATE: MAY 28, 1999
FAX NUMBER: 510-337-9335	TOTAL NO. OF PAGES INCLUDING COVER: 8
PHONE NUMBER: 510-567-6764	SENDER'S REFERENCE NUMBER:
RE: PACIFIC DRY DOCK YARDS I & II	YOUR REFERENCE NUMBER:

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY

Draft closure letter summary as requested by you.

Have a GREAT weekend!

Cheers

C: Mr. Stephen Wilson
Crowley Marine Services
(206) 443-8621

Beth Hamilton, Esq.
Skjerven, Morrill, MacPherson, Franklin & Friel
(408) 453-7979

May xx, 1999

Mr. R. Stephen Wilson
Crowley Marine Services, Inc.
2401 Fourth Avenue, 11th Floor
P.O. Box 2287
Seattle, Washington 98111

Re: Pacific Dry Dock Yards I and II, Oakland, California

Dear Mr. Wilson:

For a number of years, Crowley Marine Services, Inc. and its predecessors (Crowley) operated ship repair and maintenance facilities at Pacific Dry Dock Company Yard I (1441 Embarcadero) and Yard II (321 Embarcadero) in Oakland, California. These properties, leased by Crowley, are both owned by the Port of Oakland. We have received the ***Update to the Risk Assessment Report*** (Risk-Based Decisions, Inc., July 6, 1998) and the recalculations of the potential risks (Risk-Based Decisions, January 26, 1999) posed by the referenced sites, Pacific Dry Dock Yards I and II. Both Yards have been evaluated for closure based on the Guidelines used by the San Francisco Bay Regional Water Quality Control Board (RWQCB) for low risk soil and groundwater cases. Specific information relating to each site is presented below:

Yard I

Crowley reportedly operated a boat repair and marine railway facility at Yard I from approximately 1911 to May 1991 when all repair activity ceased. Before 1913, Yard I reportedly consisted mostly of soft mud where an old creek had emptied into the Oakland Inner Harbor, with the balance covered by water. With permission of the Oakland City Council (Resolution No. 7210, dated December 30, 1913), Crowley deposited approximately 35,722 cubic yards of fill covering the entire leased premises. The fill consisted of mud taken from the bottom of Oakland Inner Harbor, covered with rock and gravel to make the filled land more solid and substantial.

When it was operational, Yard I consisted of two marine railways, machine and carpentry shops, warehouses and support offices. During its commercial life, the primary activity at Yard I was the repair and refurbishing of boats and ocean-going vessels. Some vessels were placed on the marine railways while others remained afloat during repair work. Vessels to be placed on the marine railways were aligned at high tide and, as the tide receded, the vessels were secured to the railway platform. The platform was then pulled to the high-water line where the repair work

was performed. The hulls of some of these vessels were cleaned by high-pressure water, while others were stripped using air-blown sand blast grit to remove barnacles, rust and other debris.

Soil and groundwater at Yard I have been extensively investigated since 1989, under the supervision of the Alameda County Health Services Agency (ACHSA) pursuant to agency-approved work plans. From December 1989 to January 1990 a preliminary assessment evaluated Crowley's activities at the Yards and the chemicals associated with those activities. These efforts are described in ***Site Assessment of Pacific Dry Dock Yards I and II Report,*** dated October 2, 1990, Versar, Inc. After the preliminary assessment, Yard I was divided into two sections – the eastern section and the western section – and was investigated in phases:

Western Section:

9/91 - Crowley removed an underground storage tank located in the northwestern portion of the site (tank removal, sample collection and analytical results for soil and groundwater are described in ***UST Removal Report***, dated January 14, 1992, Versar, Inc.).

10/91 and 1/92 - Investigation included drilling 48 soil borings and collecting and analyzing 11 groundwater samples and 70 soil samples (drilling, sample collection and analytical results are described in ***Preliminary Investigation and Evaluation Report (PIER), Pacific Dry Dock and Repair Yard I, Western Section***, dated May 6, 1992, Versar, Inc.).

6/93 - Crowley installed 5 groundwater monitoring wells, and collected 10 soil samples (well installation, sample collection and analytical results are described in ***Well Installation, Pacific Dry Dock and Repair Yard I, Western Section*** report, dated November 1993, Versar, Inc.). After well installation, a quarterly groundwater monitoring program was initiated at the site (analytical results are described in ***Site Assessment Report, Former Pacific Dry Dock and Repair Company Yard I Facility, Oakland, California*** report, dated May 6, 1996, Versar, Inc.).

Eastern Section:

8/92 – Crowley sampled the contents of an abandoned 500-gallon UST and drilled 16 boreholes, from which soil and groundwater samples were collected (details of the groundwater sampling activities and the analytical results are described in ***Addendum to Phase II Site Investigation Work Plan, Pacific Dry Dock Yard I*** report, dated September 18, 1992, Versar, Inc.).

2/94 – Crowley removed a 500-gallon UST from NE corner of site (described in ***Underground Storage Tank Removal Report***, dated July 29, 1994, Versar, Inc.).

6/95 - 3/96 – Crowley investigated areas of soil containing lead concentrations exceeding TTLC and STLC values, and removed approximately 40 tons of lead impacted soil for disposal; Crowley further evaluated the extent of lead impact in soil by drilling 8 soil borings, installing 1 monitoring well, and collecting and analyzing 22 soil samples (soil boring, well installation and analytical results are described in ***Site Assessment Report Former Pacific Dry Dock and Repair Company Yard I Facility, Oakland, California*** report, dated May 6, 1996, Versar, Inc.).

Remediation avtivities at Yard I are summarized below:

- An underground fuel storage tank was removed from the northwestern portion of the site in September 1991.
- An underground fuel storage tank was removed from the northeast corner of the site in February 1994.
- Approximately 40 tons of fill materials were excavated from two areas in the eastern section of the site in June and July 1995.[1]

These site characterizations revealed the presence of total petroleum hydrocarbons (TPH) as diesel (TPHd) and as gasoline (TPHg) with very low levels of benzene, toluene, ethylbenzene and xylenes (BTEX) in soil and groundwater. In addition, copper, lead, mercury and zinc were also detected at concentrations above their naturally occurring background concentrations. A risk assessment ***(Risk-Based Decisions, Inc. Risk Assessment Report for the Former Pacific Dry Dock and Repair Company Yard I Site, July, 1997)*** based on these data showed that there were no risks to human health and the environment above regulatory thresholds.

Additional sampling of soil and groundwater was conducted in 1998 and overseen by this agency. This investigation involved analyzing the collected samples testing for all previously detected chemicals and, in addition, included testing for carcinogenic and noncarcinogenic polynuclear aromatic hydrocarbons (PNAs). These additional data were used to revise the 1997 risk assessment using recalculations of potential risks under conservative exposure scenarios (***Update to the Risk Assessment Report, Risk-Based Decisions, Inc., January 26, 1999***). All of these evaluations showed there were no risks to human health and the environment above regulatory thresholds.

[1] The remediation of the inter-tidal and supra-tidal sediments is summarized at page 6.

Based on the reports submitted by Crowley, ACHCA Staff concurs with the scope of work completed and with the conclusions of the risk assessments. Alameda County, therefore, finds that based on the information provided to it, the concentrations of constituents of concern remaining at Pacific Dry Dock Yard I do not pose an unacceptable risk to public health and the environment and require no further action.

Yard II

Crowley reportedly first acquired an interest in Yard II in the 1950s when it purchased the stock of Martinolich Ship Repair Company. Martinolich had been a sublessee of the United States Navy (the Navy) from approximately 1951 until December 31, 1962. The United States Navy was a tenant of the Port from approximately 1942 until approximately 1962. Review of the history apparently indicates that the Navy's contractor, Hurley Marine Works, leased property immediately to the east of what eventually became Yard II. The Navy's reports demonstrate the Navy's intention to establish facilities to support the assignment of a floating dry dock by the Government and to utilize to the fullest possible extent all existing ship repair facilities at the contractor's yard. Thus, even before 1944, there were apparently ship repair facilities in that area of the estuary.

When the Navy's tenancy began, the shore-side property was significantly smaller in size than it became later that year as a result of the Navy's efforts. Photographs and other documents acquired from the National Archives depict the installation of pilings, and the placement of approximately 71,000 cubic yards of earth, rock and sand fill. One of the reports describes the demolition of approximately 50,000 square feet of an old pier, old pilings and debris, and placement of fill, the construction of buildings, and the paving of "practically the whole yard" with 3-inches of asphaltic concrete on rock base. The Port of Oakland issued permits allowing the Navy to proceed with this effort. Thus, when Martinolich became a tenant in 1951, virtually the entire facility, consisting of approximately 3.5 acres, including the fill that had been imported by the Navy, was covered with asphalt. By 1951, Yard II consisted of two large wooden buildings (a warehouse building and a service shop/office building), a plate shop, a powerhouse, a boathouse, and a floating dry dock, all reportedly constructed or installed by the Navy.

Soil and groundwater at Yard II have been extensively investigated since 1989, under the supervision of the Alameda County Health Services Agency (ACHSA) pursuant to agency-approved work plans. From December 1989 to January 1990 a preliminary assessment evaluated Crowley's activities at the Yards and the chemicals associated with those activities. These efforts are described in ***Site Assessment of Pacific Dry Dock Yards I and II Report,*** dated October 2, 1990, Versar, Inc., and in ***Site Investigation Work Plan, Pacific Dry Dock and Repair***

Yard II, dated June 13, 1991, Versar, Inc. During the preliminary assessment at Yard II, which focused on areas of industrial activity, Crowley drilled 11 boreholes and collected and analyzed 20 soil and spent sand-blast material. Subsequent investigations are described below:

5/94 Crowley drilled 18 boreholes and collected and analyzed 30 soil samples and 1 groundwater sample (described in ***Soil and Groundwater Investigation Report***, dated July 14, 1995, Versar, Inc.).

7/94 Crowley drilled 3 boreholes and installed 3 4-inch monitoring wells (described in ***Well Installation and Monitoring Report***, dated June 14, 1995, Versar, Inc.).

9/94 Crowley removed a 500-gallon underground tank, collected and analyzed soil samples (described in ***Underground Storage Tank Removal Report***, dated February, 1995, Versar, Inc.). Based on these results, this agency issued a site closure letter dated March 2, 1995.

4/95 Crowley collected and analyzed 33 soil samples from 28 locations (described in ***Soil and Groundwater Investigation Report***, dated July 14, 1995, Versar, Inc.).

7/95 - 9/95 Crowley collected and analyzed filtered groundwater samples from 10 temporary groundwater sampling points, and installed and sampled 4 additional groundwater-monitoring wells (described in ***Monitoring Well Installation and Third Round Groundwater Monitoring Report***, dated December 1, 1995, Versar, Inc.).

Constituents of potential concern at Yard II included heavy petroleum hydrocarbons, lighter petroleum hydrocarbons in the northeastern portion of the site, and metals associated with the spent sandblast grit. Remediation at Yard II has been completed as described below:

- An underground fuel storage tank was removed from the north-central portion of the site in September 1994.
- The aboveground diesel fuel storage tanks near the powerhouse were removed in March 1996.[2]

A risk assessment ***(Risk-Based Decisions, Inc. Risk Assessment Report for the Former Pacific Dry Dock and Repair Company Yard I Site, July, 1997)*** based on

[2] The remediation of the inter-tidal and supra-tidal sediments is summarized at page 6.

these data showed that there were no risks to human health and the environment above regulatory thresholds.

With the oversight of this Department, additional sampling of soil and groundwater was conducted in 1998. This investigation involved testing for all previously identified chemicals and, in addition, for carcinogenic and noncarcinogenic polynuclear aromatic hydrocarbons (PNAs), and for polychlorinated biphenyls (PCBs). These additional data were used to revise the previuosly submitted risk assessment using recalculations of potential risks under conservative exposure scenarios ***(Update to the Risk Assessment Report, Risk-Based Decisions, Inc., Risk-Based Decisions, January 26, 1999)***. All of these evaluations showed that there were no risks to human health and the environment above regulatory thresholds.

Based on the reports submitted by Crowley, ACHCA Staff concurs with the scope of work completed and with the conclusions of the risk assessments. The County, therefore, finds that based on the information provided to it, the concentrations of constituents of concern remaining at Pacific Dry Dock Yard II do not pose an unacceptable risk to public health and the environment and require no further action.

Sediments

In addition, between 1989 and 1996, both Crowley and the RWQCB tested and evaluated the potential environmental impact of the inter-tidal and offshore sediments. An ecological risk assessment conducted by Crowley, under the supervision of the RWQCB, showed that the residual chemicals of potential concern in the sediments did not present risks to the environment above regulatory thresholds (***PTI, Supplemental Inshore Sediment Impairment Study,*** June 1994). Notwithstanding this finding, in March 1996, the RWQCB issued Cleanup and Abatement Order (CAO) No. 96-111 directing Crowley to remove spent sand-blast grit from the inter-tidal and supra-tidal areas at both Yards. In that letter the RWQCB also stated that "data from [Crowley's] 1994 study and the 1995-96 Bay Protection and Toxic Cleanup Program [BPTCP] screening study indicate that the sediments of the subtidal areas on and near the sites do not represent a significant threat to aquatic life and human health."

In March 1997, in response to CAO 96-111, Crowley removed from the supra- and inter-tidal areas at Yard I (approximately 4000 tons) and Yard II (approximately 500 tons) of spent sandblast grit and debris. These materials were classified by the California Department of Toxic Substances Control as non-hazardous (Letter from Dr. James Carlisle to R. Stephen Wilson, November 17, 1997), and were sent for appropriate disposal as landfill cover.

By letter dated April 22, 1998 the RWQCB rescinded CAO No. 96-111 for the removal and appropriate disposal of the spent sand-blast grit at Yards I and II.

In April of this year, this Department received a communication from the RWQCB explaining the listing of "Pacific Dry Dock #1 (area in front of storm drain)" as a potential toxic hot spot under the Bay Protection and Toxic Cleanup Plan. In relevant part, the RWQCB stated:

> "Although the area in front of Pacific Dry Dock Yard #1 was cleaned up [by Crowley] to the Regional Board's satisfaction, results from the PTI and BPTCP studies revealed . . . that the sediment in front of the storm drain was more toxic than the sediment in front of the dry dock facility. BPTCP studies indicated that there was no toxicity directly in front of the dry dock facility . . . and that the sediment in front of the storm drain contained high levels of contaminants common in urban runoff."

The RWQCB concluded as follows: "We consider the issue involving Crowley's responsibility under its former NPDES permit resolved."

Based on the results of Crowley's investigations of the soil and groundwater at Pacific Dry Dock Yards I and II, risk assessments have established that the concentrations of constituents of concern remaining at those sites do not pose an unacceptable risk to public health and the environment, we find that no further action is required at either Yard I or Yard II.

Very truly yours,

ACHSA

PORT OF OAKLAND

April 23, 1999

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

Subject: RWQCB Letter On Listing of Pacific Dry Dock #1 (Area in Front of Storm Drain) as a Candidate Toxic Hot Spot

Dear Mr. Chan:

I appreciate the RWQCB's April 15, 1999 letter regarding the listing of Pacific Dry Dock #1 (area in front of storm drain) as a candidate toxic hot spot and clarifying that the storm drain, and not the site, is viewed as the source of the problem. For your information, in a July 13, 1998 meeting between RWQCB and Port staff, the RWQCB staff stated their opinion that the site also contributed pollutants of concern (copper, tributlytin, and mercury) to sediments. However, based on the RWQCB's recent letter, the RWQCB staff have decided to only address the issue through watershed management. Therefore, we are pleased to learn that no additional work will be required at the site by the Port or its tenant pursuant to the Bay Protection and Toxic Cleanup Program.

Sincerely,

Diane Heinze, P.E.
Associate Environmental Scientist

cc: Stephen Wilson, Crowley Marine Services, Inc.
Karen Taberski, RWQCB
Michele Heffes

C:\mydocs\crowley\toxic.doc
530 Water Street ■ Jack London Square ■ P.O. Box 2064 ■ Oakland, California 94604-2064
Telephone (510) 272-1100 ■ Fax (510) 272-1172 ■ TDD (510) 763-5703 ■ Cable address, PORTOFOAK, Oakland

California Regional Water Quality Control Board
San Francisco Bay Regional Water Quality Control Board

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov
1515 Clay Street, Suite 1400, Oakland, California 94612
Phone (510) 622-2300 • FAX (510) 622-2460

Gray Davis
Governor

99 APR 21 PM 1:37

TO: Mr. Barney Chan
Alameda County Health Agency
Division of Environmental Protection
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

File No. 01S0480 (KMT)

FROM: Loretta Barsamian
Executive Officer
San Francisco Bay Regional Water Quality Control Board

DATE: April 15, 1999

SUBJECT: DESIGNATION OF CANDIDATE TOXIC HOT SPOT - PACIFIC DRY DOCK #1 (AREA IN FRONT OF STORM DRAIN)

The purpose of this letter is to respond to the discussion between Alameda County Health Agency, the Port of Oakland and Crowley Marine Services, Inc. regarding the listing of Pacific Dry Dock #1 (area in front of storm drain) as a toxic hot spot under the Bay Protection and Toxic Cleanup Program. One of the main objectives of the Bay Protection and Toxic Cleanup Program (BPTCP) is to identify toxic hot spots in the bays and estuaries of the state and develop cleanup plans for remediation. From 1994 to 1997 the BPTCP conducted screening and confirmation studies to identify toxic hot spots in San Francisco Bay. The results of these studies are reported in Sediment Quality and Biological Effects in San Francisco Bay (Hunt et al., 1998). In October 1997, Regional Board staff issued a proposed Regional Toxic Hot Spot Cleanup Plan based on these results, as well as results from other studies. In this report Pacific Dry Dock Yard #1 was identified as a toxic hot spot. In December 1998, the Regional Board issued a draft final Regional Toxic Hot Spot Cleanup Plan. In this report we tried to provide further clarification by defining this area as the "area in front of storm drain". This report was peer reviewed and released to the public for review. Comments were received and Regional Board staff responded to all comments. On January 27, 1999 the Regional Toxic Hot Spot Cleanup Plan was presented to the Regional Board. In March, a final Regional Toxic Hot Spot Cleanup Plan was submitted to the State Water Resources Control Board for inclusion in the Statewide Consolidated Toxic Hot Spot Cleanup Plan.

Prior to the BPTCP studies, Crowley Marine Services, Inc. conducted several sediment studies. In 1994, PTI Environmental Services conducted a study on a sediment gradient from the area directly in front of Pacific Dry Dock Yard #1 to the area around the stormdrain. This study was conducted in response to a formal request by the Regional Board under Section 13267 of the California Water Code. This study showed increasing toxicity with proximity to the stormdrain. On August 2, 1996 a Cleanup and Abatement Order (CAO No. 96-111) was issued for the area in front of the dry dock for the removal of sandblast grit that had been discharged in violation of an

NPDES permit. This grit seemed to be associated with the metals contamination at the site. The cleanup was completed in December 1997. The Regional Board rescinded the CAO in a letter dated April 22, 1998 (see attached).

Although the area in front of Pacific Dry Dock Yard #1 was cleaned up to the Regional Board's satisfaction, results from the PTI and BPTCP studies revealed another problem associated with the stormdrain near Pacific Dry Dock Yard #1. Both of these studies indicated that the sediment in front of the stormdrain was more toxic than the sediment in front of the dry dock. BPTCP studies indicated that there was no toxicity directly in front of the dry dock facility. BPTCP studies also indicated that the sediment in front of the stormdrain contained high levels of contaminants common in urban runoff. Based on the evidence that: 1) two stormdrains in the Oakland Estuary and San Leandro Bay as a whole (including the mouth of it's tributaries) were identified as toxic hot spots, and 2) fish in this area have significantly higher levels of contaminants identified in a fish advisory for San Francisco Bay than in other areas of the Bay, Regional Board staff considers this an issue to be addressed through watershed management. Staff are viewing this watershed as a high priority for investigations into ongoing sources of contaminants from urban runoff. A study of San Leandro Bay has just been completed by the San Francisco Estuary Institute with the assistance of the Port of Oakland. Regional Board staff views this as an ongoing stormwater problem. We consider the issue involving Crowley's responsibility under it's former NPDES permit resolved.

Attachment: Letter rescinding Cleanup and Abatement Order 96-111

cc: Diane Heinze, Port of Oakland
Stephen Wilson, Crowley Marine Services Inc.
Stephen Hill, RWQCB

CROWLEY MARINE SERVICES, INC.

March 4, 1999

Mr. Barney Chan
Alameda County Department
of Environmental Health
1131 Harbor Bay Parkway, 2d Floor
Alameda, California 94502

99 MAR -5 AM 9:12

ENVIRONMENTAL PROTECTION

Re: Pacific Dry Dock Yards I and II

Dear Barney:

I am writing to correct the record with respect to several assertions made by the Port of Oakland (the Port) in its letter to you and me dated February 19, 1999. Again, the Port misstates facts and apparently misunderstands the regulatory framework by which Pacific Dry Dock Yards I and II are governed.

First, the Port requests certain information, which the Port already has, about the risk assessments for Yards I and II:

- Maps showing the spatial distribution of all the analytical data were included in the documents submitted to you and to the Port in July, 1998.

- The Port has "clean" copies of the tables in the January 1999 report, and, as the footnotes to the Tables indicate, the data from the shaded areas are not included in the calculations of means and standard deviations as that data are from areas which were excavated during the grit removal. In other words, the material from which those data were derived is no longer there.

- I cannot see any reason to provide the Port with an electronic copy of the data spreadsheets, and decline to do so. The data has already been made available to the Port – if Port staff or their consultants want the data in a different form they are welcome to do whatever is necessary to achieve that end.

Second, the Port attempts to use the listing of Pacific Dry Dock Yard I (area in front of storm drain) in the Bay Protection and Toxic Hot Spot Cleanup Plan (BPTCP) as a reason for Alameda County to decline Crowley's request for closure of the two Yards. The Port fails to recognize, however, two significant facts:

- Alameda County is the agency with primary responsibility for oversight of investigation and abatement of soil or groundwater contamination at the upland portion of Yards I and II, and has never acted with respect to the sediments in the tidal zones or in the estuary;

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
Pier D, Berths D47-D49, Long Beach, California 90802-1098 - (310) 491-4700 - Fax (310) 491-4790 (Admin) - Fax (310) 491-4789 (Operations)
2525 C Street, Suite 303, Anchorage, Alaska 99503-2639 - (907) 278-4978 - Fax (907) 257-2828
Pier 54, San Francisco, California 94107 - (415) 546-2684 - Fax (415) 546-2606 (Admin)
Post Office Box 2110, Jacksonville, Florida 32203-2100 - (904) 727-2200 - Telex 4611037 - Fax (904) 727-2401
Maturin, Venezuela - Telephone 011-589-145-2856

- regulatory authority over the tidal zones and the estuary of the San Francisco Bay rests with the Regional Water Quality Control Board ("RWQCB"). The RWQCB has already closed Yards I and II, stating that the "Data from [Crowley's] 1994 study and the 1995-96 Bay Protection and Toxic Cleanup Program screening study indicate that the sediments of the subtidal areas on and near the sites do not represent a significant threat to aquatic life and human health." Letter from Loretta Barsamian to Stephen Wilson, dated March 22, 1996 (copies of which were directed to Alameda County and to the Port).

It should be noted that the BPTCP apparently focused on the cause of the contamination at Yard I, as the description of the site was modified from "Pacific Dry Dock #1" in the Proposed Regional Toxic Hot Spot Cleanup Plan dated December 1997, to "Pacific Dry Dock #1 (area in front of the stormdrain)" in the draft final Proposed Regional Toxic Hot Spot Cleanup Plan dated December 1998. This is supported by the statement on page 72 of the report that "Pacific Drydock sediments were likely affected by industrial and stormwater inputs". A copy of the referenced page is attached.

There are other factors with respect to the BPTCP report, which demonstrate that the listing of Pacific Dry Dock Yard I (in front of the storm drain) has implications for potentially responsible parties other than Crowley:

(1) the storm drain at PDD does not drain PDD but does drain Port of Oakland property and City of Oakland property;
(2) PDD is ranked high on human health impacts because all sites within the San Francisco Bay were ranked high due to elevated mercury and PCB levels throughout the Bay; and
(3) if Crowley is responsible for all of the problems identified at Yard I (in front of the storm drain) then why is Yard II not also listed as a problem site? The conclusion is obvious: the constituents of concern discovered in front of the storm drain differentiate the sites. The effluent from the storm drain at Yard I, which drains property belonging to the Port and to the City of Oakland but not Yards I or II, must be suspect as the origin of those constituents.

The Port makes a point of noting that tributyltin (TBT) was found at Yard I. It should be pointed out that TBT was not part of the BPTCP report. This report rather used the data that Crowley had in fact collected and did not link toxicity data specifically to TBT. The studies undertaken by Crowley also found TBT at Yard II, yet this yard is not listed as a candidate toxic hot spot. The RWQCB had both Crowley and BPTCP data and determined that the sediments of the subtidal areas on and near the sites do not represent a significant threat to aquatic life and human health. We respectfully submit that this fully informed determination puts an end to the issue.

Crowley has never asked Alameda County to take action with respect to any area of the Yards within the regulatory authority of another agency – i.e., the RWQCB. Crowley has, however, strongly pursued its request that Alameda County takes action to close the

upland portions of both Yards. To that end, Crowley has conducted an extensive risk evaluation effort, strictly in accordance with directions and suggestions from you and Alameda County's staff. The result of that risk assessment is that both sites do not pose a threat to groundwater resources, both sites do not pose an ecological threat, and risks to human health from both sites have been shown to be below regulatory thresholds of concern.

Crowley has complied with all of Alameda County's requests and has presented a risk assessment establishing that in their present condition Yards I and II do not present unacceptable risks to human health or the environment. Thus, once again, none of the questions raised by the Port could constitute a reason to deny or further delay Crowley's request that Alameda County takes action to close these sites.

Please call if you have any questions.

Sincerely,

Stephen Wilson
Manager Environmental Affairs

Attachment: *Page 72 of Sediment Quality and Biological Effects in San Francisco Bay, August 1998*

cc: Madullah Logan, Alameda County
Ijaz Jamall, Risk-Based Decisions, Inc.
William Verdon, CMC
Karen Taberski, RWQCB
Steve Moore, RWQCB
Derek Lee, RWQCB
Diane Heinze, Port of Oakland

Mission Creek and Islais Creek had similar pollution profiles: elevated chemistry, often, but not always associated with elevated ammonia and/or hydrogen sulfide; high toxicity to both species, and degraded benthos (Table 28). These sites are described in more detail in the Gradient Studies section above.

Three stations were placed in the third category for highly elevated concentrations of mercury and/or PCBs, two chemicals identified in the fish consumption advisory (Table 28). Of these, Point Portrero is notable for having the highest concentrations of both mercury and PCBs sampled in the Bay during this study (Table 17, see data for both Pt. Portrero stations, 1 and 2). The PCB concentrations at this site were 110 times the ERM value.

A number of stations had significant toxicity and elevated chemistry (Category IV, Table 28). These included Pacific Drydock, Castro Cove, Peyton Slough, San Leandro Bay Site 1, Central Basin along the San Francisco waterfront, and the Fruitvale station in Oakland Harbor. Many of the stations have been discussed in more detail in the preceding sections. Pacific Drydock sediments were likely affected by industrial and storm water inputs; Castro Cove had highly elevated concentrations of various PAHs with a unique chemical signature; Peyton Slough had highly elevated trace metals, especially copper, that were potentially responsible for toxicity in a TIE, and were investigated in a gradient study; San Leandro Bay has been sampled at 7 stations, a number of which showed some pollution impacts warranting further investigation; toxicity at Central Basin may have been related to ammonia or sulfide, though 8 chemicals there exceeded ERM values; and Oakland Fruitvale, which is also influenced by a storm drain, and had toxicity coincident with extremely high ammonia in one survey, but also had toxicity without elevated ammonia in a second survey.

Many of the San Leandro Bay stations were placed in the fifth category; they had elevated chemistry and significant toxicity, but benthic communities appeared to be relatively un-degraded (Tables 20 and 28). Samples contained numerous amphipods, mollusks, and polychaetes. Many of the amphipods identified from these samples were of the genus *Grandidierella*, which apparently has some ability to adapt to pollution stress (Swartz et al., 1994).

The remaining stations are listed in rough order of decreasing pollution, according to the categorization criteria (Table 28; see also the Methods section). A number of stations had all available chemistry, toxicity and benthic community measures below thresholds, indicating low probability of pollution impacts. Reference site stations generally had low chemistry, low toxicity, and transitional benthos (Category VIII, Table 28). As mentioned earlier, the San Pablo Bay Island # 1 reference site did have a toxic sample and a low RBI value in one survey, exemplifying the fact that sites used in determining reference envelope toxicity tolerance limits were not pristine (Hunt et al., 1998).

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

September 10, 1998

Mr. Stephen Wilson
Crowley Maritime Services, Inc.
2401 Fourth Ave.
Seattle, WA 98111

Re: Request for Technical Reports for Mr. Derek Lee of the RWQCB

Dear Mr. Wilson:

I have been requested by Mr. Derek Lee of the RWQCB to ask you to send him copies of the recent Risk-Based Decisions, Inc. reports sent to our office. Apparently, Mr. Lee will be the Water Board contact regarding the surface release investigations at both Yard I and Yard II. I believe the reports he'd like are the Update to Risk Assessment Report for Yards I and II by Risk-Based Decisions, Inc. Please contact him at (510) 622-2374 to verify this request.

PS, our office is still evaluating these reports and the request for site closure.

Sincerely,

Barney M Chan

Barney M. Chan
Hazardous Materials Specialist

CROWLEY MARINE SERVICES, INC.

August 5, 1998

Mr. Herman E. Gomez
Hazardous Material Inspector
City of Oakland
Office of Emergency Services
505 14th Street, 7th Floor
Oakland, California 94612

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

Gentlemen:

We have received the letter dated July 17, 1998 from Douglas Herman on behalf of the Port of Oakland regarding two underground storage tanks which have recently been removed from Yard II at 321 Embarcadero by the Port of Oakland, the landowner. These tanks were not installed, owned, or used by Crowley. If you would find it helpful, we can provide you with an aerial photograph dated in 1950, while the U. S. Navy was still the tenant at that site, showing the concrete pads covering those tanks.

We strongly object to any suggestion that this site should not now be closed, due to "changed information." We fail to see what information has changed. Crowley has never had any doubt that the Navy installed and used those tanks -- otherwise, why install them. Apparently the Port has discovered what is typical when underground steel storage tanks close to 50 years old are removed -- the tanks were corroded and product may have been released.

There is nothing in the record to indicate that Crowley owned, installed, or used those tanks. Crowley did install and use one underground tank during its tenancy, and removed that tank within the last several years. There was no evidence of any release from that tank, and the site where the tank had been located was determined to be clean.

Notwithstanding that, to date, Crowley has not been supplied with any data associated with the Port's removal of the two USTs, from our standpoint, there is nothing to link the presence of chemicals of concern at the site which Crowley has investigated and remediated,

155 Grand Avenue, Oakland, California 94612 - Telephone (510) 251-7500 - Facsimile (510) 251-7625

with the presence of petroleum hydrocarbons apparently released from underground storage tanks that belonged to a previous tenant. Thus, there is no reason to postpone closure of the site as to the work that Crowley has done.

Please contact me if you have any questions or wish to discuss this matter further.

Very truly yours,

R. Stephen Wilson

R. Stephen Wilson

c:

Bill Verdon, Esq.
Bruce Love, Esq.
Beth Hamilton, Esq.
Karen Taberski, RWQCB
Loretta Barsamian, RWQCB
Joyce Washington, Port of Oakland
Diane Heinze, Port of Oakland
Neil Werner, Port of Oakland
Michele Heffes, Port of Oakland

PORT OF OAKLAND

ENVIRONMENTAL PROTECTION
98 AUG -7 PM 2:13

August 5, 1998

Mee Ling Tung, Director
Environmental Health Services
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Dear Ms. Tung:

Re: Environmental Investigations at Crowley Maritime Yards I and II 1441 and 321 Embarcadero, Oakland, CA 94605

Thank you for your letter of July 29, 1998, to Mr. Charles Foster. Mr. Foster had concerns regarding that letter and has asked me to reply. The Port of Oakland appreciates your frankness, and it is in that same spirit that the Port responds. In sum, the Port believes there is a misunderstanding of the circumstances which led to the Port's July 6, 1998 to the Alameda County Health Care Services Agency. We take and explain those misunderstandings point by point.

- The Port appreciates the ACHCS may not have received the Port's July 6 letter objecting to the Crowley/ACHCS meeting until the morning of the meeting. It may interest the ACHCS to know that the Port was not made aware of either the existence of the Crowley reports or the potential for a meeting between Crowley and the ACHCS until just before the meeting was to have taken place. The Port only discovered that such a meeting was taking place because Port staff called the ACHCS staff to follow-up on Crowley issues. The Port diligently notified the ACHCS of its objections as soon as possible.

- Much misunderstanding could have been avoided had Crowley provided the Port with the opportunity to review and comment on the reports regarding Crowley's further characterization prior to submission of the reports to the ACHCS. The Port repeatedly requested Crowley to provide the Port with this information if only as a courtesy. Despite these requests, the Port did not receive or have an opportunity to review the reports prior to submittal to the ACHCS. In fact, the Port had not received the subject reports at the time Mr. Foster sent the letter (July 6, 1998) and did not receive the subject reports until the day of the Crowley/ACHCS meeting. That the Port had been kept in the dark regarding the results of the characterization, in the Port's mind, required the ACHCS to be advised of the Port's concerns.

- Adding to this frustration was the fact that the information that PCBs had been discovered in this further round of

18590 530 Water Street ■ Jack London Square ■ P.O. Box 2064 ■ Oakland, California 94604-2064
Telephone (510) 272-1100 ■ Fax (510) 272-1172 ■ TDD (510) 763-5703 ■ Cable address, PORTOFOAK, Oakland

CROWLEY MARINE SERVICES, INC.

August 5, 1998

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

Dear Barney:

I have reviewed the letter from the Port of Oakland dated July 21, 1998 and the attachment to that letter from GeoMatrix dated July 20, 1998.

Again, the Port and GeoMatrix suggest that given "how busy county oversight agencies are," without the critique provided by the Port and GeoMatrix, the County will be unable to conduct an "efficient review." We are confident that neither you nor Ms. Logan is in need of assistance from the Port or GeoMatrix in making any of the determinations regarding these sites. If, however, there is any additional information you need, please let me know and we will provide it immediately.

I would like to point out that the reference in Ms. Heinze's letter to the Port's "recent discovery" of two 5,000 gallon underground storage tanks can most generously be characterized as "poetic license." The two underground storage tanks are specifically mentioned in the Environmental Agreement between the Port and Crowley dated 1993.

In an abundance of caution, and to set the record straight, I have asked Dr. Ijaz Jamall of Risk Based Decisions to review the GeoMatrix critique and to respond where appropriate. Dr. Jamall's responses follow:

- Risk Based Decisions suggests that GeoMatrix review the approved sampling workplan and the correspondence of Mr. Wilson of Crowley to Mr. Barney Chan on the modifications to the workplan, copies of which were provided to the Port.

- The analytical data are summarized in the tables and figures provided in the updates to the Risk Assessment Reports for the two yards dated July 6, 1998.

- All of the sampling data results were provided in the Supplemental Site Investigation Sampling and Analysis Results prepared by the Gauntlett Group and dated July 6, 1998.

155 Grand Avenue, Oakland, California 94612 - Telephone (510) 251-7500 - Facsimile (510) 251-7625

- In accordance with the approved sampling plan and the interpretation of the results collected under that plan, the new data were intended to be evaluated to confirm the validity of earlier characterization and risk calculation. The approved procedure was followed.

- Benzene and PCBs were the only two constituents which were detected above the PRGs, and, as pointed out by GeoMatrix, the spatial distribution for those constituents was provided.

- The groundwater sampling locations are shown in the updates to the Risk Assessment Report, in Figure 1 for Yard I and in Figure 1 for Yard II. No chemicals were detected in groundwater above the limits of detection, and, therefore, no data summary table was prepared. The raw data are in the Gauntlett Group Supplemental Site Investigation Sampling and Analysis package, submitted July 6, 1998.

- The data from the previous investigations were evaluated in the original Risk Assessment Reports and the risks calculated were found to be below levels of regulatory concern. The whole purpose of the supplemental site investigation was (a) to confirm that the sites had been fully characterized and (b) that the original calculations of risk were accurate. Consistent with the sampling plan and the evaluation of the data as directed in the approved sampling plan the only purpose of the new data was to determine whether or not they confirmed the previous data.

- Chemicals were included in the updated risk assessments only if the concentration of the chemical was above background concentrations or above its PRG.

- There are only three references: one is to the sampling plan which GeoMatrix already has; another is to the U.S.E.P.A. Region 9 PRGs; yet another is to the Regional Board's Guidance on Risk Based Corrective Actions. If GeoMatrix does not have these documents, RBD would be happy to provide copies.

I am confident that the foregoing comments fully respond to any valid concerns that may have been expressed by the Port or GeoMatrix, and that they will be able to complete their review of the data without further delay.

Sincerely yours,

R. Stephen Wilson

R. Stephen Wilson

c: Bill Verdon, Esq.
Bruce Love, Esq.

Beth Hamilton, Esq.
Ijaz Jamall, RBD
Diane Heinze, Port of Oakland
Mark O'Brien, Port of Oakland
Neil Werner, Port of Oakland
Sally Goodin, GeoMatrix
Derek Lee, RWQCB

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6777

July 29, 1998

Mr. Charles Foster
Port of Oakland
530 Water Street
PO Box 2064
Oakland, CA 94604-2064

Dear Mr. Foster:

RE: Environmental Investigations at Crowley Maritime Yards I & II, 1441 and 321 Embarcadero, Oakland, CA 94606

This letter serves to reply to your recent July 6, 1998 letter to this office expressing concerns regarding the County's dealings with Crowley Maritime and the omission of the Port of Oakland during such meetings.

I would like to reiterate and comment on the history of this site, both past and recent. As you are aware, the Port retained the consultant, Geomatrix, to evaluate past remedial efforts performed at both Yards I and II. This resulted in Geomatrix providing a work plan recommending additional investigations at both of these sites. Crowley and their consultants, Risk Based Decisions (RBD) and the Gauntlett Group, generated a work plan to respond to the work plan recommendations of Geomatrix. Significant differences existed in these work plans. Because of this, the County requested that the two parties jointly prepare a single work plan for our review. Unfortunately, a joint work plan was not able to be prepared. The County was left to determine what additional investigation would be required at the sites. In general, many of the recommendations in the Geomatrix work plan were incorporated in the County's work plan request. The County's work plan was derived through extensive technical evaluation by County risk assessor, Ms. Madhulla Logan and discussion with consultants from both Geomatrix and Risk Based Decisions. The County requested this additional work in January, 1998.

An onsite meeting with the County at both sites occurred to finalize the specific locations of the samples. During this time, specific changes were developed based on additional information provided by Crowley. Field work occurred in February, 1998 shortly after finalizing the work plan. During the field work, our office was informed that PCBs were detected on Yard II, near the entrance of the site. Crowley informed our office that they would be doing additional characterizations in this area and would like to include these results in their final report. To insure acceptability of the report, Crowley and their consultants presented the raw data from the investigation. The format of the report and specifics of their risk assessment were discussed and clarified. The most recent July 7, 1998 meeting with Crowley consisted of a computer presentation of the data along with a discussion of the findings of the investigation. At the conclusion of this meeting, the County was provided a copy of the final report. I understand that the Port was also provided copies of the reports the same day.

For the record, the statement that Crowley has refused to share the results of this characterization with the Port is not true. As stated above, the Port was sent copies of the final report the same day as received by the County. In the prior meeting with Crowley, the raw data was shown to our office and discussed, however, no reports or hard copy of any data was ever left with the County. The "private" meetings held with Crowley were ones where data, reporting formatting and specific risk assessment methodology were discussed. At that point, our office felt that these technical discussions need only be between the responsible party performing the work and the overseeing agency. In addition, our office only received the Port's letter objecting to the County and Crowley's meeting the morning of the meeting.

The Port's additional claim that PCBs were not disclosed in an initial characterization is also not true. The County was informed verbally of PCBs encountered during the initial characterization and notified that Crowley would further delineate this contamination without waiting to be requested to do this additional work. As the PCB results were reported only in the final report, they were never "not disclosed".

The Port also points out that recent tank removal results indicate contamination exists in both soil and groundwater that was not stated in any of Crowley's reports. Please be aware that the site characterization performed by Crowley did not include the tank removals. In fact, the two underground tanks at 321 Embarcadero were removed by the Port with City oversight during the last week of June 1998, well after the conclusion of Crowley's investigation. You are advised that after discussion with Crowley, their position is that the underground tanks in question were installed and used by the US Navy and are, therefore, not their responsibility. Both the US Navy and the Port would, therefore, be considered responsible parties. Crowley is, however, willing to share their site investigation results performed in the former underground storage tank area to help determine if any further investigation is warranted. Our office will be in discussion with the City of Oakland to determine if the site should be transferred to the Local Oversight Program (LOP).

Our office is in the process of reviewing the recently received reports. It is premature at this time to say if any additional work or information will be required. Our office is aware of the proximity of this site to the Bay and will require that any residual soil or groundwater contamination be protective of both human health and the environment.

The Port is welcomed to comment on the completeness and the recommendations and conclusions made by Crowley in these final reports. After the Port and our office have completed their review of the reports we can discuss our comments. As previously mentioned above, we are still evaluating this information.

If you have any questions, please contact Barney Chan at (510) 567-6765.

Sincerely,

Mee Ling Tung, Director
Environmental Health Services

MLT/bon

c: Barney Chan

C: R. Pantages, ACEH
B. Chan, ACEH
M.Logan, ACEH
T. Peacock, ACEH
D.Heinze, Port of Oakland, 530 Water St., P.O. Box 2064, Oakland CA 94604-2064
M. Heffes, Port of Oakland
D. Herman, Port of Oakland
M. O'Brien, Port of Oakland
Joyce Washington, Port of Oakland
Karen Taberski, RWQCB, 1515 Clay St., Suite 1400, Oakland CA 94612
Loretta Barsamian, RWQCB
S. Wilson, Crowley Marine Services, Inc., 2401 Fourth Ave., P.O. Box 2287, Seattle, WA 98111
H. Gomez, City of Oakland, OES, 505 14th St., 7th Floor, Oakland CA 94612

PORT OF OAKL

Madhulla -
Here's a copy of Geomatrix's comments on RBD. Risk Assess. We should discuss these comments Barney

July 21, 1998

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

Stephen Wilson
Crowley Marine Services, Inc.
2401 Fourth Avenue
P.O. Box 2287
Seattle, Washington 98111

Subject: Request for Supplement to Crowley Risk Assessment and Site Investigation Reports

Dear Mr. Chan and Mr. Wilson:

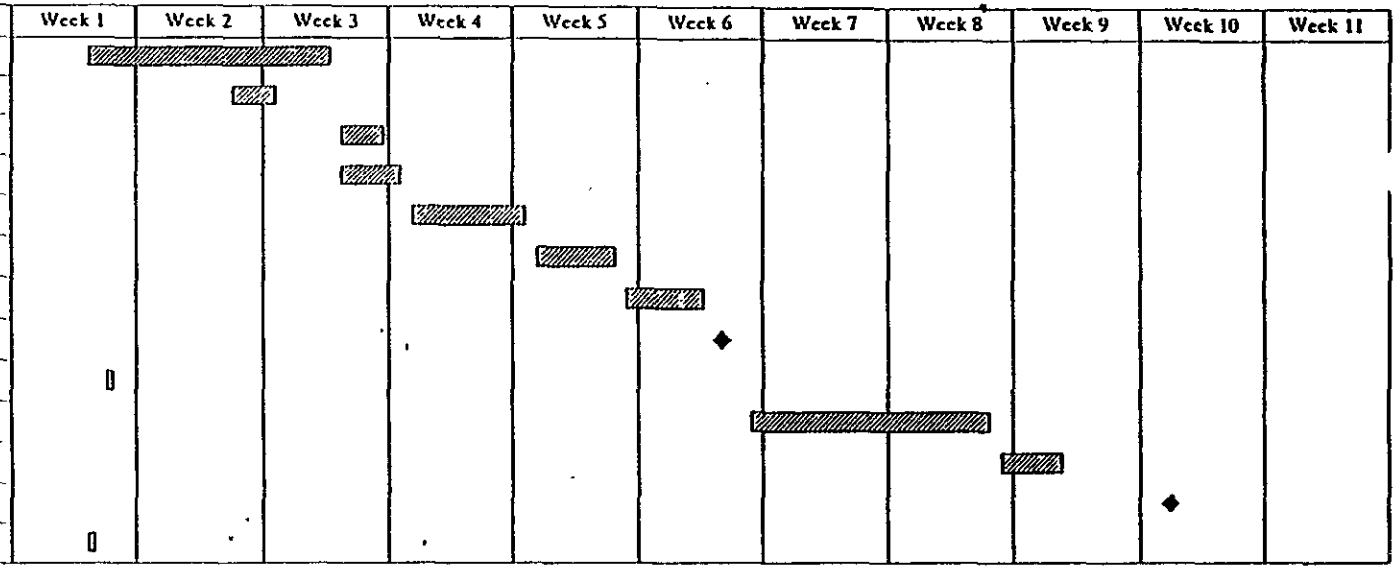
Enclosed please find a letter addressed to me from Geomatrix Consultants (Geomatrix) regarding the reports recently submitted by Crowley Maritime Corporation (Crowley) to the Alameda County Department of Environmental Health concerning two Port-owned properties (1441and 321 Embarcadero). The Geomatrix letter expresses concerns that the risk assessments do not contain adequately formatted and organized information that would allow a full and informed evaluation of the reports. Furthermore, the Port understands how busy county oversight agencies are; consequently, the Port has concerns that the insufficiencies of the reports will occupy too much time and not allow an efficient review.

Our concern is heightened because of the recent discovery of additional contamination. Despite past characterization efforts, PCBs and two 5,000 gallon underground storage tanks were recently discovered at 321 Embarcadero.

The Port requests that prior to consideration of these risk assessment reports that Crowley and its consultants be required to supplement the reports with the information detailed in the enclosed Geomatrix letter. In addition, the Port requests that once such supplemental information is received that the county provide the Port with an adequate time to review such material and respond with its comments on the risk assessment. Finally, the Port requests an opportunity to meet with you regarding these sites after submission of the Port's comments to express the Port's position regarding these sites. We believe that these requests will aid rather than inhibit the County's review of the risk assessments.

Standard Brand Paints Investigation to Estimate Remedial Costs

ID	Name
1	Mobilization and Permitting
2	Surface Geophysics Survey
3	Soil Gas Survey
4	Soil Borings/GW Grab Samples
5	Laboratory Analysis
6	Data Review/Analysis
7	Remedial Alternatives and Cost Analysis
8	Meeting with Kaiser/Standard Brands
9	Report
10	Draft Report Preparation
11	Kaiser/Standard Brands Review
12	Final Report
13	



Critical — Progress — Summary

Noncritical — Milestone — Rolled Up

ENVIRON

Counsel in Health and Environmental Science

Proposed Investigation Schedule
Standard Brands Property
Kaiser Emeryville Site
Emeryville, California

Figure 4

If you have any questions, please contact me at 510-272-1467.

Sincerely,

Diane Heinze, P.E.
Associate Environmental Scientist

encl: Geomatrix Letter

cc: Mark O'Brien
Neil Werner
Sally Goodin, Geomatrix
Derek Lee, RWQCB

inadequate information, ENVIRON shall have no responsibility for such damage. If this is agreeable, please sign below to authorize us to begin work.

We appreciate this opportunity to continue to provide services for Kaiser. If you have questions, please contact us.

Very truly yours,

David E. Harnish, R.G.
Manager

Phillip L. Fitzwater
Principal

DEH:PLF

cc: Joe Colbath, Kaiser Permanente

Acknowledged and authorized:

_____
Name

_____
Title Date

enclosure

4721 Tidewater Avenue, Suite C
Oakland, CA 94601
(510) 535-2408 • FAX (510) 535-2445

GEOMATR

20 July 1998
Project 3999

Ms Diane Heinze
Port of Oakland
530 Water Street
Oakland, California 94607

Dear Ms Heinze:

Geomatrix Consultants, Inc. (Geomatrix), has reviewed on behalf of the Port of Oakland (Port) the following reports: a report by The Gauntlett Group, LLC (the TGG), entitled Supplemental Site Investigation Sampling and Analysis Results, Pacific Dry Dock Yards I and II, Port of Oakland, California; and two reports by Risk Based Decisions, Inc. (RBD), entitled Update to Risk Assessment Report for the Pacific Dry Dock and Repair Company Yard I Site in Oakland, California and Update to Risk Assessment Report for the Former Pacific Dry Dock and Repair Company Yard II Site in Oakland, California.

Our review of these reports has been hampered by the following:

- There are no tables summarizing the proposed scope of work and what was actually performed. Given the complex design of the sampling programs and discussions by Crowley Marine (Crowley) with Alameda County (the County) to which the Port was not a party, it would be appropriate to have a table outlining what had been originally proposed, what modifications were made based on discussions, and what was actually performed.

- There are no analytical data summary tables in the TGG's summary of investigation results. There are data tables in RBD's updated risk assessments, but these tables only include data considered in the risk assessment; preliminary review of these tables indicates that some data included in the laboratory analytical reports attached to the TGG's report are not included or not included accurately.

- RBD's updated risk assessment for Yard I references an additional sampling event on 26 February 1998 for which some data are included on the tables. There are no laboratory analytical reports for these samples in any of the reports.

- RBD's updated risk assessment for Yard I includes figures that show previous and current sampling results; however, the basis for determining which older data correlated with the new "shallow" and "deep" data is not identified.

- There are no figures that illustrate the spatial distribution of the new data for Yard II (except benzene and locally PCBs) or the new data together with the older data.

- The locations of some of the groundwater sampling points and the identity of the duplicate sample are not clear. A table summarizing the groundwater data has not been provided, nor is there any evaluation of the data together with the previous groundwater data and the current and previous soil data.

- RBD's updated risk assessments are based solely on the newly collected data and do not incorporate or adequately justify the exclusion of the data collected from previous investigations.

- The chemicals included in the risk calculations are in some cases different than the chemicals included in the original risk assessments (i.e., some chemicals included previously are not considered in the updated risk assessments); however, no explanation for these differences is provided. In addition, it is unclear how the metals included in the risk calculations were selected.

- References cited in RBD's reports are not provided.

We believe these matters need to be addressed prior to County consideration of the risk assessments. Unless addressed, we believe there is not a sufficient record on which the County can evaluate the risk assessments.

Until these clarifications are provided, we cannot complete our review of the investigation results or the updated risk assessments. Therefore, we are not able to determine whether performance of the risk assessments at this time was warranted or whether the site conceptual models and chemicals of concern used in the risk assessments were appropriate.

We appreciate the opportunity to work with the Port. If you have questions or need additional information, please contact either of the undersigned.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Gregory P. Brorby, DABT
Senior Toxicologist

Sally E. Goodin, R.G.
Principal Geologist

GPB/SEG:mdg
I:\DOC_SAFE\3999\3999BULL.DOC

July 13, 1998

Mr. Charles Foster
Port of Oakland
530 Water St.
P.O. Box 2064
Oakland CA 94604-2064

Re: Environmental Investigations at Crowley Maritime Yards I & II, 1441 and 321 Embarcadero, Oakland CA 94606

Dear Mr. Foster:

This letter serves to reply to your recent July 6, 1998 letter to this office expressing concerns regarding the County's dealings with Crowley Maritime and the omission of the Port of Oakland during such meetings.

I would like to reiterate and comment on the history of this site, both past and recent. As you are aware, the Port retained the consultant, Geomatrix, to evaluate past remedial efforts performed at both Yards I and II. This resulted in Geomatrix providing a work plan recommending additional investigations at both of these sites. Crowley and their consultants, Risk Based Decisions (RBD) and the Gauntlett Group, generated a work plan to respond to the work plan recommendations of Geomatrix. Significant differences existed in these work plans. Because of this, the County requested that the two parties jointly prepare a single work plan for our review. Unfortunately, a joint work plan was not able to be prepared. The County was left to determine what additional investigation would be required at the sites. In general, many of the recommendations in the Geomatrix work plan were incorporated in the County's work plan request. The County's work plan was derived through extensive technical evaluation by County risk assessor, Ms. Madhulla Logan and discussion with consultants from both Geomatrix and Risk Based Decisions. The County requested this additional work in January 1998.

An onsite meeting with the County at both sites occurred to finalize the specific locations of the samples. During this time, specific changes were developed based on additional information provided by Crowley. Field work occurred in February 1998 shortly after finalizing the work plan. During the field work, our office was informed that PCBs were detected on Yard II, near the entrance of the site. Crowley informed our office that they would be doing additional characterization in this area and would like to include these results in their final report. To insure acceptability of the report, Crowley and their consultants presented the raw data from the investigation. The format of the report and specifics of their risk assessment were discussed and clarified. The most recent July 7, 1998 meeting with Crowley, consisted of a computer presentation of the data along with a discussion of the findings of the investigation. At the conclusion of this meeting, the County was provided a copy of the final report. I understand that the Port was also provided copies of the reports the same day.

StID	Name of Site	Site Address	Zip	STATUS PER PROG. G	H	U	StW	D/R	L	PBR	LastInsp
779	Arco Station #00608	17601 Hesperian Blvd	580	C	C	C	Y		A		07/22/98

Running Count:

NOTE: A file exists for each program category if there is a letter beneath it.

STATUS DESCRIPTIONS:

G ... GEN: C = Current I = Inactive N = Non Generator Q = Need Insp/Fac. Survey R = Returned Mail
H ... HMBP: C = Part II M = Part 1 E = Exempt I = Inactive N = Not Eligible P = Need HMBP Part 1 or 2 R = Returned Mail
U ... UGT: C = UGT Forms Submitted E = Exempt N = No UGT Present F = Need UGT Application R = Removed UST
StW ..Storm: Y = Storm Inspection by this office I = Inactive R = Returned Mail
D/R .DepRef: R = Tank Removal M = Site Mitigation MOD = Modification
L ... LOP: A = Active I = Inactive

For the record, the statement that Crowley has refused to share the results of this characterization with the Port is not true. As stated above, the Port was sent copies of the final report the same day as received by the County. In the prior meeting with Crowley, the raw data was shown to our office and discussed, however, no reports or hard copy of any data was ever left with the County. The "private" meetings held with Crowley were ones where data, reporting formatting and specific risk assessment methodology were discussed. At that point, our office felt that these technical discussions need only be between the responsible party performing the work and the overseeing agency. In addition, our office only received the Port's letter objecting to the County and Crowley's meeting the morning of the meeting.

The Port's additional claim that PCB's were not disclosed in an initial characterization is also not true. The County was informed verbally of PCBs encountered during the initial characterization and notified that Crowley would further delineate this contamination without waiting to be requested to do this additional work. As the PCB results were reported only in the final report, they were never "not disclosed".

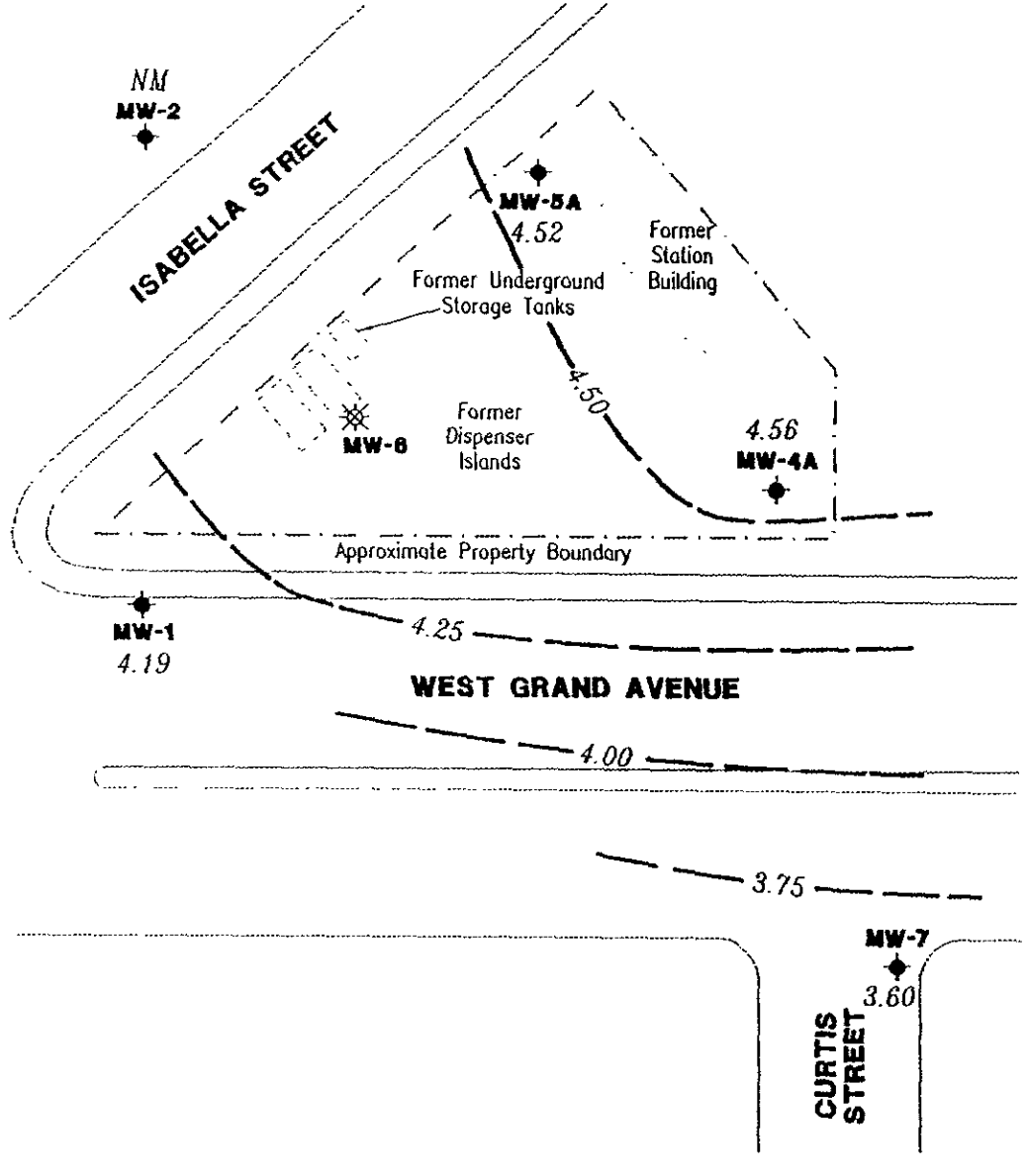
The Port also points out that recent tank removal results indicate contamination exists in both soil and groundwater that was not stated in any of Crowley's reports. Please be aware that the site characterization performed by Crowley did not include the tank removals. In fact, the two underground tanks at 321 Embarcadero were removed by the Port with City oversight during the last week of June 1998, well after the conclusion of Crowley's investigation. You are advised that after discussion with Crowley, their position is that the underground tanks in question were installed and used by the US Navy and are, therefore, not their responsibility. Both the US Navy and the Port would, therefore, be considered responsible parties. Crowley is, however, willing to share their site investigation results performed in the former underground storage tank area to help determine if any further investigation is warranted. Our office will be in discussion with the City of Oakland to determine if the site should be transferred to the Local Oversight Program (LOP).

Our office is in the process of reviewing the recently received reports. It is premature at this time to say if any additional work or information will be required. Our office is aware of the proximity of this site to the Bay and will require that any residual soil or groundwater contamination be protective of both human health and the environment.

The Port is welcomed to comment on the completeness and the recommendations and conclusions made by Crowley in these final reports. After the Port and our office have completed their review of the reports we can discuss our comments. As previously mentioned above, we are still evaluating this information.

If you have any questions, please contact.....

Sincerely,



EXPLANATION:

- Groundwater monitoring well
- Abandoned well
- 99.99 — Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 — Groundwater elevation contour, dashed where inferred.
- NM — Not measured

Approximate groundwater flow direction at a gradient of 0.003 to 0.008 Ft/Ft

N

0 50

Scale in Feet

Gettler - Ryan Inc.

6747 Sierra Ct., Suite J
Dublin, CA 94568
(510) 551-7555

POTENTIOMETRIC MAP
Former Chevron Service Station No. 9-1853
850 West Grand Avenue
Oakland, California

FIGURE 1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
5224.80		3/20/95	

C: R. Pantages, ACEH
B. Chan, ACEH
M.Logan, ACEH
T. Peacock, ACEH
D.Heinze, Port of Oakland, 530 Water St., P.O. Box 2064, Oakland CA 94604-2064
M. Heffes, Port of Oakland
D. Herman, Port of Oakland
M. O'Brien, Port of Oakland
Joyce Washington, Port of Oakland
Karen Taberski, RWQCB, 1515 Clay St., Suite 1400, Oakland CA 94612
Loretta Barsamian, RWQCB
S. Wilson, Crowley Marine Services, Inc., 2401 Fourth Ave., P.O. Box 2287, Seattle, WA 98111
H. Gomez, City of Oakland, OES, 505 14th St., 7th Floor, Oakland CA 94612

Windows 95 Printer Test Page

Congratulations!

If you can read this information, you have correctly installed your HP LaserJet IIP.

The information below describes your printer driver and port settings.

```
Printer name:    QBC - HP 2P+
Printer model:   HP LaserJet IIP
Driver name:     HPPCL.DRV
Driver version:  4.00
Color support:   No
Port name:       LPT1:
Data format:     RAW
```

Files used by this driver:

```
 C:\WINDOWS\SYSTEM\HPPCL.DRV     (4.00.951, GPC 3.02)
 C:\WINDOWS\SYSTEM\FINSTALL.DLL  (4.0.2.01)
 C:\WINDOWS\SYSTEM\FINSTALL.HLP
 C:\WINDOWS\SYSTEM\UNIDRV.DLL    (4.00.951)
 C:\WINDOWS\SYSTEM\UNIDRV.HLP
 C:\WINDOWS\SYSTEM\ICONLIB.DLL   (4.00.950)
```

This is the end of the printer test page.

CROWLEY MARINE SERVICES, INC.

ENVIRONMENTAL PROTECTION
98 JUL -8 PM 2:12

Mr. Barney Chan
Alameda County Health Care
Services Agency
1131 Harbor Bay Parkway, #1130
Alameda, California 94502-6577

July 7, 1998

Reference: **Pacific Dry Dock and Repair Company Yards I & II, 1441 and 321 Embarcadero, Oakland**

Dear Barney,

I want to thank both you and Ms. Logan for taking the time to meet with me today to review the update to the risk assessment report for the above referenced facilities. This letter is to confirm that I left two copies of the following reports with you:

- Update to Risk Assessment Report for the Former Pacific Dry Dock and Repair Company Yard I Site in Oakland, California
- Update to Risk Assessment Report for the Former Pacific Dry Dock and Repair Company Yard II Site in Oakland, California
- Letter from The Gauntlett Group to Stephen Wilson, dated July 6th 1998 with Appendices.

If you or Ms. Logan have any questions or comments on these reports please contact me at (206) 443-8042.

Sincerely,

Stephen Wilson
Manager Environmental Affairs

cc: PDD I and II Correspondence
Beth Hamilton
Bruce Love
Diane Heinze

155 Grand Avenue, Oakland, California 94612 - Telephone (510) 251-7500 - Facsimile (510) 251-7625

PORT OF OAKLAND

July 6, 1998

VIA FACSIMILE AND FIRST-CLASS MAIL

Barney Chan
Alameda County Health Care
Services Agency
1131 Harbor Bay Parkway, #1130
Alameda, CA 94502-6577

Re: Environmental Contamination at Crowley Maritime Corporation Yards I and II (1441 and 321 Embarcadero, Oakland)

Dear Mr. Chan:

We are advised that, without advising or including the Port, a meeting has been scheduled between you and persons representing Crowley Maritime Corporation ("Crowley") regarding closure of Crowley remedial activities on two Port-owned, Crowley-operated properties, 1441 Embarcadero (Yard 1) and 321 Embarcadero (Yard 2) (collectively the "Crowley Yards"). At the risk of some repetition, but to be sure the record is clear, a brief recitation of the background which, in significant part, led to the meeting is in order.

In April, 1997, the Port wrote to you expressing concern over the remedial efforts that had been undertaken by Crowley regarding the Crowley Yards. The Port stated that there remained potentially significant remedial work yet to be accomplished. The Port's expression was reinforced by a Notice of Violation sent to Crowley regarding Yard II. In fact, the Port went to the effort and expense to retain a consultant, Geomatrix, to review the work that had been done by Crowley to assist the County in evaluating that work. The Port conveyed to the County Geomatrix' conclusions that there had been inadequate characterization of both Yard I and Yard II.

In August, 1997 you directed Crowley to submit a further workplan for additional investigation at Yards 1 and 2 by late September, 1997. In late September, Crowley requested and you granted an extension of the deadline to submit the subject workplan on the condition that the Port and Crowley agree to a mutual work plan by mid-November, 1997. You indicated that if there was no agreement, the County would request the Port send its' consultant's work plan.

The Port attempted to work with Crowley and its environmental personnel and consultants to discuss and come to some understandings regarding the nature, scope and details of additional investigations which the Port believed were required. Geomatrix developed a specific scope of work for a one-phase investigation to fill the data gaps and

530 Water Street ■ Jack London Square ■ P.O. Box 2064 ■ Oakland, California 94604-2064
Telephone (510) 272-1100 ■ Fax (510) 272-1172 ■ TDD (510) 763-5703 ■ Cable address, PORTOFOAK, Oakland

complete characterization of the two sites. This work plan was sent to Crowley and lengthy discussions were undertaken between Port and Crowley environmental personnel and consultants to resolve differences. Crowley and the Port, however, were not able to resolve their differences regarding the workplan. Consequently, the Port presented its proposed work plan and requested the County adopt and require Crowley to undertake the investigations and analyses described in that workplan.

Finally, a work plan was approved by the County that largely adopted the Port's suggestions for additional characterization. Unfortunately, although the Port was a critical part of the process that led to the requirement for additional characterization, Crowley has refused to share the results of that characterization with the Port and insists on meeting with Department of Environmental Health officials in private. The Port's concern about this private meeting is heightened by two additional facts: First, the Port is advised that PCB's not disclosed in the initial characterization were discovered in the most recent round of testing by Crowley. Second, recent tank removals by the Port disclosed significant contamination of both groundwater and soil that was not reported in any of Crowley's site characterization efforts.

As the property owner with a vital and immediate interest in any determination by the Department of Environmental Health, the Port should be included in all meetings with Crowley concerning the Port's property. In addition, the County, if Crowley refuses to provide the results of its characterization, should provide such information to the Port or should require Crowley to do so. Certainly no meeting should take place until all interested parties are fully informed and all are in attendance. For this reason, the Port strenuously objects to the meeting scheduled for tomorrow.

Finally, we request that you coordinate with the Regional Water Quality Control Board regarding the Crowley Yards given their immediate proximity to the Bay and the all too likely prospect that significant contamination that could impact the Bay may be left on site.

Please feel free to call me or the head or our Environmental health and Safety Compliance Unit, Mark O'Brien if you have any

Very truly yours,

Charles W. Foster
Executive Director

Cc: David L. Alexander
Omar Benjamin
Joyce Washington
Mark O'Brien
James McGrath
Loretta Barsamian,
Executive Officer, RWQCB
Karen Tiburski, RWQCB
Stephen Wilson, Crowley
Diane Heinze
Doug Herman

CROWLEY MARINE SERVICES, INC.

ENVIRONMENTAL PROTECTION
98 JUN 29 PM 4:47

Ms. Diane Heinze, P. E.
Environmental Scientist
Port of Oakland
Second Floor
530 Water Street
Oakland, CA 94607

June 24, 1998

Reference: **Pacific Dry Dock and Repair Company Yards I & II**

Dear Diane:

Thank you for your letter dated June 5, 1998. We appreciate your continued interest in our progress at Yards I and II, and will forward the report of our findings to you as soon as it is available.

Your comments to the contrary notwithstanding, Crowley, in consultation with the officials at Alameda County Health Department, will determine whether it is appropriate to excavate any additional soil. If such removal is appropriate, Crowley will undertake that effort. Crowley has already submitted a risk assessment to the Alameda County Health Department and does not foresee duplicating that effort to any significant degree.

Crowley does not intend to submit any documents for the Port's "review and comment" respecting the work at Yards I and II, including any "written remedial action plan", if one was required to be developed. Crowley will continue working directly with Alameda County Health Department, and, following past practice, will submit the necessary documentation to the Port as and when it is available.

Please let me know if you have any further questions.

Sincerely,

Stephen Wilson
Manager Environmental Affairs

Cc: Barney Chan, Alameda County
Beth Hamilton
Bruce Love

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
Pier 41 (Red & White Fleet), San Francisco, California 94133 - (415) 546-2800 - Fax (415) 546-2623 (Admin & Sales)
Pier D, Berths D47-D49, Long Beach, California 90802-1098 - (310) 491-4700 - Fax (310) 491-4790 (Admin) - Fax (310) 491-4789 (Operations)
4300 B Street, Suite 507, Anchorage, Alaska 99503-5997 - (907) 563-1114 - Telex 6732564 - Fax (907) 762-3330
Pier 54, San Francisco, California 94107 - (415) 546-2684 - Fax (415) 546-2606 (Admin)
Post Office Box 2110, Jacksonville, Florida 32203-2100 - (904) 727-2200 - Telex 4611037 - Fax (904) 727-2401

PORT OF OAKLAND

June 5, 1998

Mr. Stephen Wilson
Manager of Environmental Affairs
Crowley Marine Services, Inc.
2401 Fourth Avenue
P.O. Box 2287
Seattle, Washington 98111

Subject: 1441 and 321 Embarcadero (Yards I and II) - Request for Reports

Dear Mr. Wilson:

I understand that you have completed the work described in your "Sampling Work Plan for the Former Pacific Dry Dock and Repair Company Yards I and II," prepared by Risk-Based Decisions dated November 14, 1997 (as modified by your February 3, 1998 submittal to Mr. Barney Chan, of Alameda County). At our January 22, 1998 meeting at the Port, you estimated that a report documenting the results of the soil and groundwater sampling would be available in three months. On April 2 , 1998 (in response to a telephone message from me) you stated in a telephone message that the field work was almost complete and a report would be forthcoming in about a month. To date, the Port has not received any results.

I further understand from a recent conversation with Mr. Barney Chan, that you discussed preliminary results with Mr. Chan and Ms. Madhulla Logan, of Alameda County, on May 29, 1998. I understand that your preliminary results indicate PCBs and benzene were detected at 321 Embarcadero. Mr. Chan also stated that you are considering excavating two areas prior to documenting and submitting sampling results, a risk assessment or remedial action plan to the County and the Port for review and comment.

Until it is established that the area has been fully characterized, it is premature to conduct a remedial action particularly without review by the Port or the County of the sampling results. I request that Crowley document and submit the sampling results to the Port at its earliest opportunity.

It would be most cost-effective to excavate soil at one time. Consequently, should Crowley go forward with remedial action, the Port requests that Crowley submit a proposed remedial action plan including a risk assessment to the County and the Port for review and comment prior to implementing any such action. By a copy of this letter to Mr. Chan of the County, the Port requests that the County make no decision on the appropriateness of a remedial action at either Yard until the Port has had an opportunity to provide comments on a written remedial action plan, including a risk assessment.

530 Water Street ■ Jack London Square ■ P.O. Box 2064 ■ Oakland, California 94604-2064
Telephone (510) 272-1100 ■ Fax (510) 272-1172 ■ TDD (510) 763-5703 ■ Cable address, PORTOFOAK, Oakland

If you have any questions, please contact me at 510-272-1467.

Sincerely,

Diane Heinze

Diane Heinze, P.E.
Associate Environmental Scientist

cc: Michele Heffes
Joyce Washington
Neil Werner
Barney Chan, Alameda County

Cal/EPA

San Francisco
Bay Regional
Water Quality
Control Board

2101 Webster St. #500
Oakland, CA 94612
(510) 286-1255
FAX (510) 286-1380

Pete Wilson
Governor

#1421 / 1222

Date: APR 2 2 1998
File Nos. 019174001
019218001 (DCL)

Stephen Wilson
Manager, Environmental Affairs
Crowley Marine Services, Inc.
P.O. Box 2287
Seattle, WA 98111-2287

Subject: Rescission of Cleanup and Abatement Order No. 96-111 for the Properties Located at 1441 Embarcadero (Yard I) and 321 Embarcadero (Yard II), Oakland, Alameda County

Dear Mr. Wilson:

This letter rescinds the Cleanup and Abatement Order (CAO) No. 96-111 issued on August 2, 1996.

Crowley Marine Services, Inc. and its predecessors operated a boat and vessel repair business at 1441 Embarcadero (Yard I) from approximately 1911 to 1992, and at 321 Embarcadero (Yard II) from approximately 1951 to 1992. Barnacles, rusts, paint, and other debris were removed from the hulls of the vessels by a high-pressure stream of water or by sandblasting. Most of the sandblast grit and detritus was collected from the railway platform (at Yard I) or the dry dock (at Yard II) that the vessels rested on during cleaning operations. Some grit, however, accumulated in the estuary and the inter-tidal and supra-tidal zones.

In March 1996, Board staff requested that Crowley remove the grit found in the inter-tidal and supra-tidal zones of the sites to (1) assure that storm water flowing over the surface material will not carry constituents of the material into the estuary, and (2) address environmental hygiene issues at the sites. In response, Crowley prepared a Workplan for Removal of Sandblast Grit from the Inter-Tidal and Supra-Tidal Zones at Pacific Dry Dock Yards I and II in June 1996. On August 2, 1996, I issued CAO No. 96-111, incorporating the submitted workplan, just for the removal of loose grit from the inter-tidal and supra-tidal zones.

The removal activities were conducted in March 1997. Approximately 3,585 and 720 tons of grit were removed from Yard I and Yard II, respectively. Using the Soluble Threshold Limit Concentrations test and Toxicity Characteristic Leaching Procedure, the removed grit and debris were classified as nonhazardous waste, with concurrence from the Department of Toxic Substances Control, and were disposed of at an approved landfill during December 1997.

Based on the submitted report, Board staff concur with the scope of work completed and the work is satisfactory in response to CAO No. 96-111. The Order is therefore no longer needed and hereby rescinded. I understand that the Alameda County Department of Environmental

Health is currently supervising soil and groundwater remedial investigations at these sites. Crowley should therefore continue to cooperate in the required investigation/cleanup efforts.

If you have any questions, please contact Derek Lee of my staff at (510) 286-1041.

Sincerely,

Loretta K. Barsamian

Loretta K. Barsamian
Executive Officer

cc.

Diane Heinze
Associate Port Environmental Scientist
530 Water Street, 2nd Floor
Oakland, CA 94607

Barney Chan
ACDEH
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Nicholas Salcedo
BCDC
30 Van Ness Avenue, Suite 2011
San Francisco, CA 94102-6080

Patrick Lacey
Field Services Manager
The Gauntlett Group, LLC
111 West Evelyn Avenue, Suite 305
Sunnyvale, CA 94086

X

CROWLEY MARINE SERVICES, INC.

February 20, 1998

Mr. John Wolfenden
San Francisco Bay Regional Water
Quality Control Board
2102 Webster Street, Suite 500
Oakland, California 94612

98 FEB 25 AM 8:29

Reference: **Cleanup and Abatement Order 96-111**
Pacific Dry Dock and Repair Company Yards I & II
321 and 1441 Embarcadero, Oakland

Dear John:

Enclosed please find a copy of the report on the sand blast grit removal project at the above referenced sites. This report was prepared for Crowley Marine Services, Inc. by the Gauntlett Group. The report describes Crowley's efforts to comply with the Cleanup and Abatement Order Number 96-111 issued by the San Francisco bay Regional Water Quality Control Board on August 2nd 1996.

As stated in the report, Crowley has completed removal of the spend sand blasting grit from the inter-tidal and supra-tidal zones at both Yards I and II. Crowley has deposed of the removed grit consistent with the classification of the grit as non-hazardous by the State of California Department of Toxic Substances Control. The letter from the Department of Toxic Substance Control granting the request to manage the removed spent sand blasting grit as non-hazardous is included in the report as Appendix F.

As Crowley has now fully complied with the Cleanup and Abatement Order Number 96-111, I hereby request that Cleanup and Abatement Order Number 96-111 be rescinded.

Please contact me at (206) 443-8042 with any questions that you may have.

Sincerely,

Stephen Wilson
Manager, Environmental Affairs

Enclosure: *Sand Blast Grit Removal Project dated February 1998*

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
Pier 41 (Red & White Fleet), San Francisco, California 94133 - (415) 546-2800 - Fax (415) 546-2623 (Admin & Sales)
Pier D, Berths D47-D49, Long Beach, California 90802-1098 - (310) 491-4700 - Fax (310) 491-4790 (Admin) - Fax (310) 491-4789 (Operations)
4300 B Street, Suite 507, Anchorage, Alaska 99503-5997 - (907) 563-1114 - Telex 6732564 - Fax (907) 762-3330
Pier 54, San Francisco, California 94107 - (415) 546-2684 - Fax (415) 546-2606 (Admin)
Post Office Box 2110, Jacksonville, Florida 32203-2100 - (904) 727-2200 - Telex 4611037 - Fax (904) 727-2401

cc: Diane Heinze, Port of Oakland with enclosure
Nicholas Salcedo, Bay Conservation and Development Commission with enclosure
Barney Chan, Alameda County Health Care Services Agency with enclosure
Beth Hamilton with enclosure
Ijaz Jamal with enclosure
PDD Sediments Correspondence without enclosure
Bruce Love without enclosure
Pat lacey without enclosure

PORT OF OAKLAND

February 12, 1998

Mr. Barney Chan
Hazardous Materials Specialist
Alameda County Health Care Services Agency,
Division of Environmental Protection
Department of Environmental Health
1311 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Re: Former Pacific Dry Dock and Repair Company Yards I and II
Request for Confirmation of Agreements Documented in February 3, 1998 Crowley Letter

Dear Mr. Chan:

We recently received Stephen Wilson's (Crowley Marine Services) letter to you dated February 3, 1998. The letter states that several agreements were reached at a meeting between you and representatives of Crowley Maritime regarding Port of Oakland-owned property at 321 and 1441 Embarcadero Way, Oakland, CA. Since the Port was not present at the meeting and we have several concerns regarding the agreements referenced in Mr. Wilson's letters, I would appreciate if you would confirm that the agreements as stated in Mr. Wilson's letter were reached between your department and Crowley. Specifically, the Port has the following concerns:

Yard I - Eastern Section Groundwater Sampling

Paragraph 2 of page 2 of Mr. Wilson's letter indicates, in substance, that the only groundwater sample to be collected will be obtained in the former "paint booth" area. The paint booth area lies in the extreme easterly edge of the former Yard I and is midway between the Embarcadero on the North and the Estuary on the South. The Port suggested, however, that there be groundwater sampling conducted in other areas of the site to resolve whether potential sources of groundwater contamination had impacted groundwater entering the Estuary.

Mr. Wilson's letter states the rationale for the agreement between Crowley and your department is the finding by the Regional Water Quality Control Board (Regional Board) that nearshore sediments do not pose a risk to human health or the environment. The Port does not see any relationship between the Regional Board finding relating to sediments Crowley deposited in the offshore area and the possible contamination of groundwater by activities that occurred landward and upland of the location of the sediment. Groundwater sampling at locations sufficient to determine the state of groundwater underlying the entire site that has been used for industrial activities employing hazardous substances and generating hazardous wastes for nearly ninety years

32057 V02

Note #5 p2 states: MW5 MW1 + MW3 will be sampled & analyzed for requested parameters. A grab ow sample will be collected in frame machine slip + analyzed for VOCs & metals

530 Water Street ■ Jack London Square ■ P.O. Box 2064 ■ Oakland, California 94604-2064
Telephone (510) 272-1100 ■ Fax (510) 272-1172 ■ TDD (510) 763-5703 ■ Cable address, PORTOFOAK, Oakland

would appear to be reasonable. In addition, discharge of water containing dissolved contaminants to the Estuary may raise different regulatory issues that sediment in the Estuary which is postulated to remain undisturbed.

PNA Versus SVOC Sampling Paint not considered to contain SVOC's. PNA's are CA in the high boiling material reported as O+G

In addition, the agreement referenced in the third paragraph of page 3 of Mr. Wilson's letter approving analysis of random samples for PNAs rather than SVOCs is of concern to the Port. Failure to analyze these random samples for SVOCs would not determine whether, for example, paint constituents had been released. Given the fact that Crowley conducted painting activities at the site, failure to sample for such constituents does not appear reasonable. As a consequence, the Port requests that Crowley be required to analyze these samples for SVOCs as well as PNAs.

Screening Criteria

Finally, there is no reference in Mr. Wilson's letter to the screening criteria to be used. In your letter dated January 21, 1998 regarding this issue, a screening criteria of 10^{-6} was required. Mr. Wilson's letter does not indicate that Crowley accepted this criteria. Has Crowley accepted this screening criteria?
p. 3 of Cantey's 1/21/98 letter states that the composite sample one. should be compared to the PRG's based on a hazard index of concentration of 10^{-6} for carcinogens & 1 for non-carcinogens.

Please contact me at 510-272-1467.

Sincerely,

Diane Heinze

Diane Heinze, P.E.
Associate Environmental Scientist

cc: Stephen Wilson
Sally Goodin
Joyce Washington

C:\mydocs\Crowley\barney.doc

CROWLEY MARINE SERVICES, INC.

ENVIRONMENTAL PROTECTION
98 FEB -5 PM 4:12

February 3, 1998

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Way Parkway, #1130
Alameda, CA 94502-6577

Reference: Former Pacific Dry Dock and Repair Company Yards I & II, Oakland, California

Dear Barney:

The purpose of this letter is to confirm the agreements that were reached at our meeting on January 30th 1998 regarding the additional sampling which is required at the above referenced sites at 1441 and 321 Embarcadero (the Sites) respectively.

A meeting was held at the Sites on January 30th 1998, to review the *Sampling Work Plan* (Risk-Based Decisions, November 14th 1997) (the Workplan) and your letter to me dated January 21st 1998. Mr. Barney Chan and Ms. Madhula Logan of Alameda County Health Care Services Agency (the County), Mr. Stephen Wilson of Crowley Marine Services, Inc. (Crowley), Mr. Ijaz Jamall of Risk Based Decisions, Inc., and Mr. Pat Lacey of The Gauntlett Group attended the meeting. Modifications or adjustments to the Workplan which were discussed in the field are summarized below. The Workplan changes are presented in the order that they were addressed in the your January 21st letter.

Yard I - Western Section

1. No additional sampling is necessary in the former underground storage tank area based on the previous correspondence between the County and Crowley. In a letter, dated January 15th 1997 from Mr. Dale Klettke of the County to me, Mr. Klettke requested that one additional groundwater sampling event should be performed at the site during the first quarter of 1997. His letter also stated that "After documentation of the 1st quarter 1997 groundwater monitoring and sampling report, this site file will be reviewed to determine whether it warrants closure as a "Low-Risk Groundwater Case"." The results of this sampling were submitted to the County on May 5th, 1997 in a report entitled "*Self Monitoring Report (March 1997) - Former Pacific Dry Dock and Repair Company - Yard I*".

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
Pier D, Berths D47-D49, Long Beach, California 90802-1098 - (310) 491-4700 - Fax (310) 491-4790 (Admin) - Fax (310) 491-4789 (Operations)
2525 C Street, Suite 303, Anchorage, Alaska 99503-2639 - (907) 278-4978 - Fax (907) 257-2828
Pier 54, San Francisco, California 94107 - (415) 546-2684 - Fax (415) 546-2606 (Admin)
Post Office Box 2110, Jacksonville, Florida 32203-2100 - (904) 727-2200 - Telex 4611037 - Fax (904) 727-2401
Maturin, Venezuela - Telephone 011-589-145-2856

2. As the Workplan-proposed borings 1a.2 and 1a.3 are located either near or in the former drum storage area, these two proposed-random locations will be converted to target locations and moved inside the former drum storage area. Shallow samples from these borings will be analyzed for Volatile Organic Compounds (VOCs), Polynuclear Aromatic Compounds (PNAs), and metals. Deep samples are not required.

3. Two additional borings will be located in the two material storage area. Shallow samples will be collected from these borings and analyzed for PNAs. Deep samples will not be collected. These samples will not be analyzed for VOCs based on the Crowley's statement that these areas were used only to store machinery and other equipment, and that volatile organic compounds were not stored in these areas.

4. The request for additional shallow metals data near well MW1 is addressed in Item 2. above. The shallow sample from target location 7a.1 will be analyzed for metals in addition to the parameters described in the Workplan. Target location 7a.1 is near well MW3.

5. Monitoring wells MW1 and MW3 will be sampled and analyzed for the requested parameters. A grab groundwater sample will be collected in the former machine shop area and analyzed for VOCs and metals. All groundwater samples for metals will be field filtered.

Yard I - Eastern Section

1. Analyses of the shallow and deep soil samples from target locations 6a.1 and 6a.2 for metals and VOCs are included in the Workplan. Groundwater sampling will not be performed in this area unless the soil data indicates that testing is necessary.

2. One grab groundwater sample will be collected in the former "paint booth" area. The grab sample will be analyzed for VOCs, BTEX, PNAs, and metals. As the Regional Water Quality Control Board - San Francisco Bay Region (the Board) has stated that the nearshore sediments do not pose a risk to human health or the environment, it was agreed that the groundwater sample at this location would also satisfy the request for groundwater data from the furthest down gradient location.

Yard II

1. Samples from target locations 13a.1s and 13a.2s will also be analyzed for metals as requested. Samples from these locations will be collected adjacent

to the two sumps in the former degreasing area. No deep sample is required for this area.

2. One grab groundwater sample will be collected in the degreaser area/machine shop area and analyzed for VOCs, metals and SVOCs. Analysis of this sample for TRPH is not required. As spent sand blast grit was only staged temporarily on a permanent asphalt surface, a grab groundwater sample at the former sandblast grit storage area is not required. As the Board has stated that the nearshore sediments do not pose a risk to human health or the environment, a grab groundwater sample from the furthest downgradient direction is not required.

3. Instead of one shallow soil sample being collected in the former bilge water disposal area, shallow soil samples will be collected from three to five locations in this location. The samples will be composited and analyzed for PCBs. No sampling at the former sandblast grit storage area is required, as spent sand blast grit was only staged temporarily on a permanent asphalt surface.

Per our discussions the shallow random samples collected at each yard will also be analyzed for Total Petroleum Hydrocarbons as diesel (TPH-d). These samples will be composited per the methodology outlined in the Workplan. Also per our discussions the random samples will be analyzed for PNAs rather than semi-volatile organic compounds.

This letter also serves as an agreed revision to Crowley's previously submitted Workplan, in lieu of submitting a revised workplan to your office within 20 days per your letter of January 21st 1998.

I would like to thank both you and Madhula for taking the time to meet with me. I think this has helped us all clarify the additional sampling requirements for the sites. A sample location map and tables of locations and analyses will be forwarded to your office by Mr. Ijaz Jamall under separate cover.

Sincerely,

Stephen Wilson
Manager, Environmental Affairs

cc: PDD I & II Correspondence
Ijaz Jamall
Pat Lacey
Diane Heinze

CROWLEY MARINE SERVICES, INC.

98 FEB -5 PM 12:11

February 2, 1998

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Way Parkway, #1130
Alameda, CA 94502-6577

Reference: Former Pacific Dry Dock and Repair Company Yards I & II, Oakland, California

Dear Barney:
The purpose of this letter is to confirm the agreements that were reached at our meeting on January 30th 1998 regarding the additional sampling which is required at the above referenced sites at 1441 and 321 Embarcadero (the Sites) respectively.

A meeting was held at the Sites on January 30th 1998, to review the *Sampling Work Plan* (Risk-Based Decisions, November 14th 1997) (the Workplan) and your letter to me dated January 21st 1998. Mr. Barney Chan and Ms. Madhula Logan of Alameda County Health Care Services Agency (the County), Mr. Stephen Wilson of Crowley Marine Services, Inc. (Crowley), Mr. Ijaz Jamall of Risk Based Decisions, Inc., and Mr. Pat Lacey of The Gauntlett Group attended the meeting. Modifications or adjustments to the Workplan which were discussed in the field are summarized below. The Workplan changes are presented in the order that they were addressed in the your January 21st letter.

Yard I - Western Section

1. No additional sampling is necessary in the former underground storage tank area based on the previous correspondence between the County and Crowley.

2. As the Workplan-proposed borings 1a.2 and 1a.3 are located either near or in the former drum storage area, these two proposed-random locations will be converted to target locations and moved inside the former drum storage area. Shallow samples from these borings will be analyzed for Volatile Organic Compounds (VOCs), Polynuclear Aromatic Compounds (PNAs), and metals. Deep samples are not required.

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
Pier D, Berths D47-D49, Long Beach, California 90802-1098 - (310) 491-4700 - Fax (310) 491-4790 (Admin) - Fax (310) 491-4789 (Operations)
2525 C Street, Suite 303, Anchorage, Alaska 99503-2639 - (907) 278-4978 - Fax (907) 257-2828
Pier 54, San Francisco, California 94107 - (415) 546-2684 - Fax (415) 546-2606 (Admin)
Post Office Box 2110, Jacksonville, Florida 32203-2100 - (904) 727-2200 - Telex 4611037 - Fax (904) 727-2401
Maturin, Venezuela - Telephone 011-589-145-2856

3. Two additional borings will be located in the two material storage area. Shallow samples will be collected from these borings and analyzed for PNAs. Deep samples will not be collected.

4. The request for additional shallow metals data near well MW1 is addressed in Item 2. above. The shallow sample from target location 7a.1 will be analyzed for metals in addition to the parameters described in the Workplan. Target location 7a.1 is near well MW3.

5. Monitoring wells MW1 and MW3 will be sampled and analyzed for the requested parameters. A grab groundwater sample will be collected in the former machine shop area and analyzed for VOCs and metals. All groundwater samples for metals will be field filtered.

Yard I - Eastern Section

1. Analyses of the shallow and deep soil samples from target locations 6a.1 and 6a.2 for metals and VOCs are included in the Workplan. Groundwater sampling will not be performed in this area unless the soil data indicates that testing is necessary.

2. One grab groundwater sample will be collected in the former "paint booth" area. The grab sample will be analyzed for VOCs, BTEX, PNAs, and metals. As the Regional Water Quality Control Board - San Francisco Bay Region (the Board) has stated that the nearshore sediments do not pose a risk to human health or the environment, it was agreed that the groundwater sample at this location would also satisfy the request for groundwater data from the furthest down gradient location.

Yard II

1. Samples from target locations 13a.1s and 13a.2s will also be analyzed for metals as requested. Samples from these locations will be collected adjacent to the two sumps in the former degreasing area. No deep sample is required for this area.

2. One grab groundwater sample will be collected in the degreaser area/machine shop area and analyzed for VOCs, metals and SVOCs. Analysis of this sample for TRPH is not required. As spent sand blast grit was only staged temporarily on a permanent asphalt surface, a grab groundwater sample at the former sandblast grit storage area is not required. As the Board has stated that the nearshore sediments do not pose a risk to

human health or the environment, a grab groundwater sample from the furthest downgradient direction is not required.

3. Instead of one shallow soil sample being collected in the former bilge water disposal area, shallow soil samples will be collected from three to five locations in this location. The samples will be composited and analyzed for PCBs. No sampling at the former sandblast grit storage area is required, as spent sand blast grit was only staged temporarily on a permanent asphalt surface.

Per our discussions this letter also serves as the revised workplan your letter of January 21st requested be submitted to your office within 20 days.

I would like to thank both you and Madhula for taking the time to meet with me. I think this has helped us all clarify the additional sampling requirements for the sites. A sample location map and tables of locations and analyses will be forwarded to your office by Mr. Ijaz Jamall under separate cover.

Sincerely,

Stephen Wilson
Manager, Environmental Affairs

cc: PDD I & II Correspondence
Ijaz Jamall
Pat Lacey
Diane Heinze

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

January 21, 1998

Mr. R. Stephen Wilson
Crowley Marine Services, Inc.
2401 Fourth St.
Seattle, WA 98111

Ref: Environmental Investigation and Remediation at Pacific Dry Docks Yards I and II, 1441 Embarcadero and 321 Embarcadero, Oakland, CA - 94606

Dear Mr. Wilson:

This Department is in receipt and has reviewed the reports, Sampling Work Plan, dated November 14, 1997, prepared by Risk-Based Decisions (RBD), Draft Work Plan, dated September 1997, prepared by Geomatrix Consultants, Evaluation of the Work Plan Prepared by Geomatrix, dated December 9, 1997, prepared by RBD and Comments on the Sampling Work Plan, dated December 4, 1997, prepared by Geomatrix for the above referenced sites.

A letter, dated August 27, 1997 was sent to your attention requesting that both the parties, Crowley Marine Services and Port of Oakland confer and submit a mutually acceptable work plan. According to your letter dated, November 14, 1997, this was not feasible as both the parties could not resolve the differences regarding the sampling plan. This Department is concerned about the significant delay this has caused in initiating the required investigations at the referenced site and the inordinate amount of staff-time spent in reviewing the additional work generated by both the parties Based on the information submitted, this Department has decided that the sampling work plan submitted by RBD is acceptable with the below given modifications. **Please submit a revised work plan incorporating the changes within 20 days from the date of this letter.**

For Yard I - Western Section

In the **former UST area**, diesel, gasoline and benzene (1.3 ppm) were identified at depths between 3.4 ft to 4ft bgs in boring BH12. Since complete information is not available as to the closure of this tank, at least 1 additional shallow and deep sample should be collected from this area and analyzed for TPH as gasoline and BTEX.

The area near the previous sampling location BH10 and BH12 was used for **drum storage**, and since no VOC samples have been collected, at least 1 shallow sample from this area should be analyzed for VOC's, and TRPH. Also, a sample should be collected at shallow depths from each of the two remaining **material storage areas** (marked on the enclosed map) and sampled for VOC's and TRPH since no samples have been collected from these areas previously.

A total of five soil samples were analyzed for **metals** in the western section out of which only one sample (BH9) was from a depth less than 5 feet. Also, two of the soil samples collected from borings, MW1 and MW3 had concentrations of arsenic above the preliminary remediation goals (PRG's) for a residential scenario but less than the background concentrations listed by RBD in their sampling plan. Hence, at least 1 shallow soil sample should be collected from each of the areas near MW1 and MW3 and analyzed for Title 22 metals.

Monitoring wells, MW1, and MW3 should be sampled and analyzed for VOC's, metals and PNA's and one groundwater sample should be collected in the former machine shop area and analyzed for VOC's and metals.

For Yard 1 - Eastern Section

A shallow soil sample should be collected from the **former paint booth area** (marked in the enclosed map), and analyzed for metals and VOC's.

At least one **groundwater sample** should be collected from each of the former paint storage and the paint booth area (marked in the map), and analyzed for VOC's and metals. Additionally, at least 1 groundwater sample should be collected in the furthest down gradient direction and analyzed for all VOC's, BTEX, PNA's, and metals. This data is needed to later evaluate the risk to marine life.

For Yard 2

The proposed samples **13a1s and 13a2s** should also be sampled for metals, apart from VOC's due to the previous use of this area for various purposes. Also, 1 deep soil sample (between 3 to 5 ft bgs) should be collected from this area and analyzed for both metals and VOC's.

At least one **groundwater sample** should be collected from each of the following areas:

Degreaser area/machine shop area and analyzed for VOC's, metals, TRPH and SVOC analysis ;

Former sandblast grit storage area analyzed for VOC's and metals analysis; and

Furthest down gradient direction and analyzed for all VOC's, BTEX, PNA's, and metals (This data is needed to later evaluate the risk to marine life).

PCB Issue

Although it is not confirmed that PCB's were used on site, there is a probability the marine paints and oil used on ships contained PCB's . Hence, collect 1 shallow sample from each of the following areas and analyze for PCB's:

One sample from the area where bilge water was disposed; and

One sample from the sandblast storage area.

Screening the Results of the Composite Samples

The screening proccess proposed for the composite samples is acceptable to this Department except that the adjusted concentrations of the composite sample should be compared to the preliminary remediation goals (PRGs) based on a cancer risk of 10^{-6} for carcinogens and a hazard index of 1 for non-carcinogens. This decision was based on using the PRG concentrations as a screening tool to evaluate data adequacy and not for the purpose of evaluating risk to human health (for which the acceptable risk would be 10^{-5}).

Please include in the modified sampling plan, revised locations for random samples after excluding the additional target locations. Please note that based on the results of the investigation, additional work may be required prior to evaluating the risk for the referenced sites.

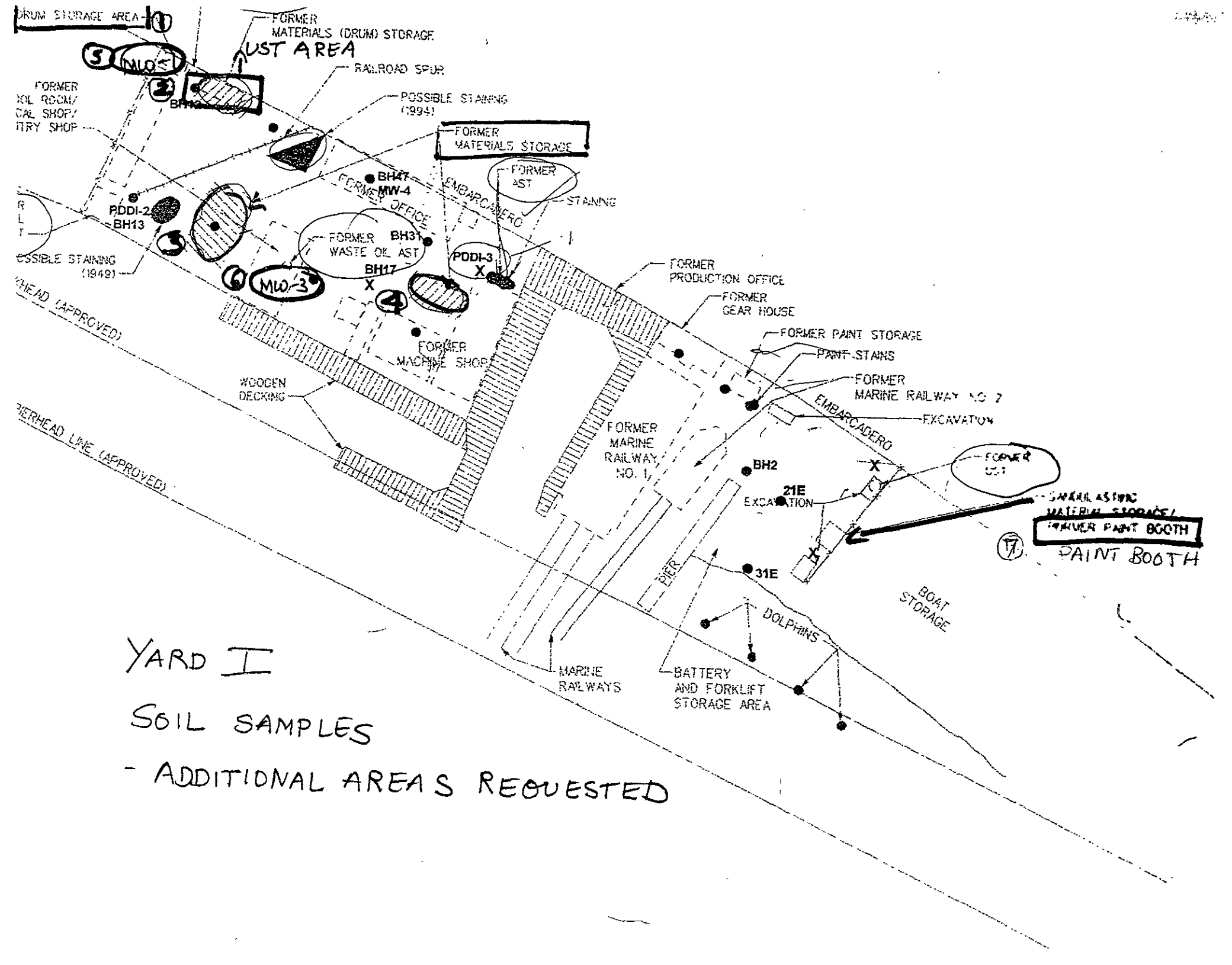
If you have any questions, you may reach me at (510) 567-6765

Sincerely,

Barney Chan
Hazardous Material Specialist

Ms. Rachel Hess, Port of Oakland, 530 Water ST,. Oakland, CA - 94607
Mr. I. Jamall, Risk based Decisions, Inc. 910 Florin Rd, Suite 2020, Sacramento, CA - 95831

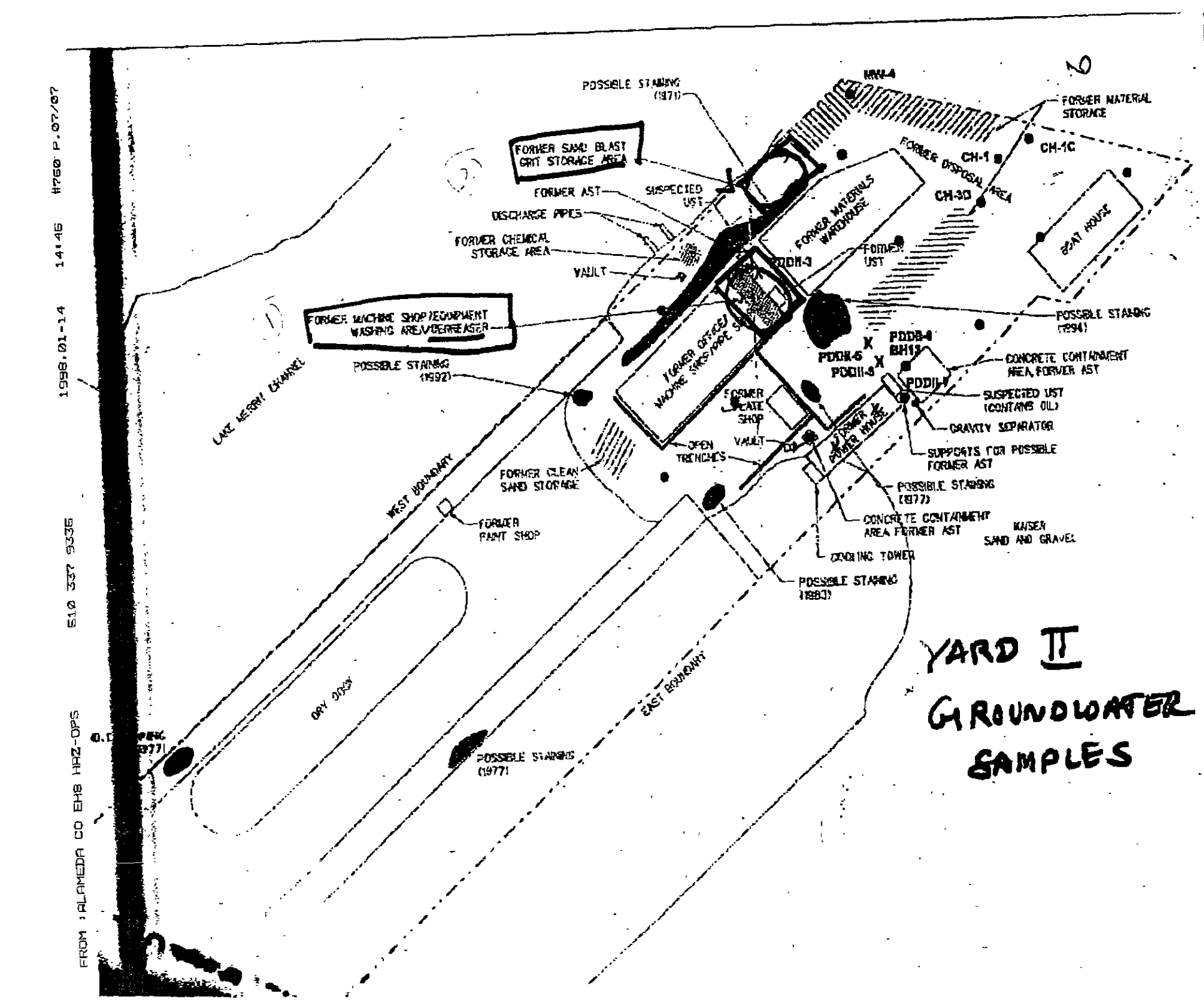
FORMER DRUM STORAGE AREA
FORMER GASOLINE UST
FORMER MATERIALS (DRUM) STORAGE
MW-5
RAILROAD SPUR
MW-1
MW-2
FORMER TOOL ROOM/ ELECTRICAL SHOP/ CARPENTRY SHOP
POSSIBLE STAINING (1994)
FORMER MATERIALS STORAGE
MW-4
FORMER OFFICE
EMBARCADERO
FORMER AST
STAINING
FORMER DIESEL AST
POSSIBLE STAINING (1948)
FORMER WASTE OIL AST
MW-3
U.S. BULKHEAD LINE (APPROVED)
FORMER PRODUCTION OFFICE
FORMER GEAR HOUSE
FORMER PAINT STORAGE
PAINT STAINS
FORMER MARINE RAILWAY NO. 2
EXCAVATION
EMBARCADERO
WOODEN DECKING
U.S. PIERHEAD LINE (APPROVED)
FORMER MARINE RAILWAY NO. 1
FORMER UST
EXCAVATION
SANDBLASTING MATERIAL STC FORMER PAINT
PAINT BOOTH
BOAT STORAGE
PIER 2
DOLPHINS
MARINE RAILWAYS
BATTERY AND FORKLIFT STORAGE AREA
YARD I
GROUNDWATER SAMPLES



YARD I

SOIL SAMPLES

- ADDITIONAL AREAS REQUESTED


POSSIBLE STAINING (1971)
MW-4
FORMER MATERIAL STORAGE
FORMER SAND BLAST GRIT STORAGE AREA
FORMER AST
SUSPECTED UST
DISCHARGE PIPES
FORMER CHEMICAL STORAGE AREA
VAULT
FORMER MATERIALS WAREHOUSE
FORMER DISPOSAL AREA
CH-1
CH-1C
CH-3D
BOAT HOUSE
PDDH-3
FORMER UST
FORMER MACHINE SHOP/EQUIPMENT WASHING AREA/VERREASTER
POSSIBLE STAINING (1994)
FORMER OFFICE/ MACHINE SHOP/ADMIN
PDDH-4
BH13
PDDH-5
PDDH-6
CONCRETE CONTAINMENT AREA, FORMER AST
POSSIBLE STAINING (1992)
PDDH-7
SUSPECTED UST (CONTAINS OIL)
FORMER GATE SHOP
GRAVITY SEPARATOR
OPEN TRENCHES
VAULT
FORMER POWER HOUSE
SUPPORTS FOR POSSIBLE FORMER AST
FORMER CLEAN SAND STORAGE
WEST BOUNDARY
POSSIBLE STAINING (1977)
FORMER PAINT SHOP
CONCRETE CONTAINMENT AREA FORMER AST
KAISER SAND AND GRAVEL
COOLING TOWER
POSSIBLE STAINING (1993)
DRY DOCK
EAST BOUNDARY
POSSIBLE STAINING (1977)
YARD II
GROUNDWATER SAMPLES

PORT OF OAKLAND

December 4, 1997

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject: Pacific Dry Dock Yards I and II, 1441 and 321 Embarcadero, Oakland, California

Dear Mr. Chan:

Enclosed please find a letter dated December 3, 1997, from Geomatrix Consultants, Inc. documenting the Port of Oakland's (Port) concerns regarding the "Sampling Work Plan for the Former Pacific Dry Dock and Repair Company Yards I and II, Oakland, California" , dated 14 November 1997, prepared by Risk-Based Decisions, Inc. (RBD) on behalf of Crowley Marine Services, Inc. (Crowley). The Port did not receive a copy of Crowley's workplan to review until the afternoon of November 26, 1997. Our review of Crowley's workplan has raised significant concerns for the Port which we feel compelled to share with you. Please feel free to contact me, at 510-272-1134, at your convenience if you wish to further discuss these issues.

Sincerely,

Rachel B. Hess
Associated Port Environmental Scientist

cc w/enclosure: Joyce Washington, Port of Oakland
Stephen Wilson, Crowley Marine Services, Inc.
Sally Goodin, Geomatrix

530 Water Street ■ Jack London Square ■ P.O. Box 2064 ■ Oakland, California 94604-2064
Telephone (510) 272-1100 ■ Fax (510) 272-1172 ■ TDD (510) 763-5703 ■ Cable address, PORTOFOAK, Oakland

4721 Tidewater Avenue, Suite C
Oakland, CA 94601
(510) 535-2408 • FAX (510) 535-2445

GEOMATRIX

4 December 1997
Project 3999

Ms. Rachel Hess
Environmental Health & Safety Compliance
Port of Oakland
530 Water Street
Oakland, California 94607

Subject: Pacific Dry Dock Yards I and II
1441 and 321 Embarcadero
Oakland, California

Dear Ms. Hess:

Geomatrix Consultants, Inc. (Geomatrix), has prepared this letter for the Port of Oakland (the Port) to summarize our significant concerns with, and omissions from, the Sampling Work Plan for the Former Pacific Dry Dock and Repair Company Yards I and II in Oakland, California (work plan; dated 14 November 1997), prepared by Risk-Based Decisions, Inc. (RBD), on behalf of Crowley Marine Services, Inc. (Crowley).

SIGNIFICANT CONCERNS WITH PROPOSED RBD WORK PLAN

Screening Levels (Section 2.2.1 of RBD Work Plan)

Crowley proposes to use ten times the US EPA Region IX preliminary remediation goals (PRGs) for industrial sites as its screening criteria to determine whether individual samples which make up a composite would be analyzed and whether additional investigation might be undertaken. Use of ten times the industrial PRGs establishes the future use of the sites to be industrial and the risk threshold for the sites to be 10^{-5}. Future uses of the sites may and likely will include public access or recreational uses (as indicated in the current administrative draft of the Estuary Plan prepared on behalf of the Port and the City of Oakland). Consequently, we do not consider use of ten times the industrial PRGs as the screening criteria to be sufficiently protective of human health and the environment. At the site characterization phase, it is critical to be sufficiently conservative to allow identification of all chemicals of potential concern which may contribute to the risks posed by the sites.

- We recommend the use of the published PRGs, which represent a 10^{-6} risk threshold, as the screening criteria to determine whether individual samples should be analyzed.

→ Composite results will be multiplied by # samples in composite then compared to PRGs. This seems reasonable.

Sample Compositing (Section 2.2.2.3 of RBD Work Plan)

In addition to applying the 10^{-5} screening criteria discussed above, Crowley proposes to composite both the target and random soil samples for chemical analysis. Critical information will be lost if the samples are composited and the proposed screening criteria applied. Lost information includes information about the geographic distribution of concentrations and about the location of high concentrations.

- We recommend that samples not be composited prior to chemical analysis if the screening criteria are ten times the industrial PRGs.

Use of Targeted and Random Samples in the Risk Evaluation (Section 2.2.2 of RBD Work Plan)

Crowley is not planning to use the results from the targeted sample locations in its calculation of the upper confidence level (UCL) of the mean concentration for each chemical of concern at the site. Instead, the UCLs will be calculated from the randomly selected sample locations only. Because Crowley has assigned a region to each target location and excluded these regions from the selection of the random sample locations, the UCLs calculated as Crowley proposes will represent only those regions that were not targeted. The UCLs are used in the risk assessment to calculate the risks posed by the entire site. Excluding the targeted samples from the calculation of the UCLs will bias the UCLs. Because the targeted regions are more likely to have higher chemical concentrations, the UCLs as calculated by Crowley are likely to be biased lower than if data from the targeted regions were included.

- We recommend incorporation of the targeted sample results into the calculation of the UCL of the mean concentration for each chemical of concern at the site using the assigned area of each targeted region as the weighting factor.

Contingent Analysis (Section 3.2.2 of RBD Work Plan)

In making the decision whether to analyze individual components of a composite, Crowley proposes to add the risks (calculated as the ratio of constituent concentration to ten times the applicable industrial PRG) for carcinogenic analytes and the hazard indices for

noncarcinogenic analytes on a test-specific basis. To make these calculations only on a test-specific basis ignores the additive nature of risks due to multiple chemicals at a site.

- We recommend that each calculation to evaluate whether additional chemical analyses are necessary include all carcinogenic and noncarcinogenic constituents.

NUMBER OF RANDOM SAMPLE LOCATIONS (SECTIONS 3.3.2 AND 3.4.2 OF RBD WORK PLAN)

Crowley has proposed 12 random sample locations at each yard. Based on information provided by RBD, each random sample at Yard I represents an area of 5,640 square feet (sq. ft.), and each random sample at Yard II represents an area of 12,240 sq. ft. There is no basis for this discrepancy in area between the two yards. In fact, given the much greater complexity and scope of historical operations at Yard II (which included a plate shop, machine shop, various material storage areas, a gravity separator, above- and below-ground storage tanks, a cooling tower, and others), the smaller area for random sampling locations would be more appropriate for Yard II than Yard I.

- We recommend more random sampling locations at Yard II as outlined on Figure 15 of the Geomatrix Draft Work Plan for Additional Investigation, Pacific Dry Dock Yards I and II, 1441 and 321 Embarcadero, Oakland California (dated September 1997).

Number of Targeted Sample Locations (Sections 2.2.2.1, 3.3.1 and 3.4.1 of RBD Work Plan)

Crowley eliminated 6 target locations proposed in the Geomatrix Draft Work Plan at Yard I and 12 target locations at Yard II. The main criterion used by Crowley to eliminate these target sample locations appears to be that discussed in Section 2.2.2.1 of the RBD Work Plan. In that section, Crowley postulates that if total petroleum hydrocarbons (TPH) are less than 8032 milligrams per kilogram (mg/kg), then polynuclear aromatic hydrocarbons (PNAs) cannot be present at levels of interest. We disagree with this proposed criterion for two primary reasons. First, the criterion is based on a 10^{-5} risk threshold for an industrial site usage which, as discussed above, is not appropriate for these sites, especially at the site characterization phase. Second, the criterion is based on one composition of used diesel engine oil; the types of petroleum used at the two yards during the more than 50 years of operation are unknown but likely included a variety of petroleum products including fuels, paint thinners, ship oils and

others. Furthermore, a quick analysis of TPH and PNA data in our files indicates that PNAs can be present at levels of concern at TPH concentrations well below Crowley's proposed TPH criterion of 8032 mg/kg, even using a risk threshold of 10^{-5}.

- We do not recommend the use of RBD's proposed TPH criterion to identify target sampling locations.

Analyses at Random Sampling Locations (Tables 3.2 and 4.2 of RBD Work Plan)

Crowley has proposed analyzing the random samples for metals and semivolatile organics (SVOCs). The Geomatrix Draft Work Plan proposes that the random samples also be analyzed for organotins and PCBs in shallow soil at both yards and for VOCs in shallow and deeper soil at Yard II. The rationale for the proposed organotin and PCB analyses are discussed separately below. Analyses for VOCs on the random samples at Yard II are required based on: the complex use history of the site; the occurrence of VOCs in soil and groundwater under the northeastern portion of the site and adjacent to the former degreaser area; and the absence of VOC analytical data elsewhere at the site on soil above the water table.

- We recommend additional analyses for VOCs at the random sampling locations at Yard II.

Organotin Analyses (Section 3.2.3 of RBD Work Plan)

Crowley proposes to analyze for organotins only if the zinc concentration is greater than 300 mg/kg and the metals' noncarcinogenic risk exceeds 1. We agree that there is likely a correlation between metals content (particularly zinc) and organotin; however, we do not believe the relationship is sufficiently established to be considered reliable as a predictor. It is important to ascertain whether there are organotins present at the site because organotins may contribute to the noncarcinogenic risks posed by the site.

- We recommend that, at a minimum, the two samples at Yard I and the four samples at Yard II with the highest zinc concentrations be analyzed for organotins in order to evaluate whether organotins may be present in soil at the sites at levels of potential concern.

SIGNIFICANT OMISSIONS FROM PROPOSED WORK PLAN

PCB Analyses on Soil

A variety of petroleum products have been used at the two yards during the more than 50 years of operation; some of these petroleum products may have contained PCBs. In addition, PCBs may have been included in marine paints as a marine organism inhibitor and/or fire retardant. Furthermore, disposal of bilge water from the ships being refurbished/rebuilt probably occurred at both yards. In fact at Yard II, there is an area (area 5) which is referred to in the Versar reports as the bilge water disposal area. This bilge water would have contained various amounts of the petroleum products used on the ships which may have contained PCBs.

- We recommend, at a minimum, that PCB testing of shallow soils be undertaken in the former bilge water disposal area at Yard II and on 25 percent of the random and petroleum targeted sample locations at both Yards I and II.

Groundwater

Crowley has not proposed any evaluation of groundwater. As indicated in the Geomatrix Draft Work Plan, the current information on groundwater is insufficient, both with respect to the chemicals analyzed and the downgradient coverage, to evaluate potential impacts to future site users or to San Francisco Bay. It is also important to stress the role that data on chemical concentrations in groundwater play in providing a level of confidence in the adequacy of site characterization of soil conditions. The collection of data on chemical concentrations in groundwater effectively screens the sites for the possible presence of significant impacted areas which may be missed by the random and target soil sampling programs. Adequate ground-water data are particularly important at sites which have long and complex operational histories, such as Yards I and II.

- We recommend that additional groundwater samples be collected at both Yards I and II at the locations indicted on Figures 9 and 16 of the Geomatrix Draft Work Plan. Groundwater samples should be analyzed for metals, VOCs, TPHg, TPHd, TPHmo, SVOCs, and organotins.

We appreciate the opportunity to work with the Port. If you have any questions about this letter, please call me. We would be pleased to meet with you and Alameda County, if requested, to clarify any issues.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Sally E. Goodin

Sally E. Goodin, R.G.
Principal Geologist and Vice President

SEG:mdg
\\SF-1\DEPTDATA\WPDOCS\3999\RBD-SEG.DOC

CROWLEY MARINE SERVICES, Inc.

FAX TRANSMISSION SHEET

To :	Mr. Barney Chan	cc:	Ijaz Jamall
Company:	Alameda County Health Care Services Environmental Protection		
Fax No.:	(510) 337-9335		
From :	**Stephen Wilson**	Tel. No.: Fax No.:	(206) 443-8042 (206) 443-8621
Date :	November 14, 1997	No. of Pages inc. cover: **3**	

Subj. : **Pacific Dry Dock Yards I & II Additional Sampling Workplan**

HARD COPY WILL ~~NOT~~ FOLLOW

This is a confidential communication, in the event that there are problems with transmission, or this fax was incorrectly delivered, please contact Pam McElroy at (206) 443-7879

CROWLEY MARINE SERVICES, INC.

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Way Parkway, #1130
Alameda, CA 94502-6577

November 14, 1997

RE: Former Pacific Dry Dock and Repair Company Yards I & II

Dear Barney:

Under separate cover mailed this date we have transmitted a Workplan for the Further Sampling at Pacific Dry Dock Yards I & II prepared by Crowley Marine Services, Inc. (Crowley) and its consultants. Crowley has been diligently negotiating with the Port of Oakland (Port) and its consultants for the past several months, but we have not been able to reach full agreement as to what additional sampling should be done, or the scientific basis for why such samples should be taken. Thus, the Workplan is not being submitted jointly by the Port and Crowley. It is important to note, however, that Crowley has made extremely significant and substantial concessions with respect to such sampling which are reflected in the Workplan.

Crowley still believes that, consistent with the risk assessments for Pacific Dry Dock Yard I and Yard II, which were submitted previously to your office, no further characterization is needed and the sites, **as they stand**, do not pose an unacceptable risk to human health or the environment. Notwithstanding its strong belief that no further characterization is necessary at either site, in deference to the Port's concerns, however, Crowley is prepared to conduct further sampling at both sites as described in the enclosed Workplan. In fact, although we have not reached full agreement with the Port as to certain aspects of the work to be done, our Workplan proposes 38 soil samples at each site, where the Port's environmental consultant had originally only requested 30 soil samples.

Notwithstanding our lack of agreement with the Port with respect to all facets of the additional sampling, we believe that the work proposed in Crowley's Workplan should adequately characterize any data gaps which might be perceived and that the approach reflected in this Workplan is supported by good scientific and engineering practices.

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
Pier D, Berths D47-D48, Long Beach, California 90802-1088 - (310) 491-4700 - Fax (310) 491-4790 (Admin) - Fax (310) 491-4799 (Operations)
2525 C Street, Suite 303, Anchorage, Alaska 99503-2639 - (907) 278-4978 - Fax (907) 257-2828
Pier 54, San Francisco, California 94107 - (415) 546-2684 - Fax (415) 546-2606 (Admin)
Post Office Box 2110, Jacksonville, Florida 32203-2100 - (904) 727-2200 - Telex 4611037 - Fax (904) 727-2401
Maturin, Venezuela - Telephone 011-589-145-2868

Please call me directly at (206) 443-8042 with any questions regarding this Workplan. Both Crowley's environmental consultant and I would be happy to meet with you at your convenience to review any questions that you may have.

I sincerely hope that I will hear from you shortly with approval to proceed. Thank you very much for your assistance and patience as we have attempted to fully resolve the Port's concerns.

Sincerely,

Stephen Wilson
Manager, Environmental Affairs

cc: PDD Correspondence
Dr. Ijaz Jamall
Beth Hamilton
William Huber
Bruce Love
Rachel Hess

August 27, 1997
SLIC StID # 1222 & 1420

Mr. R. Stephen Wilson
Crowley Marine Services, Inc.
2401 Fourth St.
Seattle, WA 98111

Re: Environmental Investigation and Remediation at Pacific Dry Docks Yards I and II, 1441 Embarcadero and 321 Embarcadero, Oakland CA 94606

Dear Mr. Wilson:

Our office has received the Risk Assessment reports for both of the above referenced sites as prepared by Dr. Ijaz Jamall of Risk-Based Decisions, Inc. Prior to reviewing these documents, I verbally requested that you submit a copy of the shoreline soils removal report for both sites. We further request copies of the "Attachment 2" referenced in your May 29, 1997 letter.

You are aware that the Port of Oakland retained the consulting firm, Geomatrix, in order to review the existing data for both sites. Their objective was to determine if sufficient site characterization had been performed prior to completing a risk assessment. Our office was submitted a Geomatrix report detailing extensive additional recommended investigation for both sites. In response to this report, our office has also received your May 29, 1997 letter and the May 28, 1997 Gauntlett Group report which responds to the Geomatrix report, basically stating that no further work is warranted. At this time, our office is in the unfortunate position of determining which recommendation should be taken.

Our office would like the parties to confer and come to a mutually acceptable decision, however, we are prepared to evaluate the information provided ~~as provided.~~ Because the Geomatrix report was not specific in its recommended sampling, our office requests a specific supplemental work plan for any additional site investigation. Please provide **within 30 days or by September 29, 1997** either a work plan or notification that no additional work is recommended.

If no additional report is provided, our office will evaluate **both** submitted reports in consideration as to the future requirements for these sites.

You may contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

c: B. Chan, files
Ms. D. Heinze, Port of Oakland, 530 Water St., P.O. Box 2064, Oakland CA 94604
Ms. M. Heffes, Port of Oakland, Legal Department, 530 Water P.O. Box 2064, Oakland CA 94604
Ms. Beth Hamilton, Enea, Piunti & Hamilton, 60 S. Market St., Suite 730, San Jose, CA 95113
Mr. I. Jamall, Risk-Based Decisions, Inc., 910 Florin Rd., Suite 202, Sacramento, CA 95831
Mr. Steve Moore, RWQCB
2PDDI&II

Risk-Based Decisions, Inc.
910 Florin Road, Suite 202
Sacramento, California 95831

Phone 916 395 4964
Fax 916 395 0536

Risk-Based Decisions, Inc.

TRANSMITTAL

To: Barney Chan **Agency:** Alameda County Health Care Services Agency

c: Stephen Wilson, Crowley Marine Services, Inc.

From: Ijaz Jamall

Date: August 21, 1997

Re: **Pacific Dry Dock, Yard II**

We are Sending:

QUANTITY	DESCRIPTION
1 Copy	Risk Assessment Report for the Former Pacific Dry Dock and Repair Company Yard II Site in Oakland, California, dated May 16, 1997

FOR YOUR:

___X___ USE/ACTION
_____ APPROVAL
_____ REVIEW & COMMENTS
_____ INFORMATION
_____ RETURN TO YOU

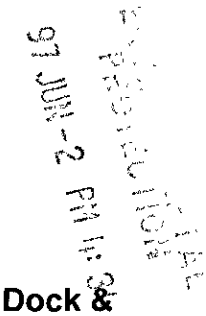
SENT BY:

_____ 1ST CLASS MAIL
___X___ OVERNIGHT DELIVERY
_____ UPS (GROUND)
_____ COURIER
_____ OTHER

ISJ/fl
Enclosure

CROWLEY MARINE SERVICES, INC.

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Way Parkway, #1130
Alameda, CA 94502-6577



May 29, 1997

RE: Response To Geomatrix Documents Regarding Pacific Dry Dock & Repair Company Facilities at 321 and 1441 Embarcadero, Oakland,

Dear Barney:

Crowley Marine Services, Inc. (Crowley) presents the following response to the documents prepared on behalf of the Port of Oakland (the Port) by Geomatrix Consultants, (Geomatrix) in which Geomatrix recommended additional soil and groundwater sampling and analysis at Pacific Dry Dock Yards I and II (the Yards).

Crowley retained The Gauntlett group and Risk-Based Decisions, Inc. to review the Geomatrix documents for accuracy and validity. After extensive review of the Geomatrix documents Crowley's opinion remains unchanged, that is, Crowley has adequately characterized the Yards, and that the residual chemicals in the soil/fill and the groundwater at the Yards do not pose any risk to human health or the environment above levels of regulatory concern.

In order to show that Crowley has review and responded to the Geomatrix documents, I have addressed some general issues in this letter and the enclosed US Navy Document, and I have enclosed documents from Gauntlett and Risk-Based Decisions which respond specifically to the Geomatrix documents.

Yard I

Apparently Geomatrix was not aware of the history of Yard I, summarized below:

> When Crowley's predecessor first leased the land, he described it as being without any solid foundation, and consisting mostly of soft mud where an old creek had emptied into the Oakland Inner Harbor, with the balance covered by water. With permission of the Oakland City Council, Resolution No. 7210,

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
4300 B Street, Suite 507, Anchorage, Alaska 99503-5997 - (907) 563-1114 - Telex 6732564 - Fax (907) 762-3330
2777 Allen Parkway, Suite 380, Houston, Texas 77019 - (713) 525-3012 - Fax (713) 522-4614
Pier D, Berths D47-D49, Long Beach, California 90802-1098 - (310) 491-4700 - Fax (310) 491-4790
Post Office Box S-1072, San Juan, Puerto Rico 00902-1072 - (787) 729-1200 - Fax (787) 729-1275

dated December 30, 1913, Crowley deposited approximately 35,722 cubic yards of fill covering the entire leased premises. The fill consisted of mud taken from the bottom of Oakland Inner Harbor, covered with rock and gravel to make the filled land more solid and substantial. This information is, we believe, located in the Port files.

Thus, it is important to recognize that the lead identified throughout the site probably originates from the fill and Oakland Inner Harbor mud, since there is nothing about Crowley's ship repair and maintenance activities which would account for the distribution of lead across the site and at the depths observed.

Yard II

Geomatrix may also not have been aware of certain facts about the history of Yard II which are basic to the issue of the nature and extent of Crowley's responsibilities for any environmental impairment which may be present at the Yard:

- Crowley, through its predecessor in interest, Martinolich, became a tenant at Yard II in 1951, through a sub-lease from the United States Navy, which began its tenancy in or about 1944. The Navy's contractor, Hurley Marine Works, leased property immediately to the east of what eventually became Yard II. Attachment 2 is a Report prepared by U.S. Navy on the establishment of facilities to support the "assignment of a floating dry dock by the Government and to utilize to the fullest possible extent all existing ship repair facilities at the contractor's yard." Attachment 2, page C02862. Thus, even before 1944, there were ship repair facilities in that area of the estuary.

- When the Navy's tenancy at Yard II began in approximately 1944, the property was significantly smaller in size shore-side than it became later that year as a result of the Navy's efforts. The attached photographs depict the installation of pilings, the placement of approximately 71,000 cubic yards of earth, rock and sand fill. The "Descriptive Report" describes the demolition of approximately 50,000 square feet of an old pier, old pilings and debris, the placement of fill ("red rock"), the construction of buildings, and the paving of "practically the whole yard" with 3-in. of asphaltic concrete on rock base." (See Attachment 2, pages 12-13.) The Port of Oakland certainly was aware of these demolition, fill and paving activities, in fact issued permits for the Navy to

proceed.

- Thus, when Martinolich became a tenant in 1951, virtually the entire facility, including the fill which had been imported by the Navy, was covered with asphalt.

Crowley cannot be held responsible for environmental impairment which pre-existed its tenancy, including, for example, the presence of any constituents in the fill itself, which could not have resulted from Crowley's operations.

background levels available?

Knowledge By The Port Of Characterization And Remediation Work

Throughout the site characterization and remediation of the two yards, Crowley and/or its consultants have transmitted copies of correspondence and reports on those activities to the environment and/or real estate departments of the Port of Oakland. In addition, to my knowledge, the Port received copies of all correspondence directed to Crowley from the Regional Board or from Alameda County with respect to characterization or remediation activities. Throughout this period, the Port could have, but did not, participate more actively in the work at the yards or offer suggestions for modifications to that work. In fact, written agreements, signed by both Crowley and the Port state clearly that the investigations to be performed at both the Sites were being done with the knowledge of, and agreement by the Port. These agreements were initially executed in 1993 and extended in 1995.

Effect Of Projects Described In The Draft Estuary Plan On Yard II

In reviewing the Draft Estuary Plan, it appears that approximately 50% of Yard II will be removed as part of the construction project. On page 10, the document states that approximately 5.5 acres of new water area along the eastern edge of Lake Merritt Channel opposite Estuary Park will be dredged to create new water area. Although our copy of the maps in the Draft Estuary Plan provided by the Port of Oakland are illegible in part, it appears that the area indicated by dotted lines on the map designated "Framework Plan 2" will be dredged and that new fill will be located in that area. Thus, the City apparently plans to remove approximately half of the present property at Yard II, in addition to property leased from the Port from other tenants.

All Prior Use Of The Property Has Been For Industrial Purposes

The property at Yard II was used for industrial purposes when Crowley's predecessor took occupancy in approximately 1951. There had apparently been several other tenants at the property before that date, including the United States Navy. The property at Yard I has also always been used for industrial purposes. Crowley's leases do not require it to return the Yards to the Port in any condition other than would be appropriate for another industrial use.

In his evaluation of the potential risks posed by chemicals at the Yards (the Yard II Risk Assessment Report has recently been transmitted to the Port of Oakland and to Alameda County, and the Yard I risk evaluation is currently underway), Dr. Ijaz Jamall has concluded that the residual chemicals in the soil/fill and the groundwater at the Yards do not pose any risk to human health or the environment above levels of regulatory concern. (See Attachment 3, Letter from Dr. Ijaz Jamall of Risk Based Decisions, Inc.)

For all of the reasons discussed herein, and in the attached documents, Crowley respectfully suggests that the recommendations of Geomatrix for additional soil and groundwater evaluation and remediation are not supported by or consistent with the data already available on the Yards.

Please contact me with any questions or comments that you may have regarding this matter.

Sincerely

R. Stephen Wilson

Stephen Wilson
Manager, Environmental Affairs

Enclosures: Response to GeoMatrix Comments prepared by THE GAUNTLETT GROUP, May 21, 1997;

U.S. Navy. 1945. Completion Report, Contract Nobs-723 (Amendment #4), Increase of Ship Repair Facilities and Installation for Floating Dry Dock, Hurley Marine Works, Foot of Fifth Avenue, Oakland, California; and

Letter from Dr. Ijaz Jamall of Risk Based Decisions, Inc. to R. Stephen Wilson, May 22, 1997.

cc: PDDI & II Correspondence w/ enclosure
Charlie Nalen w/enclosure
Beth Hamilton w/ enclosure
Bruce Love w/enclosure
Diane Heinze w/ enclosure

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

STID 1420

January 15, 1997

Mr. Stephen Wilson
Crowley Marine Services
2401 Fourth Avenue
P. O. Box 2287
Seattle, WA 98111

RE: 1441 EMBARCADERO, OAKLAND, CA 94606

Dear Mr. Wilson:

This office is in receipt of and has completed review of the case file for this site, up to and including the May 6, 1996 Versar Inc., "Site Assessment Report".

Laboratory analytical results of groundwater samples collected on 3/5/96, from the six (6) on-site monitoring wells, revealed levels of total petroleum hydrocarbons as diesel (TPHd) and benzene at maximum concentrations of 320 and 7.5 ug/L (ppb), respectively. No detectable levels of total petroleum hydrocarbons as gasoline (TPHg), toluene, ethyl benzene, total xylenes or lead were detected in any of the groundwater samples collected from the six monitoring wells. It appears that the last groundwater sampling event occurred on 3/5/96.

At this time please adhere to a revised **semi-annual (1st and 3rd quarters)** schedule of well sampling, monitoring, and report submittal as referenced in Title 23, California Code of Regulations (CCR) section 2652(d). Please have these groundwater samples analyzed for total petroleum hydrocarbons as gasoline and diesel (TPHd and TPHg), the aromatic hydrocarbons benzene, toluene, ethyl benzene, total xylene isomers (BTEX), and lead. In addition, please have the groundwater samples filtered before performing lead analyses.

The next groundwater sampling event should occur during the first quarter 1997 (January through March 1997).

After documentation of the 1st quarter 1997 groundwater monitoring and sampling report, this site file will be reviewed to determine whether it warrants closure as a "Low-Risk Groundwater Case".

Please be advised that once the Local Oversight Program (LOP) portion of the case is closed, this site will be regulated by this office as a "Spills, Leaks and Investigation Cleanup" (SLIC) site, due to the confirmed lead contamination. Please be advised that in order to obtain SLIC closure, additional lead-contaminated soils need to be removed in the BH18 and BH32 areas. (HP4 &SB2)

You may contact me with any questions or comments concerning this notice at (510)567-6880.

Sincerely,

Dale Klettke, CHMM
Hazardous Materials Specialist

c: Paul Graff, R.G. c/o Versar Inc., 7844 Madison Avenue, Suite 167, Fair Oaks, CA 95628
Diane Heinze, Port of Oakland
Dale Klettke--files

1420semi.ann
be

ALAMEDA COUNTY ENVIRONMENTAL HEALTH SERVICES

ENVIRONMENTAL PROTECTION DIVISION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
Telephone (510) 567-6700 Fax (510) 337-9335

FAX COVER SHEET

DATE: 9/24, 19 96

TO: DIANE HEINZE
PORT OF OAKLAND

FAX # (510) 451-5916

Total number of pages including cover sheet 3

FROM: DALE KLETTKE
LOP

NOTE:

PLEASE RESPOND BY FAX ONLY.

(SMILE) HAVE A NICE DAY
DO SOMETHING FOR OUR ENVIRONMENT

JDSB/0396

STATE OF CALIFORNIA PETE WILSON, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
2101 WEBSTER STREET, Suite 500
OAKLAND, CA 94612
Tel: (510) 286-1255
FAX: (510) 286-1380

STID 1420

AUG 0 5 1996

VIA CERTIFIED MAIL

File Nos. 2199.9174 (SMM)
2199.9218 (SMM)

R. Stephen Wilson
Manager, Environmental Compliance
Crowley Marine Services, Inc.
P.O. Box 2287
Seattle, WA 98111-2287

Subject: **Transmittal of Cleanup and Abatement Order for Crowley Marine Services, Pacific Drydock Yards I and II, Oakland Inner Harbor**

Dear Mr. Wilson:

Transmitted herewith is the Cleanup and Abatement Order and accompanying staff report for the sites located at 321 Embarcadero and 1441 Embarcadero in the City of Oakland. The order was drafted in cooperation with Ms. Beth Hamilton, representing Crowley, and is based on discussions during the meeting of May 24, 1996. Please call Steve Moore, staff engineer, with any questions at (510) 286-1262.

Sincerely,

Loretta K. Barsamian

Loretta K. Barsamian
Executive Officer

cc: Dan Schoenholz, Port of Oakland
Paul Smith, Alameda County
Steve MacAdam, BCDC

ENVIRONMENTAL PROTECTION
96 AUG -7 AM 11:38

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF REPORT

To: Loretta K. Barsamian
Executive Officer

Date: July 15, 1996
File Nos. 2199.9174 (SMM)
2199.9218 (SMM)

From: Steven M. Moore FOR
Associate Engineer

Subject: **Crowley Marine Services, Pacific Drydock Yards I and II, Cleanup and Abatement Order**

Pacific Drydock Yards I and II are located at 1441 Embarcadero and 321 Embarcadero, respectively, along the east side of Oakland Inner Harbor on property owned by the Port of Oakland. Crowley Marine Services (Crowley) and its predecessors performed vessel maintenance activities at Yard I from 1911 until 1992, and at Yard II from approximately 1951 until 1992. Before 1951, the United States Navy operated a marine terminal at Yard II. Vessel maintenance activities have ceased at both sites; the drydock at Yard II was removed in 1993 and the marine railways at Yard I are in a state of disrepair.

Sandblast grit was used by the tenants at both Yard I and Yard II as part of the tenants' vessel maintenance activities. Wastewater and stormwater discharges resulting from activities at the sites were permitted under two separate NPDES permits, which both expired in March 1996. During site inspections in 1987, 1988, and 1990, Board staff observed and documented evidence of storm runoff washing spent sandblast grit into waters of the State. Regional Board files contain notices of violation that were sent to Crowley at these times. The specific violations were related to discharge prohibitions and receiving water limitations in the permits.

In response to being notified of these violations, Crowley initiated environmental investigations to determine whether the discharges were a threat to human health or aquatic life. In 1990 and 1991, Crowley conducted an investigation at both yards which included collection of seawater and sediment samples (1990) and collection of surface sediment, sediment cores, and seawater samples (1991). Crowley concluded on the basis of those studies that seawater close to the two yards was not adversely affected by underlying sediments containing spent sandblast grit or other substances.

At the request of the Regional Board, in 1993 Crowley designed, and in 1994 implemented, a Supplemental Inshore Sediment Impairment Study. The purpose of that Study was to determine whether elevated concentrations of chemicals or sandblast material in the sediments were of biological concern. Crowley reported in June, 1994 that based on the results of the Study, no

active remedial action was warranted at Yard I or Yard II. Board staff responded that the toxicity data did not rule out the possibility of environmental impairment at the sites. As part of the 1995-96 Bay Protection and Toxic Cleanup Program screening study, Board staff performed sediment toxicity bioassays on sediments at the two sites, and did not observe significant toxicity in the context of multiple bioassays performed throughout the San Francisco Estuary.

In March 1996 the Executive Officer acknowledged that "data from [Crowley's] 1994 study and the 1995-96 Bay Protection and Toxic Cleanup Program screening study indicate that the sediments of the subtidal areas on and near the sites do not represent a significant threat to aquatic life and human health." Notwithstanding the Regional Board's determination that the sediments in the subtidal areas do not represent a significant threat to aquatic life or human health, Regional Board staff has requested that the spent sandblast grit located on the surface in the inter-tidal and sub-tidal zones be removed (1) to assure that storm water flowing over that surface material will not carry constituents of the material into the estuary, and (2) to address past permit violations related to environmental hygiene.

Crowley has responded cooperatively to the request of Board staff by presenting a workplan that addresses cleanup of grit materials in visible portions of the upland, inter-tidal and sub-tidal zones on the two sites. This workplan has been incorporated into a Cleanup and Abatement Order to ensure completion of the tasks. Board staff believe that implementation of the workplan will adequately address past permit violations, and will qualify Crowley to withdraw its Notice of Intent (NOI) to comply with the Statewide General NPDES Stormwater Permit for Industrial Activities. Such withdrawal will be based on the fact that the facilities are no longer operational, and the source for any potential impact from stormwater will have been removed.

Concur:

John D. Wolfenden
Section Leader

Teng-Chung Wu
Division Chief

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

CLEANUP AND ABATEMENT ORDER NO. 96- 111

FOR CROWLEY MARINE SERVICES, INC.

for the property located at

1441 Embarcadero (Yard I) and
321 Embarcadero (Yard II)
Oakland, California
Alameda County

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the "Board"), finds that:

SITE DESCRIPTION

1. Spent sandblast grit (Grit) is present in the inter-tidal[1] and supra-tidal[2] zones on the property at 1441 Embarcadero (Yard I) and at 321 Embarcadero (Yard II) in the City of Oakland in Alameda County (collectively the "Sites"). Crowley Marine Services, Inc. (Crowley) is the lessee of the property at Yard I and Yard II which is owned by the Port of Oakland and is located at the Port of Oakland.

2. Crowley is named in this Order as a discharger at Yards I and II because Crowley and its predecessors operated a boat and vessel repair business at Yard I since the early 1900s, and at Yard II since approximately 1951. Other tenants, including the United States of America, operated similar businesses at Yard II prior to 1951. The primary activity at both yards was the repair and renovation of boats and sea-going vessels. Barnacles, rust, paint, and other debris were removed from the hulls of these vessels by a high-pressure stream of water or by sandblasting. Most of the Grit and detritus was collected from the railway platform (at Yard I) or the dry dock (at Yard II) that the vessels rested on during cleaning operations. Some Grit accumulated, however, in the estuary and in the inter-tidal zone.

3. The discharge of Grit into the estuary was a violation of the NPDES permits for the two Sites, which both expired in March 1996. Board staff documented the violations during

---

[1] The inter-tidal zone is defined as the area between the mean low-water mark and the mean high water mark.

[2] The supra-tidal zone is the area immediately landside of the inter-tidal zone.

inspections in 1987, 1988, and 1990. In response to being notified of these violations, Crowley initiated environmental investigations, noted under Findings 8 and 9, below.

4. The Sites are located at the Port of Oakland, and the land in the vicinity of the Sites is devoted to Port uses.

Specifically, Yard I consists of 6.56 acres of shoreline property bounded by the Brooklyn Basin on the southwest, the Embarcadero on the northeast, and other industrial property on the southeast and the northwest. Yard I has been vacant since 1992 when Crowley ceased operations at the Site.

Yard II consists of 8.296 acres of shoreline property bounded by the Embarcadero on the north, the Lake Merritt Channel on the west, the Oakland Inner Harbor on the south, and other industrial property on the east. Yard II has been vacant since 1993 when Crowley ceased operations at the Site.

5. This Order relates only to removal of the loose Grit from the inter-tidal zone and the supra-tidal zone at the Sites, and does not relate to any soil and/or groundwater contamination that may be present at the Sites. The Alameda County Health Care Service Agency is currently supervising Crowley's efforts to investigate if such soil and groundwater contamination is present at the Sites.

SITE GEOLOGY

6. The Sites are located in the Coast Ranges geomorphic province, between the Hayward Fault (to the east) and the San Andreas Fault (to the west). The underlying bedrock consists of Mesozoic volcanic and metavolcanic rocks similar to those found throughout the Coast Ranges. Overlying the bedrock are Quaternary marine and nonmarine alluvial sediments consisting of clays and silts. The Sites are nearly level at elevations between five and eight feet above mean seal level (National Geodetic Vertical Datum of 1929). The shallow soils have been characterized as gravel, sand, silt, and clay fill material extending from the surface to the bay muds. The depth of bay muds is between 7 and 15 feet below ground surface (bgs). The bay muds consist of silty clays, clays with shell fragments, and thin water-saturated layers of sands or gravels.

SITE HYDROGEOLOGY

7. Groundwater occurs beneath the Sites at depths ranging from approximately two to five feet bgs. Because the Sites are on the waterfront, the depth and movement at groundwater is expected to be tidally influenced.

SITE INVESTIGATIONS OF SEDIMENTS CONTAINING SPENT SANDBLAST GRIT

8. In 1990 and 1991, Crowley conducted an investigation at both yards which included collection of seawater and sediment samples (1990) and collection of surface sediment, sediment cores, and seawater samples (1991). Crowley concluded on the basis of those studies that seawater close to the two yards was not adversely affected by underlying sediments containing Grit or other substances.

9. At the request of the Regional Board, in 1993 Crowley designed, and in 1994 implemented, a Supplemental Inshore Sediment Impairment Study. The purpose of that Study was to determine whether elevated concentrations of chemicals or sandblast material in the sediments were of biological concern. Crowley reported in June 1994 that based on the results of the Study, no active remedial action was warranted at Yard I or Yard II.

10. In March 1996 the Executive Officer acknowledged that "data from [Crowley's] 1994 study and the 1995-96 Bay Protection and Toxic Cleanup Program screening study indicate that the sediments of the subtidal areas on and near the Sites do not represent a significant threat to aquatic life and human health."

11. Notwithstanding the Regional Board's determination that the sediments in the subtidal areas do not represent a significant threat to aquatic life or human health, Regional Board staff has requested that the Grit located on the surface in the inter-tidal and sub-tidal zones be removed, (1) to assure that storm water flowing over that surface material will not carry constituents of the material into the estuary, and (2) to address past permit violations related to environmental hygiene.

INTERIM REMEDIAL ACTIONS

12. In 1995, at the Regional Board staff's request, Crowley vacuumed and swept the two Sites, removing approximately 80 tons of Grit.

FINAL REMEDIATION PLAN

13. In response to Regional Board staff's direction, Crowley has submitted a Workplan for Removal of Spent Sandblast Grit from the Inter-tidal and Supra-tidal Zones at Pacific Dry Dock Yards I and II, a copy of which is attached as Appendix A.

14. Regional Board staff has reviewed and approved the proposal described in the Workplan.

BASIN PLAN

15. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20 and November 13, respectively, of 1995. A summary of regulatory provisions is contained in Title 23 of the California Code of Regulations at Section 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

16. The existing and potential beneficial uses of the groundwater underlying and adjacent to the property include:

    a. Industrial process water supply
    b. Industrial service supply
    c. Municipal and domestic supply
    d. Agricultural supply

17. The existing and potential beneficial uses of Oakland Inner Harbor include:

    a. Ocean, commercial, and sport fishing
    b. Estuarine habitat
    c. Industrial service supply
    d. Fish migration
    e. Navigation
    f. Preservation of rare and endangered species
    g. Water contact recreation
    h. Non-contact water recreation
    i. Shellfish harvesting
    j. Wildlife habitat

CEQA

18. The Discharger has caused or permitted, and threatened to cause or permit, waste to be discharged or deposited where it is or probably will be discharged to waters of the State and create or threaten to create a condition of pollution or nuisance.

19. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

NOTICE

20. Pursuant to Section 13304 of the Water Code, the discharger is hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the Discharger shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of waste in a manner which will significantly degrade water quality or adversely affect beneficial uses of the Waters of the State is prohibited.

B. CORRECTIVE MEASURES

1. Discharger shall demolish and remove the improvements located at Yard I, in order that the loose Grit located in the inter-tidal and supra-tidal zones are accessible to Discharger for removal.

C. PROVISIONS

1. Discharger shall implement the remedial measures described in the Workplan, Appendix A, consistent with the schedule stated therein.

2. If Discharger is delayed, interrupted or prevented from meeting one or more of the completion dates set forth in the Workplan schedule, and specified in the Order, Discharger shall immediately notify the Executive Officer, in writing, of such delays.

3. When Discharger has completed implementation of the Workplan, Discharger shall submit a Technical Report, acceptable to the Executive Officer, describing the remedial measures taken. This technical report shall be submitted six months after all required permits are obtained. Discharger shall inform the Executive Officer when all required permits have been obtained.

4. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order shall be provided

to the following agencies:

a. The Port of Oakland
b. The Bay Conservation and Development Commission
c. Alameda County Health Care Service Agency
d. Regional Water Quality Control Board, Attn: Steven M. Moore

5. The Discharger shall permit the Board or its authorized representative, in accordance with section 13267 of the California Water Code entry upon Discharger's premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

Loretta K Barsamian — August 2, 1996

Loretta K. Barsamian
Executive Officer

Date

ALAMEDA COUNTY ENVIRONMENTAL HEALTH SERVICES

ENVIRONMENTAL PROTECTION DIVISION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
Telephone (510) 567-6700 Fax (510) 337-9335

FAX COVER SHEET

DATE: 7/15, 19 96

TO: PAUL GRAFF
VERSAR

FAX # (916) 962-2678

Total number of pages including cover sheet 3

FROM: D. KUETTEL

HEINZE
(FAX) 451 5916

NOTE:

PLEASE RESPOND BY FAX ONLY.

(SMILE) HAVE A NICE DAY
DO SOMETHING FOR OUR ENVIRONMENT

JDSB/0396

9208

STATE OF CALIFORNIA PETE WILSON, *Governor*

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
2101 WEBSTER STREET, Suite 500
OAKLAND, CA 94612
Tel: (510) 286-1255
FAX: (510) 286-1380

97 MAR 19 AM 8:29

FILE
SUBJECT PDDI

AUG 0 5 1996

VIA CERTIFIED MAIL

cc Bruce Law
Beth Hamilton

File Nos. 2199.9174 (SMM)
2199.9218 (SMM)

#1420 +
SLC 1222

RECEIVED
AUG 12 1996
ENVIRON/SAFETY/QA

R. Stephen Wilson
Manager, Environmental Compliance
Crowley Marine Services, Inc.
P.O. Box 2287
Seattle, WA 98111-2287

Subject: **Transmittal of Cleanup and Abatement Order for Crowley Marine Services, Pacific Drydock Yards I and II, Oakland Inner Harbor**

Dear Mr. Wilson:

Transmitted herewith is the Cleanup and Abatement Order and accompanying staff report for the sites located at 321 Embarcadero and 1441 Embarcadero in the City of Oakland. The order was drafted in cooperation with Ms. Beth Hamilton, representing Crowley, and is based on discussions during the meeting of May 24, 1996. Please call Steve Moore, staff engineer, with any questions at (510) 286-1262.

Sincerely,

Loretta K. Barsamian

Loretta K. Barsamian
Executive Officer

cc: Dan Schoenholz, Port of Oakland
Paul Smith, Alameda County
Steve MacAdam, BCDC

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF REPORT

To: Loretta K. Barsamian
Executive Officer

Date: July 15, 1996
File Nos. 2199.9174 (SMM)
2199.9218 (SMM)

From: John D. Coffenden FOR Steven M. Moore
Associate Engineer

Subject: **Crowley Marine Services, Pacific Drydock Yards I and II, Cleanup and Abatement Order**

Pacific Drydock Yards I and II are located at 1441 Embarcadero and 321 Embarcadero, respectively, along the east side of Oakland Inner Harbor on property owned by the Port of Oakland. Crowley Marine Services (Crowley) and its predecessors performed vessel maintenance activities at Yard I from 1911 until 1992, and at Yard II from approximately 1951 until 1992. Before 1951, the United States Navy operated a marine terminal at Yard II. Vessel maintenance activities have ceased at both sites; the drydock at Yard II was removed in 1993 and the marine railways at Yard I are in a state of disrepair.

Sandblast grit was used by the tenants at both Yard I and Yard II as part of the tenants' vessel maintenance activities. Wastewater and stormwater discharges resulting from activities at the sites were permitted under two separate NPDES permits, which both expired in March 1996. During site inspections in 1987, 1988, and 1990, Board staff observed and documented evidence of storm runoff washing spent sandblast grit into waters of the State. Regional Board files contain notices of violation that were sent to Crowley at these times. The specific violations were related to discharge prohibitions and receiving water limitations in the permits.

In response to being notified of these violations, Crowley initiated environmental investigations to determine whether the discharges were a threat to human health or aquatic life. In 1990 and 1991, Crowley conducted an investigation at both yards which included collection of seawater and sediment samples (1990) and collection of surface sediment, sediment cores, and seawater samples (1991). Crowley concluded on the basis of those studies that seawater close to the two yards was not adversely affected by underlying sediments containing spent sandblast grit or other substances.

At the request of the Regional Board, in 1993 Crowley designed, and in 1994 implemented, a Supplemental Inshore Sediment Impairment Study. The purpose of that Study was to determine whether elevated concentrations of chemicals or sandblast material in the sediments were of biological concern. Crowley reported in June, 1994 that based on the results of the Study, no

active remedial action was warranted at Yard I or Yard II. Board staff responded that the toxicity data did not rule out the possibility of environmental impairment at the sites. As part of the 1995-96 Bay Protection and Toxic Cleanup Program screening study, Board staff performed sediment toxicity bioassays on sediments at the two sites, and did not observe significant toxicity in the context of multiple bioassays performed throughout the San Francisco Estuary.

In March 1996 the Executive Officer acknowledged that "data from [Crowley's] 1994 study and the 1995-96 Bay Protection and Toxic Cleanup Program screening study indicate that the sediments of the subtidal areas on and near the sites do not represent a significant threat to aquatic life and human health." Notwithstanding the Regional Board's determination that the sediments in the subtidal areas do not represent a significant threat to aquatic life or human health, Regional Board staff has requested that the spent sandblast grit located on the surface in the inter-tidal and sub-tidal zones be removed (1) to assure that storm water flowing over that surface material will not carry constituents of the material into the estuary, and (2) to address past permit violations related to environmental hygiene.

Crowley has responded cooperatively to the request of Board staff by presenting a workplan that addresses cleanup of grit materials in visible portions of the upland, inter-tidal and sub-tidal zones on the two sites. This workplan has been incorporated into a Cleanup and Abatement Order to ensure completion of the tasks. Board staff believe that implementation of the workplan will adequately address past permit violations, and will qualify Crowley to withdraw its Notice of Intent (NOI) to comply with the Statewide General NPDES Stormwater Permit for Industrial Activities. Such withdrawal will be based on the fact that the facilities are no longer operational, and the source for any potential impact from stormwater will have been removed.

Concur:

John D. Wolfenden
Section Leader

Teng-Chung Wu
Division Chief

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

CLEANUP AND ABATEMENT ORDER NO. 96- 111

FOR CROWLEY MARINE SERVICES, INC.

for the property located at

1441 Embarcadero (Yard I) and
321 Embarcadero (Yard II)
Oakland, California
Alameda County

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the "Board"), finds that:

SITE DESCRIPTION

1. Spent sandblast grit (Grit) is present in the inter-tidal[1] and supra-tidal[2] zones on the property at 1441 Embarcadero (Yard I) and at 321 Embarcadero (Yard II) in the City of Oakland in Alameda County (collectively the "Sites"). Crowley Marine Services, Inc. (Crowley) is the lessee of the property at Yard I and Yard II which is owned by the Port of Oakland and is located at the Port of Oakland.

2. Crowley is named in this Order as a discharger at Yards I and II because Crowley and its predecessors operated a boat and vessel repair business at Yard I since the early 1900s, and at Yard II since approximately 1951. Other tenants, including the United States of America, operated similar businesses at Yard II prior to 1951. The primary activity at both yards was the repair and renovation of boats and sea-going vessels. Barnacles, rust, paint, and other debris were removed from the hulls of these vessels by a high-pressure stream of water or by sandblasting. Most of the Grit and detritus was collected from the railway platform (at Yard I) or the dry dock (at Yard II) that the vessels rested on during cleaning operations. Some Grit accumulated, however, in the estuary and in the inter-tidal zone.

3. The discharge of Grit into the estuary was a violation of the NPDES permits for the two Sites, which both expired in March 1996. Board staff documented the violations during

---

[1] The inter-tidal zone is defined as the area between the mean low-water mark and the mean high water mark.

[2] The supra-tidal zone is the area immediately landside of the inter-tidal zone.

inspections in 1987, 1988, and 1990. In response to being notified of these violations, Crowley initiated environmental investigations, noted under Findings 8 and 9, below.

4. The Sites are located at the Port of Oakland, and the land in the vicinity of the Sites is devoted to Port uses.

Specifically, Yard I consists of 6.56 acres of shoreline property bounded by the Brooklyn Basin on the southwest, the Embarcadero on the northeast, and other industrial property on the southeast and the northwest. Yard I has been vacant since 1992 when Crowley ceased operations at the Site.

Yard II consists of 8.296 acres of shoreline property bounded by the Embarcadero on the north, the Lake Merritt Channel on the west, the Oakland Inner Harbor on the south, and other industrial property on the east. Yard II has been vacant since 1993 when Crowley ceased operations at the Site.

5. This Order relates only to removal of the loose Grit from the inter-tidal zone and the supra-tidal zone at the Sites, and does not relate to any soil and/or groundwater contamination that may be present at the Sites. The Alameda County Health Care Service Agency is currently supervising Crowley's efforts to investigate if such soil and groundwater contamination is present at the Sites.

SITE GEOLOGY

6. The Sites are located in the Coast Ranges geomorphic province, between the Hayward Fault (to the east) and the San Andreas Fault (to the west). The underlying bedrock consists of Mesozoic volcanic and metavolcanic rocks similar to those found throughout the Coast Ranges. Overlying the bedrock are Quaternary marine and nonmarine alluvial sediments consisting of clays and silts. The Sites are nearly level at elevations between five and eight feet above mean seal level (National Geodetic Vertical Datum of 1929). The shallow soils have been characterized as gravel, sand, silt, and clay fill material extending from the surface to the bay muds. The depth of bay muds is between 7 and 15 feet below ground surface (bgs). The bay muds consist of silty clays, clays with shell fragments, and thin water-saturated layers of sands or gravels.

SITE HYDROGEOLOGY

7. Groundwater occurs beneath the Sites at depths ranging from approximately two to five feet bgs. Because the Sites are on the waterfront, the depth and movement at groundwater is expected to be tidally influenced.

SITE INVESTIGATIONS OF SEDIMENTS CONTAINING SPENT SANDBLAST GRIT

8. In 1990 and 1991, Crowley conducted an investigation at both yards which included collection of seawater and sediment samples (1990) and collection of surface sediment, sediment cores, and seawater samples (1991). Crowley concluded on the basis of those studies that seawater close to the two yards was not adversely affected by underlying sediments containing Grit or other substances.

9. At the request of the Regional Board, in 1993 Crowley designed, and in 1994 implemented, a Supplemental Inshore Sediment Impairment Study. The purpose of that Study was to determine whether elevated concentrations of chemicals or sandblast material in the sediments were of biological concern. Crowley reported in June 1994 that based on the results of the Study, no active remedial action was warranted at Yard I or Yard II.

10. In March 1996 the Executive Officer acknowledged that "data from [Crowley's] 1994 study and the 1995-96 Bay Protection and Toxic Cleanup Program screening study indicate that the sediments of the subtidal areas on and near the Sites do not represent a significant threat to aquatic life and human health."

11. Notwithstanding the Regional Board's determination that the sediments in the subtidal areas do not represent a significant threat to aquatic life or human health, Regional Board staff has requested that the Grit located on the surface in the inter-tidal and sub-tidal zones be removed, (1) to assure that storm water flowing over that surface material will not carry constituents of the material into the estuary, and (2) to address past permit violations related to environmental hygiene.

INTERIM REMEDIAL ACTIONS

12. In 1995, at the Regional Board staff's request, Crowley vacuumed and swept the two Sites, removing approximately 80 tons of Grit.

FINAL REMEDIATION PLAN

13. In response to Regional Board staff's direction, Crowley has submitted a Workplan for Removal of Spent Sandblast Grit from the Inter-tidal and Supra-tidal Zones at Pacific Dry Dock Yards I and II, a copy of which is attached as Appendix A.

14. Regional Board staff has reviewed and approved the proposal described in the Workplan.

BASIN PLAN

15. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20 and November 13, respectively, of 1995. A summary of regulatory provisions is contained in Title 23 of the California Code of Regulations at Section 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

16. The existing and potential beneficial uses of the groundwater underlying and adjacent to the property include:

    a. Industrial process water supply
    b. Industrial service supply
    c. Municipal and domestic supply
    d. Agricultural supply

17. The existing and potential beneficial uses of Oakland Inner Harbor include:

    a. Ocean, commercial, and sport fishing
    b. Estuarine habitat
    c. Industrial service supply
    d. Fish migration
    e. Navigation
    f. Preservation of rare and endangered species
    g. Water contact recreation
    h. Non-contact water recreation
    i. Shellfish harvesting
    j. Wildlife habitat

CEQA

18. The Discharger has caused or permitted, and threatened to cause or permit, waste to be discharged or deposited where it is or probably will be discharged to waters of the State and create or threaten to create a condition of pollution or nuisance.

19. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

NOTICE

20. Pursuant to Section 13304 of the Water Code, the discharger is hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the Discharger shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of waste in a manner which will significantly degrade water quality or adversely affect beneficial uses of the Waters of the State is prohibited.

B. CORRECTIVE MEASURES

1. Discharger shall demolish and remove the improvements located at Yard I, in order that the loose Grit located in the inter-tidal and supra-tidal zones are accessible to Discharger for removal.

C. PROVISIONS

1. Discharger shall implement the remedial measures described in the Workplan, Appendix A, consistent with the schedule stated therein.

2. If Discharger is delayed, interrupted or prevented from meeting one or more of the completion dates set forth in the Workplan schedule, and specified in the Order, Discharger shall immediately notify the Executive Officer, in writing, of such delays.

3. When Discharger has completed implementation of the Workplan, Discharger shall submit a Technical Report, acceptable to the Executive Officer, describing the remedial measures taken. This technical report shall be submitted six months after all required permits are obtained. Discharger shall inform the Executive Officer when all required permits have been obtained.

4. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order shall be provided

to the following agencies:

a. The Port of Oakland
b. The Bay Conservation and Development Commission
c. Alameda County Health Care Service Agency
d. Regional Water Quality Control Board, Attn: Steven M. Moore

5. The Discharger shall permit the Board or its authorized representative, in accordance with section 13267 of the California Water Code entry upon Discharger's premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

Loretta K. Barsamian
Executive Officer

August 2, 1996
Date

STATE OF CALIFORNIA
PETE WILSON, *Governor*

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
2101 WEBSTER STREET, Suite 500
OAKLAND, CA 94612
Tel: (510) 286-1255
FAX: (510) 286-1380

PDD Sediments
→ Correspondence
cc Beth Hamilton
Bruce Love.

MAR 2 2 1996

File Nos. 2199.9174
and 2199.9218(SMM)

Mr. R. Stephen Wilson
Manager, Environmental Compliance
Crowley Marine Services
P.O. Box 2287
Seattle, WA 98111-2287

Subjects: **Expiration of NPDES Permits**
Request for Technical Information

Dear Mr. Wilson:

This letter is written to advise you that NPDES Permit Order Nos. 91-031 and 91-032 for Crowley Maritime Corporation and Pacific Dry Dock and Repair Company at Yards I and II, Oakland Inner Harbor, expired on March 20, 1996.

As we have communicated in previous correspondence, we acknowledge that Wastes 001 and 002 are no longer discharged at the sites due to cessation of vessel repair and maintenance activities. During site visits in 1995, staff confirmed that stormwater from the site continues to represent a threat to water quality. Industrial materials (e.g., spent sandblast grit) related to past repair and maintenance activities remain on the upland and intertidal portions of the sites. Therefore, at this time you need to file a Notice of Intent for coverage under the statewide general permit for stormwater discharges related to industrial activities.

Staff remains concerned about the industrial materials that have been discharged to waters of the State from the sites in violation of discharge prohibitions and receiving water limitations of the permits. Also of concern is the oversight of the permittee to conduct annual stormwater monitoring at the two sites, pursuant to Part B, Section II of the Self-Monitoring Programs of both permits.

We believe that your efforts to implement improved housekeeping practices at the sites are a positive step toward resolving these outstanding permit issues. We are interested in meeting with you to discuss upland and intertidal cleanup alternatives that you have indicated you are presently exploring. For assurance that Crowley intends to implement appropriate cleanup action, we are issuing this formal request for information.

Mr. R. Stephen Wilson
Crowley Marine Services

Pursuant to Section 13267 of the California Water Code (CWC), I request that Crowley submit a technical report acceptable to the Executive Officer by **June 30, 1996**. This report will document the range of cleanup strategies and criteria that you are considering with regard to the deposit of industrial materials in the upland and intertidal portions of the sites, and the recommended course of cleanup action. Please note that failure to respond or late response to this request may subject you to civil liability imposed by the Board to a maximum amount of $1,000 per day, per Section 13268 of the CWC. Any extensions of the time deadline set forth must be confirmed in writing by Board staff.

Staff has opted to pursue this regulatory strategy in lieu of strict enforcement of permit conditions for the following reasons: (1) Your ongoing cooperation and verbally-stated intent to implement cost-effective cleanup activities in the upland and intertidal areas of the two sites, (2) Data from your 1994 study and the 1995-96 Bay Protection and Toxic Cleanup Program screening study indicate that the sediments of the subtidal areas on and near the sites do not represent a significant threat to aquatic life and human health.

Pertaining to past violations, please be advised that the failure to submit self-monitoring reports may subject you to administrative civil liability imposed by the Board to a maximum of $1,000 per day, pursuant to Section 13268 of the CWC. Also be advised that the Board may issue a cleanup order based on documentation of past permit violations during Board staff inspections, pursuant to Section 13304(a) of the CWC. Staff will not recommend enforcement action to the Board related to these permit violations on the condition that Crowley implements a cleanup plan acceptable to the Executive Officer.

It is my understanding that you will be contacting my staff during May 1996 to set up a meeting to discuss cleanup alternatives. Your continued cooperation will help ensure the Board does not take enforcement action on the past permit violations. If you have any questions concerning this matter, please contact Mr. Steve Moore of my staff at (510) 286-1262.

Sincerely,

Loretta K. Barsamian

Loretta K. Barsamian
Executive Officer

cc: Beth Hamilton, Keiley, Enea, Piunti, & Hamilton
Dan Schoenholz, Port of Oakland
Paul Smith, Alameda County
Karen Taberski, RWQCB

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6777

STID 1420

February 13, 1996

Mr. Stephen Wilson
Crowley Marine Services
2401 Fourth Avenue
P. O. Box 2287
Seattle, WA 98111

RE: 1441 EMBARCADERO, OAKLAND, CA 94606

Dear Mr. Wilson:

This office is in receipt of and has completed review of the case file for this site, up to and including the January 26, 1996 Versar Inc., "Revised Workplan Addendum".

This soil and groundwater investigation proposes to install one (1) groundwater monitoring well (MW6) in the northeast corner of the site to assess groundwater impairment in the vicinity of the former underground storage tank (UST). In addition, eight (8) soil borings will be advanced to depths of between 8 and 11' below ground surface (bgs). Grab groundwater samples will be collected from borings HP1, HP2, HP3 and HP4. Soil borings SB1, SB2, SB3 and SB4 will be located approximately 5 and 10 feet from the two lead-impacted soil excavations to further assess the extent of lead impacted soils in these areas..

This Work Plan is approved. Please keep this office advised on progress of the work plan pertaining to this site on a timely basis.

Should you have any questions or comments, please feel free to call me directly at (510)567-6880.

Sincerely,

Dale Klettke

Dale Klettke, CHMM
Hazardous Materials Specialist

c: Paul Graff, R.G. c/o Versar Inc., 7844 Madison Avenue, Suite 167, Fair Oaks, CA 95628
Thomas Peacock, LOP Manager--files

1420wpok.dkt

ALAMEDA COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

ENVIRONMENTAL PROTECTION DIVISION
1131 Harbor Bay Parkway, Suite #250
Alameda, CA 94502-6577
Telephone (510) 567-6700
Fax Number (510) 337-9335

FAX COVER SHEET

DATE: 1/31, 1996

TO: PAUL GRAFT (CROWLEY'S MARINE"

FAX # (916) 962-2678

Total number of pages including cover sheet 11

FROM: DALE KUETTLE

NOTE: "INTERIM GUIDELINES"

(SMILE) have a nice day.
DO SOMETHING FOR OUR ENVIRONMENT.

jdsb/0395

Versar INC.

December 21, 1995

Mr. Thomas Peacock
Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Division
1131 Harbor Bay Parkway
Alameda, California 94502

Reference: Quarterly Monitoring and Sampling at the Former Pacific Dry Dock and Repair Yard I Facility, 1441 Embarcadero, Oakland, California; Versar Project No. 2722-117

Dear Mr. Peacock:

Versar, Inc. (Versar) is submitting this letter regarding the quarterly monitoring and sampling (QM&S) program at the former Pacific Dry Dock and Repair Yard I facility at 1441 Embarcadero in Oakland, California (Site) on behalf of Crowley Marine Services, Inc.

The primary purpose of this letter is to communicate our intention to delay the 10th round of QM&S, scheduled to occur at the Site in December 1995, until the six proposed additional monitoring wells are installed. These wells were proposed in Versar's workplan addendum entitled, "Addendum to Phase II Site Investigation Work Plan", submitted to you in early October 1995. Following their installation, the wells will be incorporated into the QM&S program, which currently includes sampling monitoring wells MW1 and MW3 and recording depth to groundwater in the other wells at the Site. Versar also requests modifying the QM&S program to include quarterly depth-to-groundwater measurements from all wells, quarterly groundwater sampling of the six new wells, and twice-yearly sampling of wells MW1 and MW3. Versar believes that the previous nine rounds of sampling data from wells MW1 and MW3 show concentrations consistent enough to support reduced sampling frequency.

• SACRAMENTO OFFICE •
7844 MADISON AVENUE, SUITE 167 • FAIR OAKS, CALIFORNIA 95628 • TELEPHONE: (916) 962-1612 FAX: (916) 962-2678

If you have any questions or comments about the contents of this letter or require further information, please call Mr. Stephen Wilson of Crowley Marine Services, Inc. at (206) 443-8042, or Mr. Paul Graff of Versar at (916) 863-9323.

Sincerely,

Paul Graff

Paul Graff, R.G.
Senior Hydrogeologist

cc: Mr. Stephen Wilson, Crowley Marine Services

P:\CROWLEY\YARD\2722017\PEACOCK.LTR

CL R01097

CROWLEY MARINE SERVICES, INC.

95 AUG -7 PM 4:19

August 4, 1995

Mr. Steven Moore
Water Resources Control Engineer
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

Dear Steven:

Beth Hamilton and I appreciate having had the opportunity to meet with you and Peter Otis on July 5th and to discuss various issues regarding Pacific Dry Dock Yards I and II. Although we discussed several other matters, the primary purpose of our meeting was for you and Mr. Otis to visit the two Yards to assess the potential for storm water discharging from the facilities to impact the estuary adversely. We discussed whether Crowley might participate in the General Permit for Stormwater Discharge rather than maintaining its NPDES permit, and the various requirements for each approach. You indicated you did not have a preference as to the General Permit or the NPDES permit. We agreed to inform you shortly whether Crowley prefers to continue the NPDES permit, or to file a Notice of Intent to be covered by the General Stormwater Permit. We are still considering those options and will advise you of our decision well before the beginning of the rainy season. We are also evaluating best management practices to control runoff from both yards.

As we toured Yard I, you informed us that you had taken sediment samples in the estuary adjacent to the storm drain outlet in April or May of 1995, and that tests with these samples produced a reduced echinoderm larvae survival rate. You indicated that you also plan to take samples away from the City of Oakland's storm drain. We requested that you notify me when those samples will be taken so that Crowley can be present and can take splits (or individual samples from the same sampling locations).

We mentioned Crowley's plan to remove some of the evident spent sand blast grit from within the Yards and several areas along the shoreline at both Yards. Since our meeting, Crowley has swept and vacuumed, where possible, loose spent sand blast grit and has placed the material into covered containers on site where it is being held pending laboratory analysis and decisions regarding disposal. With respect to the potential removal of other material in the area of the shoreline, we briefly discussed with you BCDC and Army Corps of Engineers permitting requirements that might be applicable. You suggested that such a project might constitute a "bank stabilization project", and as such would be certifiable by the Regional Board.

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
Pier 41 (Red & White Fleet), San Francisco, California 94133 - (415) 546-2800 - Fax (415) 546-2623 (Admin & Sales)
Pier 1, Berth 47-49, Long Beach, California 90802-1098 - (310) 491-4700 - Telex 650447 - Fax (310) 491-4790
4300 B Street, Suite 507, Anchorage, Alaska 99503-5997 - (907) 563-1114 - Telex 6732564 - Fax (907) 762-3330
Pier 54, San Francisco, California 94107 - (415) 546-2684 - Fax (415) 546-2606 (Admin)
Post Office Box 2110, Jacksonville, Florida 32203-2100 - (904) 727-2200 - Telex 4611037 - Fax (904) 727-2401

Please let me know if you have any additional or inconsistent recollections of our discussions and agreements on July 5th. Also please inform us if and when we should schedule a meeting to discuss the sediments study we submitted in 1994.

Sincerely,

Stephen Wilson
Manager, Environmental Affairs

cc:
Beth Hamilton
Barney Chan
Dan Schoenholtz
Peter Otis

white -env.health
yellow -facility
pink -files

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

Hazardous Materials Inspection Form

1131 Harbor Bay Pkwy
Alameda CA 94502
510/567-6700

II, III

Site ID # 1470 Site Name Pacific Dry Dock Today's Date 6/20/95

Site Address 1441 Embarcadero

City Oakland Zip 94606 Phone

_____ MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

Inspection Categories:

____ I. Haz. Mat/Waste GENERATOR/TRANSPORTER
____ II. Hazardous Materials Business Plan, Acutely Hazardous Materials
~~X~~ III. Underground Storage Tanks

* Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

Comments: Excavation was to be done Today. No equipment other than plastic covered pile. Tank hole near South east Fence is open (w/ barrier tape) Area is secure, Spoils pile near tank hole has weeds all over it. Weed growing in the hole as well. No activity on the site. 4:10 pm.

Contact

Title

Signature

Inspector II, III

Signature

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6700

June 13, 1995
STID 1420

Crowley Maritime Corp.
ATTN: Stephen Wilson
2401 Fourth Ave.
P.O. Box 2287
Seattle, WA 98111 2287

RE: 1441 Embarcadero, Oakland, CA 94606

Dear Stephen Wilson,

This office has received and reviewed a Groundwater Monitoring Report (February 2, 1995) dated May 4, 1995 for the above site by Versar Inc. The report was sent to this office after 3 months and mentioned on page 9 that the next sampling event was scheduled for April 1995, which now is past.

Versar has since scheduled field work at the site on Wednesday, June 20, 1995. Soil removal will be conducted at that time.

It is very evident that the site is under some tidal action and that the groundwater is very high in TDS. This site may be suitable for closure soon and the responsible party should request that action when appropriate.

If you have any questions or comments, please contact this office at (510) 567-6782.

Sincerely,

Thomas Peacock, Supervising HMS
Hazardous Material Division

cc: Dan Schoenholz, Port of Oakland, 530 Water St., Oakland, CA 94604-2064
Mee Ling Tung, Acting Chief - file
Lawrence Kleinecke, Versar, Inc., 5330 Primrose Dr., Suite 228, Fair Oaks, CA 95628

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6700

May 16, 1995
STID 1420

Crowley Maritime Corp.
ATTN: Stephen Wilson
2401 Fourth Ave.
P.O. Box 2287
Seattle, WA 98111-2287

RE: 1441 Embarcadero, Oakland, CA 94606

Dear Stephen Wilson,

This office has received and reviewed an Addendum to the Phase II site investigation workplan dated March 31, 1995 for the above site by Versar Inc. The Addendum is only for interim soil removal and the installation of additional monitoring wells. The following comment is concerning this addendum:

> Page 4 says that you intend to install MW-7 and MW-9. However figure 1 shows MW-7, MW-8, and MW-9 being proposed. Are you proposing 2 wells or three?

Otherwise, the addendum is acceptable to this office. Please contact this office at least 3 days prior to the commencement of field work.

If you have any questions or comments, please contact this office at (510) 567-6782.

Sincerely,

Thomas Peacock, Supervising HMS
Hazardous Material Division

cc: Dan Schoenholz, Port of Oakland, 530 Water St., Oakland, CA 94604-2064
Bill Raynolds, Acting Chief - file
Lawrence Kleinecke, Versar, Inc., ~~5330 Primrose Dr., Suite 228~~, Fair Oaks, CA 95628

7844 Madison Ave, Suite 167

new address

CROWLEY MARINE SERVICES, INC.

May 9, 1995

Mr. Thomas Peacock
Hazardous Materials Division
Department of Environmental Health
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, CA 94502

Reference: **Pacific Dry Dock and Repair Company Yard I**

Dear Mr. Peacock:

Enclosed, for your review, please find a copy of the Versar groundwater monitoring report for the sampling event performed in February, 1995 at the Crowley Marine Services' ("Crowley") facility referenced above, located at 1441 Embarcadero in Oakland.

If you have any questions or comments regarding this matter please contact me at (206) 443-8042.

Sincerely,

Stephen Wilson
Manager, Environmental Compliance

Enc.

cc: PDD I Corr
Dan Schoenholz w/enc.
Beth Hamilton w/enc.

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
Pier 41 (Red & White Fleet), San Francisco, California 94133 - (415) 546-2800 - Fax (415) 546-2623 (Admin & Sales)
Pier 1, Berth 47-49, Long Beach, California 90802-1098 - (310) 491-4700 - Telex 650447 - Fax (310) 491-4790
4300 B Street, Suite 507, Anchorage, Alaska 99503-5997 - (907) 563-1114 - Telex 6732564 - Fax (907) 762-3330
Pier 54, San Francisco, California 94107 - (415) 546-2684 - Fax (415) 546-2606 (Admin)
Post Office Box 2110, Jacksonville, Florida 32203-2100 - (904) 727-2200 - Telex 4611037 - Fax (904) 727-2401

CROWLEY MARINE SERVICES, INC.

January 16, 1995

Mr. Thomas Peacock
Hazardous Materials Division
Department of Environmental Health
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, CA 94502

Reference: **Pacific Dry Dock and Repair Company Yard I**

Dear Mr. Peacock:

Enclosed please find a copy of the quarterly groundwater monitoring and sampling ("QM&S") report for the Crowley Marine Services' ("Crowley") facility referenced above, located at 1441 Embarcadero in Oakland. This report details the QM&S performed by Versar, Inc. on October 19, 1994.

If you have any questions or comments regarding this matter please contact me at (206) 443-8100.

Sincerely,

Stephen Wilson
Manager, Environmental Compliance

Enc.

cc: PDD I Corr
Dan Schoenholz w/enc.
Beth Hamilton w/enc.

Post Office Box 2287, Seattle, Washington 98111-2287 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-6072
2900 Main Street, Alameda, California 94501 - (415) 546-2600 - Fax (415) 546-2606
Pier 1, Berth 47-49, Long Beach, California 90802-1098 - (310) 491-4700 - Telex 650447 - Fax (310) 491-4790
4300 B Street, Suite 507, Anchorage, Alaska 99503-5997 - (907) 563-1114 - Telex 6732564 - Fax (907) 762-3330
Pier 2, Honolulu, Hawaii 96813 - (808) 524-6644 - Fax (808) 536-6560
Post Office Box 2110, Jacksonville, Florida 32203-2100 - (904) 727-2200 - Telex 4611037 - Fax (904) 727-2401

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program

November 7, 1994
STID 1420

ALAMEDA COUNTY CC4580
DEPT. OF ENVIRONMENTAL HEALTH
ENVIRONMENTAL PROTECTION DIVISION
1131 HARBOR BAY PKWY., #250
ALAMEDA CA 94502-6577

Crowley Maritime Corp.
ATTN: Stephen Wilson
2401 Fourth Ave.
Seattle, WA 98111

RE: 1441 Embarcadero, Oakland, CA 94606

Dear Stephen Wilson,

This office has received and reviewed an three Quarterly Monitoring Reports and an Addendum to the Phase II Site Investigation Workplan dated September 16, 1994 for the above site. All were by Versar Inc. The Addendum is acceptable as written although I understand there will be 4 additional monitoring wells installed rather than three. Please notify this office at least 3 days prior to the plan being implemented. The following are comments concerning these reports:

1. MW-1 and MW-3 should still be monitored. This is agreeable as stated in the comments on page 8 of the Sep. 27, 1994 report.

2. The most important constituents to sample in these wells are TPHd and benzene.

3. I agree with the concept of the tidal study as the gradient has been variable and may be tidally influenced.

If you have any questions or comments, please contact this office at (510) 567-6782. Notice that our office has moved.

Sincerely,

Thomas Peacock, Supervising HMS
Hazardous Material Division

cc: Dan Schoenholz, Port of Oakland, 530 Water St., Oakland, CA 94604-2064
Edgar J. Howell, Chief - file
Lawrence Kleinecke, Versar, Inc., 5330 Primrose Dr., Suite 228, Fair Oaks, CA 95628

LOP - CHANGE RECORD REQUEST FORM

printed: 10/20/94

Mark Out What Needs Changing and Hand to LOP Data Entry
(Name/Address changes go to Annual Programs Data Entry)

AGENCY # : 10000 SOURCE OF FUNDS: F SUBSTANCE: 12035
StID : 1420
SITE NAME: Pacific Dry Dock & Repair Co. DATE REPORTED : 09/24/91
ADDRESS : 1441 Embarcadero DATE CONFIRMED: 09/24/91
CITY/ZIP : Oakland 94606 MULTIPLE RPs : Y

SITE STATUS

CASE TYPE: G CONTRACT STATUS: 4 PRIOR CODE:-0- EMERGENCY RESP: -0-
RP SEARCH: S DATE COMPLETED: 02/21/92
PRELIMINARY ASMNT: U DATE UNDERWAY: 03/01/92 DATE COMPLETED: -0-
REM INVESTIGATION: - DATE UNDERWAY: -0- DATE COMPLETED: -0-
REMEDIAL ACTION: - DATE UNDERWAY: -0- DATE COMPLETED: -0-
POST REMED ACT MON:- DATE UNDERWAY: -0- DATE COMPLETED: -0-

ENFORCEMENT ACTION TYPE: 1 DATE ENFORCEMENT ACTION TAKEN: 02/21/92
LUFT FIELD MANUAL CONSID: 3HSC
CASE CLOSED: - DATE CASE CLOSED: -0-
DATE EXCAVATION STARTED : 09/24/91 REMEDIAL ACTIONS TAKEN: ET

RESPONSIBLE PARTY INFORMATION

RP#1-CONTACT NAME: Mr. Steven Wilson
COMPANY NAME: Crowley Maritime Corp.
ADDRESS: 2401 Fourth Ave
CITY/STATE: Seattle, W A 98111

RP#2-CONTACT NAME: Dan Schoenholz
COMPANY NAME: Port Of Oakland
ADDRESS: 530 Water Street
CITY/STATE: Oakland, C A 94604-2064

INSPECTOR VERIFICATION:

NAME _____ SIGNATURE _____ DATE _____

DATA ENTRY INPUT:

Name/Address Changes Only

ANNPGMS _____ LOP____ DATE _____

Case Progress Changes

LOP _____ DATE _____

September 20, 1995

#11102	100 MacArthur Blvd.	Oakland
11117	7210 Bancroft Avenue	Oakland
11120	6400 Dublin Blvd.	Dublin
11127	5425 Martin Luther King	Oakland

November 15, 1995

#11101	3191 Alvarado Blvd.	Union City
11122	3101 98th Avenue	Oakland
11124	3315 High Street	Oakland
11106	15199 Washington Blvd.	San Leandro
02486	2504 Castro Valley Blvd.	Castro Valley

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM A

COMPLETE THIS FORM FOR EACH FACILITY/SITE

MARK ONLY ONE ITEM: [ ] 1 NEW PERMIT [ ] 2 INTERIM PERMIT [ ] 3 RENEWAL PERMIT [ ] 4 AMENDED PERMIT [ ] 5 CHANGE OF INFORMATION [X] 6 TEMPORARY SITE CLOSURE [ ] 7 PERMANENTLY CLOSED SITE

I. FACILITY/SITE INFORMATION & ADDRESS - (MUST BE COMPLETED)

DBA OR FACILITY NAME: PACIFIC DRY DOCK & REPAIR YARD I		NAME OF OPERATOR: PACIFIC DRY DOCK	
ADDRESS: 1441 EMBARCADERO		NEAREST CROSS STREET	PARCEL # (OPTIONAL)
CITY NAME: OAKLAND	STATE: CA	ZIP CODE: 94606	SITE PHONE # WITH AREA CODE: (510) 816-3819

✓ BOX TO INDICATE: [X] CORPORATION [ ] INDIVIDUAL [ ] PARTNERSHIP [ ] LOCAL-AGENCY DISTRICTS [ ] COUNTY-AGENCY [ ] STATE-AGENCY [ ] FEDERAL-AGENCY

TYPE OF BUSINESS: [ ] 1 GAS STATION [ ] 2 DISTRIBUTOR [ ] 3 FARM [ ] 4 PROCESSOR [X] 5 OTHER	[ ] ✓ IF INDIAN RESERVATION OR TRUST LANDS	# OF TANKS AT SITE: 1	E. P. A. I. D. # (optional)

EMERGENCY CONTACT PERSON (PRIMARY)		EMERGENCY CONTACT PERSON (SECONDARY) - optional	
DAYS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE	DAYS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE
NIGHTS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE	NIGHTS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE

II. PROPERTY OWNER INFORMATION - (MUST BE COMPLETED)

NAME: PORT OF OAKLAND		CARE OF ADDRESS INFORMATION: DAN SCHOENHOLZ	
MAILING OR STREET ADDRESS: 530 WATER STREET		✓ box to indicate [ ] INDIVIDUAL [ ] LOCAL-AGENCY [ ] STATE-AGENCY [ ] CORPORATION [ ] PARTNERSHIP [ ] COUNTY-AGENCY [ ] FEDERAL-AGENCY	
CITY NAME: OAKLAND	STATE: CA	ZIP CODE: 94607	PHONE # WITH AREA CODE: (510) 272-1220

III. TANK OWNER INFORMATION - (MUST BE COMPLETED)

NAME OF OWNER: UNKNOWN		CARE OF ADDRESS INFORMATION	
MAILING OR STREET ADDRESS		✓ box to indicate [ ] INDIVIDUAL [ ] LOCAL-AGENCY [ ] STATE-AGENCY [ ] CORPORATION [ ] PARTNERSHIP [ ] COUNTY-AGENCY [ ] FEDERAL-AGENCY	
CITY NAME	STATE	ZIP CODE	PHONE # WITH AREA CODE

IV. BOARD OF EQUALIZATION UST STORAGE FEE ACCOUNT NUMBER - Call (916) 323-9555 if questions arise.

TY (TK) HQ [4][4]-[ ][ ][ ][ ][ ][ ]

V. PETROLEUM UST FINANCIAL RESPONSIBILITY - (MUST BE COMPLETED) – IDENTIFY THE METHOD(S) USED

✓ box to indicate: [ ] 1 SELF-INSURED [ ] 2 GUARANTEE [ ] 3 INSURANCE [ ] 4 SURETY BOND [ ] 5 LETTER OF CREDIT [ ] 6 EXEMPTION [ ] 99 OTHER

VI. LEGAL NOTIFICATION AND BILLING ADDRESS

Legal notification and billing will be sent to the tank owner unless box I or II is checked.

CHECK ONE BOX INDICATING WHICH ABOVE ADDRESS SHOULD BE USED FOR LEGAL NOTIFICATIONS AND BILLING: I. [ ] II. [ ] III. [ ]

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

APPLICANT'S NAME (PRINTED & SIGNATURE)	APPLICANT'S TITLE	DATE MONTH/DAY/YEAR
LAWRENCE KLEINECKE [signature]	HYDROLOGIST	03/03/93

LOCAL AGENCY USE ONLY

COUNTY #	JURISDICTION #	FACILITY #
[ ][ ]	[ ][ ][ ]	[ ][ ][ ][ ][ ][ ]

LOCATION CODE - *OPTIONAL*	CENSUS TRACT # - *OPTIONAL*	SUPVISOR - DISTRICT CODE - *OPTIONAL*

THIS FORM MUST BE ACCOMPANIED BY AT LEAST (1) OR MORE PERMIT APPLICATION - FORM B, UNLESS THIS IS A CHANGE OF SITE INFORMATION ONLY.

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B

COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM.

MARK ONE ITEM: ☐ 1 NEW PERMIT ☐ 2 INTERIM PERMIT ☐ 3 RENEWAL PERMIT ☐ 4 AMENDED PERMIT ☐ 5 CHANGE OF INFORMATION ☐ 6 TEMPORARY TANK CLOSURE ☐ 7 PERMANENTLY CLOSED ON SITE ☒ 8 TANK REMOVED

DBA OR FACILITY NAME WHERE TANK IS INSTALLED: PACIFIC DRY DOCK & REPAIR YARD I

I. TANK DESCRIPTION

COMPLETE ALL ITEMS -- SPECIFY IF UNKNOWN

A. OWNER'S TANK I. D. # UNKNOWN
B. MANUFACTURED BY: UNKNOWN
C. DATE INSTALLED (MO/DAY/YEAR) UNKNOWN
D. TANK CAPACITY IN GALLONS: APPROX. 400 GALS. (UNKNOWN)

II. TANK CONTENTS

IF A-1 IS MARKED, COMPLETE ITEM C.

A. ☐ 1 MOTOR VEHICLE FUEL ☐ 2 PETROLEUM ☐ 3 CHEMICAL PRODUCT ☐ 4 OIL ☐ 80 EMPTY ☒ 95 UNKNOWN

B. ☐ 1 PRODUCT ☐ 2 WASTE

C. ☐ 1a REGULAR UNLEADED ☐ 1b PREMIUM UNLEADED ☐ 2 LEADED ☐ 3 DIESEL ☐ 4 GASAHOL ☐ 5 JET FUEL ☐ 6 AVIATION GAS ☐ 7 METHANOL ☐ 99 OTHER (DESCRIBE IN ITEM D. BELOW)

D. IF (A.1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED UNKNOWN C. A. S. # :

III. TANK CONSTRUCTION

MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D AND E

A. TYPE OF SYSTEM: ☐ 1 DOUBLE WALL ☐ 2 SINGLE WALL ☐ 3 SINGLE WALL WITH EXTERIOR LINER ☐ 4 SECONDARY CONTAINMENT (VAULTED TANK) ☒ 95 UNKNOWN ☐ 99 OTHER

B. TANK MATERIAL (Primary Tank): ☐ 1 BARE STEEL ☐ 2 STAINLESS STEEL ☐ 3 FIBERGLASS ☐ 4 STEEL CLAD W/ FIBERGLASS REINFORCED PLASTIC ☐ 5 CONCRETE ☐ 6 POLYVINYL CHLORIDE ☐ 7 ALUMINUM ☐ 8 100% METHANOL COMPATIBLE W/FRP ☐ 9 BRONZE ☐ 10 GALVANIZED STEEL ☒ 95 UNKNOWN ☐ 99 OTHER

C. INTERIOR LINING: ☐ 1 RUBBER LINED ☐ 2 ALKYD LINING ☐ 3 EPOXY LINING ☐ 4 PHENOLIC LINING ☐ 5 GLASS LINING ☐ 6 UNLINED ☒ 95 UNKNOWN ☐ 99 OTHER
IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? YES ___ NO ___

D. CORROSION PROTECTION: ☐ 1 POLYETHYLENE WRAP ☐ 2 COATING ☐ 3 VINYL WRAP ☐ 4 FIBERGLASS REINFORCED PLASTIC ☐ 5 CATHODIC PROTECTION ☐ 91 NONE ☒ 95 UNKNOWN ☐ 99 OTHER

E. SPILL AND OVERFILL: SPILL CONTAINMENT INSTALLED (YEAR) _____ OVERFILL PREVENTION EQUIPMENT INSTALLED (YEAR) _____

IV. PIPING INFORMATION

CIRCLE A IF ABOVE GROUND OR U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE: A U 1 SUCTION A U 2 PRESSURE A U 3 GRAVITY A U 99 OTHER NONE VISIBLE

B. CONSTRUCTION: A U 1 SINGLE WALL A U 2 DOUBLE WALL A U 3 LINED TRENCH A U 95 UNKNOWN A U 99 OTHER

C. MATERIAL AND CORROSION PROTECTION: A U 1 BARE STEEL A U 2 STAINLESS STEEL A U 3 POLYVINYL CHLORIDE (PVC) A U 4 FIBERGLASS PIPE A U 5 ALUMINUM A U 6 CONCRETE A U 7 STEEL W/ COATING A U 8 100% METHANOL COMPATIBLE W/FRP A U 9 GALVANIZED STEEL A U 10 CATHODIC PROTECTION A U 95 UNKNOWN A U 99 OTHER

D. LEAK DETECTION: ☐ 1 AUTOMATIC LINE LEAK DETECTOR ☐ 2 LINE TIGHTNESS TESTING ☐ 3 INTERSTITIAL MONITORING ☒ 99 OTHER NONE

V. TANK LEAK DETECTION

☐ 1 VISUAL CHECK ☐ 2 INVENTORY RECONCILIATION ☐ 3 VADOZE MONITORING ☐ 4 AUTOMATIC TANK GAUGING ☐ 5 GROUND WATER MONITORING ☐ 6 TANK TESTING ☐ 7 INTERSTITIAL MONITORING ☐ 91 NONE ☒ 95 UNKNOWN ☐ 99 OTHER

VI. TANK CLOSURE INFORMATION

1. ESTIMATED DATE LAST USED (MO/DAY/YR)
2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING 100 GALLONS
3. WAS TANK FILLED WITH INERT MATERIAL? YES ☐ NO ☒

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

APPLICANT'S NAME (PRINTED & SIGNATURE) LAWRENCE KLEINECKE Lawrence Kleinecke DATE 03/03/93

LOCAL AGENCY USE ONLY

THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW

STATE I.D.# COUNTY # JURISDICTION # FACILITY # TANK #

PERMIT NUMBER | PERMIT APPROVED BY/DATE | PERMIT EXPIRATION DATE

THIS FORM MUST BE ACCOMPANIED BY A PERMIT APPLICATION - FORM A, UNLESS A CURRENT FORM A HAS BEEN FILED.
FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

white -env.health
yellow -facility
pink -files

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

Hazardous Materials Inspection Form

80 Swan Way, #200
Oakland, CA 94621
(415) 271-4320

II,III

Site ID # ___ Site Name Pacific Dry Dock Today's Date 2/17/94

Site Address 1414 Embarcadero

City Oakland Zip 94 Phone ___

___ MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

Inspection Categories:
___ I. Haz. Mat/Waste GENERATOR/TRANSPORTER
___ II. Business Plans, Acute Hazardous Materials
___ III. Underground Tanks

* Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

II.A BUSINESS PLANS (Title 19)

___	1. Immediate Reporting	2703
___	2. Bus. Plan Stds.	25503(b)
___	3. RR Cars > 30 days	25503.7
___	4. Inventory Information	25504(a)
___	5. Inventory Complete	2730
___	6. Emergency Response	25504(b)
___	7. Training	25504(c)
___	8. Deficiency	25505(a)
___	9. Modification	25505(b)

II.B ACUTELY HAZ. MAT'LS

___	10. Registration Form Filed	25533(a)
___	11. Form Complete	25533(b)
___	12. RMPP Contents	25534(c)
___	13. Implement Sch. Req'd? (Y/N)	___
___	14. OffSite Conseq. Assess.	25524(c)
___	15. Probable Risk Assessment	25534(d)
___	16. Persons Responsible	25534(g)
___	17. Certification	25534(i)
___	18. Exemption Request? (Y/N)	25536(b)
___	19. Trade Secret Requested?	25538

III. UNDERGROUND TANKS (Title 23)

General

___	1. Permit Application	25284 (H&S)
___	2. Pipeline Leak Detection	25292 (H&S)
___	3. Records Maintenance	2712
___	4. Release Report	2651
___	5. Closure Plans	2670

Monitoring for Existing Tanks

___ 6. Method
1) Monthly Test
2) Daily Vadose
Semi-annual gndwater
One time soils
3) Daily Vadose
One time soils
Annual tank test
4) Monthly Gndwater
One time soils
5) Daily Inventory
Annual tank testing
Cont pipe leak det
Vadose/gndwater mon.
6) Daily Inventory
Annual tank testing
Cont pipe leak det
7) Weekly Tank Gauge
Annual tank tsting
8) Annual Tank Testing
Daily Inventory
9) Other ___

___	7. Precis Tank Test Date: ___	2643
___	8. Inventory Rec.	2644
___	9. Soil Testing .	2646
___	10. Ground Water.	2647

New Tanks

___	11. Monitor Plan	2632
___	12. Access. Secure	2634
___	13. Plans Submit Date: ___	2711
___	14. As Built Date: ___	2635

Rev 6/88

Comments:

O_2 30% LEL 9% OFD: Larry Lamers

1K UST. Bare steel - stored unknown fuel
Several pin size holes on bottom of tank.
Pitting and corrosion -
Water in pit ~ 7' bgs. Pumped out and allowed to recharge 3X
Sheen on water

① sidewall sample at 16'3"
stained green clay
② 16'4" sidewall stained green w/ shells
③ sidewall - stained green w/ shells
16'6"

Embarcadero ↑

II, III

Contact: ~~Lawrence Klemack~~

Title: ___ Inspector: ___

Signature: ___ Signature: ___

Versar INC. SACRAMENTO

March 3, 1993

Mr. Tom Peacock
Hazardous Materials Specialist
Division of Hazardous Materials
Department of Environmental Health
Alameda County Health Department
800 Swan Way, Room 200
Oakland, California 94621

Reference: Underground Tank Closure Plan for Pacific Dry Dock Yard I, 1441 Embarcadero Avenue, Oakland, California; Versar Job No. 1457-027

Dear Mr. Peacock:

Please find enclosed the Underground Tank Closure Plan for Pacific Dry Dock Yard I, 1441 Embarcadero Avenue, Oakland, California. The tank removal is scheduled for March 17, 1993. Your assistance in this matter is greatly appreciated.

If you have any questions or require supplemental information, please contact our Fair Oaks office at (916) 962-1612.

Sincerely,

Lawrence Kleinecke
Hydrologist/Chemist

cc: Mr. Stephen Wilson, Crowley Marine Services

5330 PRIMROSE DRIVE • SUITE 228 • FAIR OAKS, CALIFORNIA 95628
TELEPHONE: (916) 962-1612 • FAX: (916) 962-2678

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621
PHONE NO. 510/271-4320

3-11-93 AFF
ACCEPTED
DEPARTMENT OF ENVIRONMENTAL HEALTH
470 - 27th Street, Third Floor
Oakland, CA 94612
Telephone: (415) 874-7237

These plans have been reviewed and found to be acceptable and essentially meet the requirements of State and local health laws. Changes to your plans indicated by this Department are to assure compliance with State and local laws. The project proposed herein is now released for issuance of any required building permits for construction.

One copy of these accepted plans must be on the job and available to all contractors and craftsmen involved with the removal.

Any change or alterations of these plans and specifications must be submitted to this Department and to the Fire and Building Inspection Department to determine if such changes meet the requirements of State and local laws.

Notify this Department at least 48 hours prior to the following required inspections:

_____ Removal of Tank and Piping
_____ Sampling
_____ Final Inspection

Issuance of a permit to operate is dependent on compliance with accepted plans and all applicable laws and regulations.

THERE IS A FINANCIAL PENALTY FOR NOT CALLING FOR INSPECTIONS.

UNDERGROUND TANK CLOSURE PLAN
*** * * Complete according to attached instructions * * ***

1. Business Name PACIFIC DRY DOCK & REPAIR YARD

   Business Owner CROWLEY MARINE SERVICES

2. Site Address 1441 EMBARCADERO

   City OAKLAND Zip 94606 Phone _____

3. Mailing Address 2401 FOURTH AVENUE, P.O. BOX 2287

   City SEATTLE, WA Zip 98111 Phone (206) 443-7882

4. Land Owner PORT OF OAKLAND

   Address 530 WATER STREET City, State OAKLAND, CA Zip 94607

5. Generator name under which tank will be manifested

   ~~CROWLEY MARINE SERVICES~~ Port of Oakland

   EPA I.D. No. under which tank will be manifested ~~CAD009140864~~

   verified w/Carm Heneche 2-8-94

   CAC000941286

6. Contractor ARONSON ENGINEERING, INC.

Address 6809 McCOMBER STREET

City SACRAMENTO, CA 95828 Phone 916-381-1600

License Type* A-HAZ ID# 592010

*Effective January 1, 1992, Business and Professional Code Section 7058.7 requires prime contractors to also hold Hazardous Waste Certification issued by the State Contractors License Board. Indicate that the certificate has been received, in addition, to holding the appropriate contractors license type.

7. Consultant VERSAR, INC.

Address 5330 PRIMROSE DR., SUITE 228

City FAIR OAKS, CA Phone (916) 962-1612

8. Contact Person for Investigation

Name MR. LAWRENCE KLEINECKE Title VERSAR, PROJECT MANAGER

Phone

9. Number of tanks being closed under this plan ONE (1)

Length of piping being removed under this plan LESS THAN 20 FEET

Total number of tanks at facility ONE (1)

10. State Registered Hazardous Waste Transporters/Facilities (see instructions).

** Underground tanks are hazardous waste and must be handled as hazardous waste **

a) Product/Residual Sludge/Rinsate Transporter

Name REFINERY SERVICES EPA I.D. No. CAD 981696420

Hauler License No. 2591 License Exp. Date 10/31/93

Address P.O. BOX 1167

City PATTERSON State CA Zip 95363

b) Product/Residual Sludge/Rinsate Disposal Site

Name REFINERY SERVICES EPA I.D. No. CAD 981696420

Address P.O. BOX 1167

City PATTERSON State CA Zip 95363

c) Tank and Piping Transporter

Name ERICKSON, INC. EPA I.D. No. CAD 009466392

Hauler License No. 0019 License Exp. Date NONE

Address 255 PARR BLVD.

City RICHMOND State CA Zip 94801

d) Tank and Piping Disposal Site

Name ERICKSON, INC. EPA I.D. No. CAD 009466392

Address 255 PARR BLVD.

City RICHMOND State CA Zip 94801

11. Experienced Sample Collector

Name LAWRENCE KLEINECKE

Company VERSAR, INC.

Address 5330 PRIMROSE DR., SUITE 228

City FAIR OAKS State CA Zip 95628 Phone (916) 962-1612

12. Laboratory

Name TRACE ANALYSIS LABORATORY

Address 4323 INVESTMENT BLVD., UNIT 8

City HAYWARD State CA Zip 94545

State Certification No. 1199

13. Have tanks or pipes leaked in the past? Yes [ ] No [X]

If yes, describe.

14. Describe methods to be used for rendering tank inert

TRIPLE RINSE, ADD 25 LBS. DRY ICE PER 1,000 GALLONS TANK CAPACITY.

Before tanks are pumped out and inerted, all associated piping must be flushed out into the tanks. All accessible associated piping must then be removed. Inaccessible piping must be plugged.

The Bay Area Air Quality Management District (771-6000), along with local Fire and Building Departments, must also be contacted for tank removal permits. Fire departments typically require the use of explosion proof combustible gas meters to verify tank inertness. **It is the contractor's responsibility to bring a working combustible gas meter on site to verify tank inertness.**

15. Tank History and Sampling Information

Tank		Material to be sampled (tank contents, soil, ground-water, etc.)	Location and Depth of Samples
Capacity	Use History (see instructions)		
APPROXIMATE 400 GALS.	UNKNOWN	SOIL GROUND WATER (IF PRESENT)	SIDEWALL SOIL SAMPLE ABOVE THE WATER TABLE AND GROUND WATER IF PRESENT.

One soil sample must be collected for every 20 feet of piping that is removed. A ground water sample must be collected should any ground water be present in the excavation.

Excavated/Stockpiled Soil	
Stockpiled Soil Volume (Estimated) 15 CUBIC YARDS	Sampling Plan 1 DISCRETE SAMPLE FOR EVERY 20 CUBIC YARDS

Stockpiled soil must be placed on bermed plastic and must be completely covered by plastic sheeting.

16. Chemical methods and associated detection limits to be used for analyzing samples

The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed. See attached Table 2.

Contaminant Sought	EPA, DHS, or Other Sample Preparation Method Number	EPA, DHS, or Other Analysis Method Number	Method Detection Limit
TPH-G	EPA 5030:SOIL 5030:WATER	GCFID	SOIL: 1.0 PPM WATER 50 PPB
TPH-D	EPA 3550:SOIL 3510:WATER	GCFID	SOIL: 1.0 PPM WATER:50 PPB
BTEX		EPA 8020: SOIL EPA 602: WATER	SOIL: 0.005 PPM WATER: 0.5 PPB
OIL & GREASE		EPA 5520 D&F: SOIL EPA 5520 C&F: WATER	SOIL: 50 PPM WATER: 5,000PPB
TOTAL LEAD	SAMPLE DIGESTION	AA	AS PER CALIF. ADMIN. CODE

17. Submit Site Health and Safety Plan (See Instructions)

18. Submit Worker's Compensation Certificate copy

Name of Insurer GOLDEN EAGLE INSURANCE COMPANY

19. Submit Plot Plan (See Instructions)

20. Enclose Deposit (See Instructions)

21. **Report any leaks or contamination to this office within 5 days of discovery.** The report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report form. (see Instructions)

22. Submit a closure report to this office within 60 days of the tank removal. This report must contain all the information listed in item 22 of the instructions.

I declare that to the best of my knowledge and belief the statements and information provided above are correct and true.

I understand that information in addition to that provided above may be needed in order to obtain an approval from the Department of Environmental Health and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Safety and Health Administration) requirements concerning personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Specialist at least three working days in advance of site work to schedule the required inspections.

Signature of Contractor

Name (please type) GARY NYGREN

Signature Gary Nygren

Date 02/16/93

Signature of Site Owner or Operator

Name (please type) Charles F. Nalen

Signature Charles F. Nalen

Date 2/23/93

ACORD CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY)

PRODUCER

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
3096

INSURED

ARONSON ENGINEERING, INC AND
MICHAEL J. ARONSON, JNO
6609 MO COMBER STREET
SACRAMENTO, CA 95828

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A GOLDEN EAGLE Ins. Co.

COMPANY LETTER B

COMPANY LETTER C

COMPANY LETTER D

COMPANY LETTER E

Aronson Engineering Incorporated

SEP 12 1993

RECEIVED

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY				GENERAL AGGREGATE	$ 2000000
	X COMMERCIAL GENERAL LIABILITY	RENEWAL OF	02/06/93	02/06/94	PRODUCTS-COMP/OP AGG.	$ 2000000
A	CLAIMS MADE X OCCUR	GLP 17 35 47			PERSONAL & ADV. INJURY	$ 1000000
	X OWNER'S & CONTRACTOR'S PROT	$1,000 PROPERTY			EACH OCCURRENCE	$ 1000000
		DAMAGE DEDUCT.			FIRE DAMAGE (Any one fire)	$ 50000
		PER CLAIM			MED. EXPENSE (Any one person)	$ 5000
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT	$ 1000000
	ANY AUTO					
	X ALL OWNED AUTOS				BODILY INJURY (Per person)	$
A	SCHEDULED AUTOS	RENEWAL OF				
	X HIRED AUTOS	GLP 17 35 47	02/06/93	02/06/94	BODILY INJURY (Per accident)	$
	X NON-OWNED AUTOS					
	GARAGE LIABILITY				PROPERTY DAMAGE	$
	EXCESS LIABILITY				EACH OCCURRENCE	$ 1000000
	UMBRELLA FORM	RENEWAL OF			AGGREGATE	$ 1000000
A	X OTHER THAN UMBRELLA FORM	EXC 17 35 12	02/06/93	02/06/94		
	WORKER'S COMPENSATION				STATUTORY LIMITS	
A	AND	PNC 16 23 78-00	04/30/92	04/30/93	EACH ACCIDENT	$ 1000000
	EMPLOYERS' LIABILITY				DISEASE—POLICY LIMIT	$ 1000000
					DISEASE—EACH EMPLOYEE	$ 1000000
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE
LINDA HAMPTON Linda Hampton

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

February 1, 1993
STID 1420

Crowley Maritime Corp.
ATTN: George Brooks
2401 Fourth Ave.
Seattle, WA 98111

RE: 1441 Embarcadero, Oakland, CA 94606

Dear George Brooks,

This office has received and reviewed an Addendum to Phase II Site Investigation Work Plan dated December 30, 1992 by Versar Inc. concerning the above site. This plan is acceptable as written. Please notify this office at least 3 days prior to the plan being implemented.

In looking at the plan and reviewing the Addendum dated September 18, 1992 and the workplan dated March 12, 1992 it was noticed that an underground fuel tank was discovered and remains abandoned on the property. The September 18 Addendum stated that at a removal plan was included but this was in error. No plan for tank removal has been submitted as required. A tank removal plan is attached for you to complete and submit as soon as possible.

If you have any questions or comments, please contact this office at (510) 271-4530.

Sincerely,

Thomas Peacock, Supervising HMS
Hazardous Material Division

cc: Richard Hiett, RWQCB
Dan Schoenholz,Port of Oakland,530 Water St.,Oakland,CA 94604-2064
Edgar B Howell, Chief - file EBH
Gil Jensen, Alameda County District Attorney's Office
Lawrence Kleinecke,Versair Inc.,5330 Primrose Dr.,Suite 228,Fair Oaks, CA 95628
Enclosure
Edgar Howell, Chief - Files

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

September 28, 1992
STID # 1420

Mr. George Brooks
Mgr. Environmental Control
Crowley Maritime Corporation
2401 Fourth Ave.
P.O. Box 2287
Seattle, Washington 98111

Re: Addendum to Phase II Site Investigation Work Plan, Pacific Dry Dock Yard I, Western Section, 1441 Embarcadero, Oakland 94606

Dear Mr. Brooks:

Our office has received and completed the review of the above work plan addendum. As you will recall, this plan calls for the excavation of approximately 3500 cubic yards of petroleum contaminated soils from the western section of Yard I and its treatment with a thermal treatment unit. This plan is acceptable and may occur as soon as possible, but an additional question has been raised about the potential of other "unique" compounds which may exist in this soil and their non-treatment during this thermal process.

The October 90 Site Assessment Report by Versar took both sediment and soil samples from both the eastern and western halves of this site. The sediment samples were composited and analyzed. Significant metals, semi-volatiles, PCBs and pesticides, organo-metals, phthalates and phenols were found in these sediment samples. Though these compounds were not analyzed in the soil samples from the west section of Yard I, there hasn't been any reasons stated why they may not also be in these samples. Because the excavated soils from this area is proposed to be reused after thermal treatment, it is necessary to verify that these compounds do not exist in the treated soils. You are therefore requested to propose a sampling and verification analysis plan to confirm the non-existence of these compounds in treated soils. Note that soil and borehole water samples taken from the eastern section of this yard has found elevated petroleum, metal and semi-volatiles indicating at least a potential groundwater impact of these compounds on the western section.

Due to the difficulty in determining the source and limits of contamination in the intertidal sediments, the Regional Water Quality Control Board must be consulted to reach an acceptable clean-up level and contaminated areal extent prior to any remediation in this area.

You may contact me at (510) 271-4350 should you have any questions.

Sincerely,

Barney M Chan

Barney M. Chan
Hazardous Materials Specialist

cc: M. Thomson, Alameda County District Attorney Office
R. Hiett, RWQCB
L. Kleinecke, Y. Lembi, Versar Inc., 5330 Primrose Drive, Suite 228, Fair Oaks, CA 95628
E. Howell, files
1441-1WP

STATE OF CALIFORNIA

ST

PETE WILSON, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
2101 WEBSTER STREET, SUITE 500
OAKLAND, CA 94612

Phone: (510) 464-1255
FAX: (510) 464-1380

Mr. George Brooks
Crowley Maritime Corporation
Environmental Compliance
P.O. Box 2287
Seattle, Wa 98111

Date: August 3, 1992
File: 2199.9218 and 2199.9174 (DIB)

SUBJECT: CONTAMINATED SEDIMENT AT PACIFIC DRY DOCK

Dear Mr. Brooks:

We have reviewed the reports on the Inshore Sediment Impairment Study for Pacific Dry Dock and Repair Yards I and II, submitted to this office on October 28, 1991. The study was in response to a Regional Board request for a sediment investigation at Yards I and II.

The results of the study confirm that sand blasting of vessel hulls at Yards I and II has impacted the sediments at the two sites. Heavy Metals such as copper, chromium, lead, zinc and mercury, as well as organo-tin, associated with marine anti-fouling paint are present in elevated concentrations in sediment at Yards I and II. Cleanup of this contaminated sediment will be necessary.

Although the levels of all the metals just listed are high, mercury is of most concern to us. The reported mercury values are very high; much higher than any other spot in the Bay for which we have data. Four of the averaged values from the sampling areas exceed the California Title 22 Total Threshhold Limit for mercury. Sediment quality data developed as part of the EPA's Sediment Quality Criteria Program, indicate that mercury is one of the most toxic metals in sediment. Accordingly, mercury will probably be driving the cleanup at these sites. We have decided that the most appropriate cleanup levels for the Pacific Dry Dock sites are the average background concentrations in the Oakland Inner Harbor for the metals of concern. These concentrations are:

Mercury - 0.72 mg/kg
Copper - 73 mg/kg
Lead - 54 mg/kg
Zinc - 178 mg/kg
(Dry weight values)

These values are in dry weight. For any future sediment sampling, results should be reported on a dry weight basis. This allows an easier comparison with other samples and with sediment criteria.

Section 13267 of the California Water Code (Porter - Cologne Act) gives the Regional Water Quality Control Board the authority to investigate water quality in relation to a waste

discharge and to require a waste discharger to supply related technical reports deemed necessary. Therefore, in accordance with Section 13267 of the California Water Code, please submit a plan by September 30, 1992 for the removal of contaminated sediment from Pacific Dry Dock Yards I and II. The plan should include a time schedule and should address the following items:

1. Removal of contaminated sediment such that metals levels in sediment at the two sites does not exceed the above criteria.

2. Removal of sediment that contains more than 10% sand blasting grit.

3. Steps to ensure that resuspension and offsite movement of contaminated sediment and heavy metals will be kept to a minimum.

4. Proper disposal of contaminated sediment once it has been removed.

If you have any questions please call David Barr at (510) 464-1246.

Sincerely,

Teng-Chung Wu
Chief, Surface Water Protection Division

cc: Dan Schoenholz - Port of Oakland

PORT OF OAKLAND

May 21, 1992

George Brooks
Crowley Maritime Corporation
2401 Fourth Avenue
P.O. Box 2287
Seattle, WA 98111

Dear Mr. Brooks:

SUBJECT: COMMENTS ON PRELIMINARY INVESTIGATION AND EVALUATION REPORT (PEIR) FOR PACIFIC DRY DOCK AND REPAIR YARD I WESTERN SECTION, 1441 EMBARCADERO ROAD, OAKLAND

As we discussed in our telephone conversation on May 19, 1992, I have the following comments on the PEIR dated May 6, 1992:

Comment 1: The soil around sampling location BH 17 should be excavated based on the high levels of gasoline (32 ppm) and diesel (1200 ppm). The diagram you provided to us which showed the projected minimum and maximum extent of soil excavation should be revised to include the area around BH 17.

Comment 2: Relatively high levels of TPH-D in groundwater and VOCs in soil were found at sample location BH 34. A strong odor was also detected at the bottom of the borehole, and black, shiny patches of liquid were noted. This area should be included in the area to be excavated, since it looks like a point source for contamination.

Comment 3: The statement in the summary that soils did not exceed 2.8 ppm TPH-d and 65 ppm TPH-g is incorrect; soils far exceeded these levels in several locations.

My understanding is that you will revise the PEIR to incorporate my comments and any comments provided by the Alameda County Department of Environmental Health, and that I will be provided with the revised version of the PEIR.

530 Water Street ■ Jack London's Waterfront ■ P.O. Box 2064 ■ Oakland, California 94604-2064
Telephone (510) 272-1100 ■ Fax (510) 272-1172 ■ Cable address, PORTOFOAK, Oakland

If you have any questions, please contact me at (510)272-1220.

Sincerely,

Dan Schoenholz
Assistant Environmental Scientist

DS

cc: Barney Chan, Alameda County
Robert Andres, Crowley Maritime
Joyce Washington
Thomas Clark

PORT OF OAKLAND

92 APR -3 PM 1:50

April 1, 1992

Interested Parties:

The following Initial Study and Proposed Negative Declaration is referred to you for your information and comments:

> A proposal by Crowley Maritime Corporation to consolidate Crowley's Northern California Tug Operations, Maintenance, and Administration personnel at 1441 Embarcadero, Oakland, CA. The project involves the construction of three new buildings and the berthing of several tugboats at existing berths at the site.

Comments should be provided to Dan Schoenholz of the Port of Oakland Environmental Department, 530 Water Street, Oakland, California, (510) 272-1220. Any comments you may have will be evaluated prior to any decision by the Board of Port Commissioners.

A Negative Declaration, which is a written statement indicating that the proposed project will not have a significant effect on the environment, is proposed to be adopted pursuant to the California Environmental Quality Act. Please provide all comments on the proposed Negative Declaration by 5:00 p.m., May 1, 1992. No action will be taken prior to this date.

Sincerely,

Loretta Meyer

Loretta Meyer, Supervisor
Environmental Assessment

ds/LM

Enclosure

pc/dsinitstud.ltr/wp51

530 Water Street ■ Jack London's Waterfront ■ P.O. Box 2064 ■ Oakland, California 94604-2064
Telephone (510) 272-1100 ■ Fax (510) 272-1172 ■ Cable address, PORTOFOAK, Oakland

Project Number: 7703.26 SID # 1420

Versar INC

TELECOPY TRANSMITTAL

TO: Mr Barney Chan

LOCATION: Alameda Co. Health Dept.

FROM: Yvonne Lembi

TRANSMITTAL SHEET PLUS: 4 PAGES DATE: 4/1/92

FAX NUMBER: (510)569-4757 (077) TIME: 1:50 pm

COMMENTS:

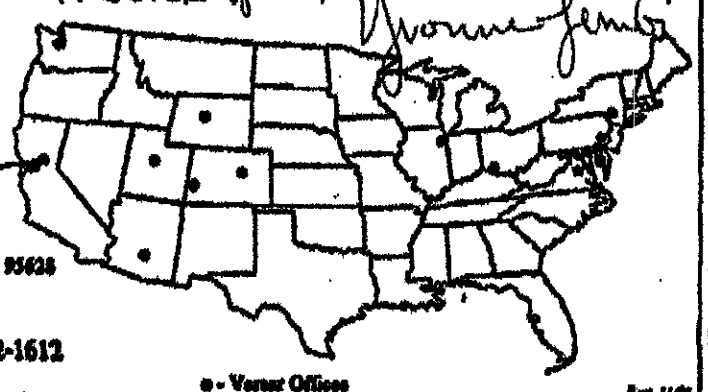
Barney,

Here is the information of the thermal desorption unit we are proposing to utilize at Pacific Dry Dock Yard I in Oakland.

If you have any further questions, please contact me or Stephen Wilson at (916)962-1612.

Thank you,

Yvonne Lembi



Sent From:
Versar, Inc.
5330 Primrose Drive
Suite 228
Fair Oaks, California 95628

FOR VERIFICATION PLEASE CALL (916) 962-1612
OUR FAX NUMBER IS (916) 962-2678

● - Versar Offices

DUSTCOATING, INC.
6925 D'Chene Lane
Maple Plain, Minnesota 55359
206-361-8601

SOIL REMEDIATION by THERMAL DESORPTION

On-site soil remediation is now available with Dustcoating's low temperature thermal desorption service. Dustcoating operates two mobile units for the remediation of soil contaminated with non-hazardous petroleum hydrocarbons. Soil contaminants are thermally oxidized to provide complete elimination of hydrocarbons eliminating liability typically associated with disposal of hydrocarbon-impacted soil.

In addition to reduced liability, remediation costs are also lowered by the quick on-site clean up process. Our units can process soil at rates up to 30 tons per hour. With a 98 percent or better destruction rate, Dustcoating's mobile thermal desorption units are ready to address your specific site needs and have been permitted for use in several states.

Dustcoating, Inc. has two units operating within the lower 48 states. We are permitted for operation in 17 states including Washington, Oregon, Montana and Alaska. Our units have successfully operated in eight states since April 1990 under the scrutiny of Federal, State and local authorities. The units are powered by clean-burning propane fuel and meet standard stack emission limits for VOC, opacity and particulate loading. We are permitted for operation in the PSAPCA region.

Our thermal desorption process is capable of treating soil impacted with gasoline, diesel, jet fuel, and various lubricating oils with up to 30 percent moisture content. We can process soil of any gradation ranging from clay to gravel up to two-inch in diameter. Typical petroleum hydrocarbon concentrations in treated soil, as measured by either gas chromatography or infrared analyses, are consistently less than 50 parts per million. For gasoline and diesel contaminated soil, the concentrations are even lower. These concentrations would categorize the soil as either WDOE Class One or Two, making the material suitable for many types of backfill while alleviating the need for off-site disposal. Rapid on-site treatment translates to reduced liability for you.

HOW IT WORKS

The soil is remediated by rapidly volatilizing or evaporating hydrocarbon products from the soil, then oxidizing them in the discharge air stream. Soil is loaded into a hopper which discharges onto a variable speed feeder belt. The feeder belt has a built-in scale which weighs the incoming soil and totalizes the tonnage processed prior to the soil entering the counter-flow rotary drum primary treatment unit. Inside the rotary drum, hydrocarbon compounds and soil moisture are evaporated at temperatures in excess of 550 degrees Fahrenheit as the soil moves through the drum. The hot,

decontaminated soil then enters a steel discharge screw auger while the hot gases and particulates are routed through a cyclone and then a baghouse.

Particulates collected in the cyclone and baghouse are carried to the discharge auger and blended in with the hot, decontaminated soil. The treated soil is then quenched with a water spray prior to exiting the unit. The evaporated hydrocarbons and water are routed from the baghouse to the thermal oxidizer where they are subjected to temperatures in excess of 1400 degrees F. This high temperature insures virtually complete elimination of the hydrocarbons in the exhaust gas stream. The process does not generate any baghouse dusts or residual ash.

GENERAL EQUIPMENT INFORMATION

A. ***Rotary Drum Dryer/Roaster:*** *The drum is 64 inches in diameter and 20 feet long, made of high strength 1/4-inch thick steel, and equipped with 5-inch wide riding rings and heat-treated trunnion rollers, all driven by two-15 hp electric motors. The drum is complete with feed and front and breechings, and is equipped with special flights per General Combustion designs.*

B. ***Genco Burner:*** *The rotary drum is direct-fired by a Genco Astraflame AF-15 burner equipped for operation with standard commercially available fuels. The Astraflame is a complete combustion system specifically designed for rotary aggregate dryers, capable of producing 25MM BTU/hr and offering a firing turndown ratio of 10:1. The burner is equipped with a fuel manifold, fuel modulating valve, pressure indicators, burner control motors, electric fuel valves, burner junction box, pilot burner assembly, ignition transformer, flame scanner and safeguard systems. The burners integral blower is driven by a 20 hp electric motor.*

C. ***Sound Shield:*** *The Astraflame AF-15 burner is equipped with a sound suppression system to reduce noise levels to OSHA-acceptable standards.*

D. ***Genco Control System:*** *Dryer operation is controlled by an automatic solid state burner control system which assures a protected startup by built-in interlocks, flame safeguard, and other limits. The system provides "at-a-glance" management of dryer operations with burner position, and stack exit temperature readouts. The system is housed within an 8-foot by 8-foot air-conditioned control house mounted on top of the thermal oxidizer trailer gooseneck. Motor starters are mounted on the trailer frame. Control cables are quick connect (plug in) where necessary.*

E. ***Feed Hopper:*** *A five-ton cold feed bin with a capacity of 3.4 cubic yards is made from 1/4-inch thick HR steel. The bin is complete with a 24-inch wide flat feeder belt driven by a variable speed 3 hp DC drive motor.*

F. ***Grizzly:*** *To avoid damage to the dryer's discharge auger, a maximum soil lump size limit must not be exceeded. This is achieved by the use of a screen mounted on top of the feed hopper, which limits debris size before soil enters the drum. A mechanical flipper allows for periodic cleaning.*

G. ***Belt Scale:*** *The feeder belt is equipped with an automatic belt scale with a load cell and a speed sensor. Signals from these sensors are electrically integrated to provide feed rate and totalized weight to the unit's electronic control system. A digital display provides a readout of both values to the operator.*

H. ***Discharge Auger:*** *Material exiting the rotary drum is picked up by a screw auger. It is mixed with dust from the knockout box and baghouse. The mixture is finally discharged from the unit by another screw auger.*

I. ***Discharge Dust Suppression:*** *A water spray system is installed at the discharge end of the auger to minimize dust emissions.*

J. ***Air Compressor:*** *A 20 hp air compressor provides high pressure air for burner fuel atomization, and for baghouse cleaning.*

K. ***Fuel Oil Pump:*** *Burner fuel oil is supplied by a positive-displacement pump driven by a 1.5 hp motor.*

L. ***Fuel Oil Tank:*** *The unit is supplied with two-275 gallon tanks equipped with a low level tank indicator which, when activated, will shut off the fuel pump for protection.*

M. ***Automatic Exhaust Damper:*** *The rotary dryer is equipped with a Genco automatic exhaust damper, which maintains airflow within proper limits by controlling the amount of airflow through the drum dryer. Use of the automatic damper yields lower excess air levels with resultant lower fuel consumption.*

N. ***Baghouse:*** *The Genco Model 238 portable baghouse is a pulse-jet type dust collector rated at a capacity of 12,000 CFM, with a 4.59:1 air to cloth ratio. The baghouse is supplied with Nomex bags totalling 2,616 square feet in area. The housing and tub sheets are made from 1/4-inch thick HR steel, ruggedly supported by steel tubing. Grain loading in the baghouse air discharge is at a concentration of 0.03 grains/DSCF. Accumulated dust is collected in the bottom of the baghouse by an 18-inch screw conveyor driven by a 20 hp motor. The conveyor carries dust to the discharge and mixes it with the dryer discharge. The Nomex bags are periodically cleaned by sequenced pulses of high pressure air directed from a series of jets, which induce local shock waves that dislodge dust cake from the bags.*

O. ***Exhaust Fan:*** *A centrifugal, single inlet, single width induced draft fan with self-cleaning radial blades is furnished for process air supply. The fan is rated at*

12,000 CFM at 16 inches water column, and is driven by a 50 hp motor.

P. **Trailer:** The main unit, consisting of the rotary drum dryer with feed and burner controls, fuel and water tanks, air compressor, fan and baghouse are all mounted on a 12-foot wide by 45-foot long trailer. Made from heavy structural steel, this trailer rolls on two axles each fitted with four wheels. The trailer is equipped with adjustable landing skids and pads which allow set-up without a foundation on average soils.

Q. **Thermal Oxidizer:** A refractory-lined combustion chamber fitted with a liquid propane-fired afterburner is provided to allow thermal destruction of volatiles. This thermal oxidizer is designed to handle baghouse gas discharge streams resulting from the rotary drying of soils containing up to 1% gasoline or jet fuel, and 14% moisture by wight. The oxidizer will heat these gases to 1600 Degrees F and provide a residence time of approximately 1.0 seconds or more as required, thus meeting standard stack VOC limits. The unit is self-trailering (10' X 36'), and connects to the baghouse discharge, thus serving as an exhaust stack as well. The oxidizers afterburner can release up to 12MM BTU/Hr with a turndown ratio of 10:1, and can provide enough secondary air to properly burn off 1,500 PPH of volatilized hydrocarbons.

R. **Emergency Quench System:** A temperature sensor is installed in the baghouse inlet duct to monitor the incoming gases from the rotary dryer. The sensor is linked to an annunciator, and a manual start/stop station which controls a water sprinkler system. The system includes a 275 gallon water storage tank, a 1.5 hp pump motor, piping and spray heads. If the sensor detects gas temperatures exceeding a preset value, it signals the operator to activate the sprinkler system. This cools the gas stream by evaporation, thus eliminating the possibility of a baghouse fire, or heat damage to the bags themselves.

S. **Stack Information:**

Stack Height	21 feet
Stack Diameter	3.4 feet equivalent
Flow Volume	33,600 SCFM
Gas Exit Temperature	1400 degrees F
Stack Velocity	62 FPS
Opacity (EPA Method 9)	0
Hydrocarbon Emissions	0.3 - 0.6 lbs per hour
Particulates (standard)	< 0.02 GR/DSCF, dry and organic wet catch

T. **Unit Space Requirements:** 100 feet X 150 feet (ideal)

U. **Power Requirements:** 240/440 Volts, self-contained

responsible **Pacific Dry Dock/Crowley Maritime**

case# 86FE538
status closed /judgmt
assigned Jensen
complainant Al co Hazmat
open date
last trnsactn 3/15/89
narrative

92 MAR 10 AM 11:38

Violations
docket # 6231048

envir pen	$25,000
e rest rec	$0
e comp	$0
stat pen	$0

all pen $25,000.00

RAMSEY,
WE HAVE AN INJUNCTION
ON THIS OUTFIT

6.1

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, Assistant Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Division
80 Swan Way, Rm. 200
Oakland, CA 94621
(510) 271-4320

March 16, 1992
STID # 1420

Mr. George Brooks
Mgr. Environmental Control
Crowley Maritime Corporation
2401 Fourth Ave.
P.O. Box 2287
Seattle, Washington 98111

Re: Phase II Site Investigation Work Plan for Pacific Dry Dock Yard I, Western Section at 1441 Embarcadero, Oakland CA 94606

Dear Mr. Brooks:

Our office has received and reviewed the work plan for the Phase II Site Assessment at the western section of Yard I at Pacific Dry Dock. This report also includes the results of the initial site assessment performed on this area consisting of borings and grab water samples and chemical analysis. This Phase II work plan was developed from the results of the initial site assessment and through a conversation I had with Mr. Lawrence Kleinecke of Versar Inc. The general approach of excavation to the stated limits of: 1 parts per billion (ppb) for total benzene, toluene, ethyl benzene and xylenes (BTEX), 10 parts per million (ppm) for total petroleum hydrocarbons as gasoline (TPHg), 100 ppm for total petroleum hydrocarbons as diesel (TPHd) and 1000 ppm for total oil and grease (TOG) is acceptable.

Please note however, these limits may have an effect on the required length of ground water monitoring prior to recommendation for site sign-off to the Regional Water Board. Certainly, when at all possible, non-detectable levels of all hydrocarbons is preferable and allows for shorter ground water monitoring requirements.

Upon review of the analytical results in this report a number of items require clarification. These items include:

1. In the approval to the initial site assessment, it was agreed that at least one water and one soil sample near the former waste oil tank was to be analyzed for chlorinated hydrocarbons by Method 8010 or 8240 and analyzed for semi-volatiles by Method 8270. It appears that this minimum sample has not been analyzed. If this is the case, a water and soil sample from the monitoring well proposed in this area should be run for these parameters.

2. It was noticed that a number of borings were not run for any hydrocarbons analysis. The borings include BH42-BH45, BH20-BH21 and BH23-BH26. It is assumed that these samples did not show field observations which may have indicated potential contamination and were therefore not run. Please explain the reasoning for the absence of these analyses.

3. The proposed monitoring well locations are acceptable with the condition that after ground water gradient has been determined, a monitoring well should be located downgradient to all significant water or soil contaminant locations.

It was suggested that soil and ground water samples, which depict the estuary water and soil, be analyzed similarly for the parameters found on this site. In addition, total dissolved solids should be run in an attempt to establish the current water quality and likely long term affect of any residual hydrocarbon contamination left on site.

Upon clarification of the above items, you may proceed with the proposed Phase II Site Investigation. Please contact me at (510) 271-4320 should you have any questions.

Sincerely,

Barney M. Chan

Barney M. Chan
Hazardous Materials Specialist

cc: M. Thomson, Alameda County District Attorney Office
R. Hiett, RWQCB
L. Kleinecke, Versar Inc.
H. Hatayama, DOHS
D. Schoenholtz, Port of Oakland

PhaseII1441

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, Assistant Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Division
80 Swan Way, Rm. 200
Oakland, CA 94621
(510) 271-4320

March 13, 1992
STID # 1420

Mr. George Brooks
Mgr. Environmental Control
Crowley Maritime Corporation
2401 Fourth Ave.
P.O. Box 2287
Seattle, Washington 98111

Re: Phase II Site Investigation Work Plan for Pacific Dry Dock Yard I, Western Section at 1441 Embarcadero, Oakland CA 94606

Dear Mr. Brooks:

Our office has received and reviewed the work plan for the Phase II Site Assessment at the western section of Yard I at Pacific Dry Dock. This report also includes the results of the initial site assessment performed on this area consisting of borings and grab water samples and chemical analysis. This Phase II work plan was developed from the results of the initial site assessment and through a conversation I had with Mr. Lawrence Kleinecke of Versar Inc. The general approach of excavation to the stated limits ~~limits~~ of: 1 parts per billion (ppb) for total benzene, toluene, ethyl benzene and xylenes (BTEX), 10 parts per million (ppm) for total petroleum hydrocarbons as gasoline (TPHg), 100 ppm for total petroleum hydrocarbons as diesel (TPHd) and 1000 ppm for total oil and grease (TOG) is acceptable.

Please note however, these limits may have an effect on the required length of ground water monitoring prior to recommendation for site sign-off to the Regional Water Board. Certainly, when at all possible, non-detectable levels of all hydrocarbons is preferable and allows for shorter ground water monitoring requirements.

Upon review of the analytical results in this report a number of items require clarification. These items include:

1. In the approval to the initial site assessment, it was agreed that at least one water and one soil sample near the former waste oil tank was to be analyzed for chlorinated hydrocarbons by Method 8010 or 8240 and analyzed for semi-volatiles by Method 8270. It appears that this minimum sample has not been analyzed. If this is the case, a water and soil sample from the monitoring well proposed in this area should be run for these parameters.

2. It was noticed that a number of borings were not run for any hydrocarbons analysis. The borings include BH42-BH45, BH20-BH21 and BH23-BH26. It is assumed that these samples did not show field observations which may have indicated potential contamination and were therefore not run. Please explain the reasoning for the absence of these analyses.

3. The proposed monitoring well locations are acceptable with the condition that after ground water gradient has been determined, a monitoring well should be located downgradient to all significant water or soil contaminant locations.

It was suggested that soil and ground water samples, which depict the estuary water and soil, be analyzed similarly for the parameters found on this site. In addition, total dissolved solids should be run in an attempt to establish the current water quality and likely long term affect of any residual hydrocarbon contamination left on site.

Upon clarification of the above items, you may proceed with the proposed Phase II Site Investigation. Please contact me at (510) 271-4320 should you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

cc: M. Thomson, Alameda County District Attorney Office
R. Hiett, RWQCB
L. Kleinecke, Versar Inc.
H. Hatayama, DOHS
D. Schoenholtz, Port of Oakland

PhaseII1441

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, Assistant Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Division
80 Swan Way, Rm. 200
Oakland, CA 94621
(510) 271-4320

March 9, 1992

STID # 1420

Mr. George Brooks
Mgr. Environmental Control
Crowley Maritime Corporation
2401 Fourth Avenue
P.O. Box 2287
Seattle, Washington 98111

Re: Work Plan for the Eastern Section of Yard I at 1441 Embarcadero, Oakland CA 94606, aka Pacific Dry Dock

Dear Mr. Brooks:

This letter recounts the recent conversation I had with Mr. Larry Kleinecke of Versar Inc. regarding the work plan for the eastern section of Yard I at 1441 Embarcadero, Oakland CA 94606. In addition, I was informed that the results of the preliminary subsurface soil and ground water investigation on the western section of Yard I will be in a forthcoming report from Versar. Upon receipt of this report a written response will be issued to the proposed next step of the investigation/remediation in this area.

In regards to the proposal for further borings and soil and ground water samplings on the eastern section of Yard I the County accepts this work plan with following conditional items:

1. It is stated that although samples will be run for Total Recoverable Hydrocarbons (TRH) by Method 5520 C & F, Total Petroleum Hydrocarbons as gas and as diesel (TPHg and TPHd), BTEX (Benzene,Toluene,Ethyl Benzene, and Xylenes), the CAM (California Assessment Manual) Metals and semi-volatile organic compounds by Method 8270, not all samples will be analyzed for all of the above constituents. The County would like clarification as to the rationale for determining which samples will be run for which parameter. Minimally, the County anticipates the following analyses:

a. Area No. 1: This area was identified in the site assessment as having elevated levels of petroleum hydrocarbons therefore samples in this area should be run minimally for TPHg, TPHd and TRH

b. Area No. 2: This area was identified in the site assessment as having copper, lead and mercury above TTLC (Total Threshold Limit Concentration) and elevated levels of petroleum hydrocarbons. Because of this, samples from these areas should be run minimally

for the CAM total metals and the above mentioned petroleum hydrocarbon parameters, TPHg, TPHd and TRH.

c. Area No. 3: This area was identifed in the site assessment as having elevated petroleum hydrocarbon concentrations. Since this area was formally a forklift and spent sandblasting material area, as stated in the work plan, you should analyze minimally for TPHg, TPHd, TRH and the CAM total metals.

The logic for the analysis for the semi-volatile organic compounds by Method 8270 is less clear, however, the existence of high TRH is certainly one reasonable criteria for the request of this analysis.

2. The work plan also states that a maximum of five (5) ground water samples will be collected for analysis. Certainly one ground water sample from each Area No.(1-3) should be taken. The other ground water samples should be taken in an attempt to determine the extent of ground water contamination as field instruments dictate. It would seem inefficient to limit the number of soil and ground water samples to be analyzed to the proposed 30 and 5 if significant information concerning the extent and amount of contamination could be gained by additional sample analysis.

Please feel free to comment on this items in this letter and work may proceed immediately if there are no objections to these conditions. You may contact me at (510) 271-4320 should you have any questions.

Sincerely,

Barney M. Chan, Hazardous Materials Specialist

cc: M. Thomson, Alameda County District Attorney Office
R. Hiett, RWQCB
L. Kleinecke, Versar Inc.
H. Hatayama, DOHS
D. Schoenholtz, Port of Oakland
1441EastPDD

DATE: 2/12/92

TO : Local Oversight Program

FROM: B. Chan

SUBJ: Transfer of Elligible Oversight Case

Site name: Pacific Dry Dock

Address: 1441 Embarcadero + 320 Embarcadero City Oak Zip 94606

Closure plan attached? Y N N/A DepRef remaining $ 469

DepRef Project # 6085A STID #(if any) 1420

Number of Tanks: N/A removed? Y N Date of removal N/A

Samples received? (Y) N Contamination: Metals, Oil & grease

Petroleum (Y) N Types: Avgas Jet leaded unleaded (Diesel)
fuel oil (waste oil) kerosene solvents

Monitoring wells on site 0 Monitoring schedule? Y N Not yet

LUFT category 1 (2) 3 *(H) (S) (C) (A) R W G O

Briefly describe the following:

Preliminary Assessment

Remedial Action

Post Remedial Action Monitoring

Enforcement Action

This is a SLIC site w/a separate tank removal. The (1441 Embarcadero)
investigation plan & remediation plan @ 1441 Emb will be for both the UST + the rest of yard (East + West). ∴ I would like to keep continuity w/ the overnight + transfer the case to LOP. The other site 320 Embarcadero is another yard of Pacific Dry Dock (the only one currently open)

Please return to BC after transfer.

DATE: 2/12/92

TO : Local Oversight Program

FROM: BChan

SUBJ: Transfer of Elligible Oversight Case

Site name: Pacific Dry Dock + Repair

Address: 1441 Embarcadero city Oak zip 94606

Closure plan attached? (Y) N DepRef remaining $ 230 48

DepRef Project # 5043 A STID #(if any) 1420

Number of Tanks: 1 removed? (Y) N Date of removal 9/24/91

Samples received? (Y) N Contamination: TPHg + BTEX 11 ppm + 139 ppt. detectable BTEX + 34% TPHg in water org Pb detected

Petroleum (Y) N Types: Avgas Jet leaded unleaded Diesel fuel oil waste oil kerosene solvents

Monitoring wells on site 0 Monitoring schedule? Y N Not yet

LUFT category 1 (2) (3) * H (S) C (A) R W G O

Briefly describe the following:

Preliminary Assessment

Remedial Action

Post Remedial Action Monitoring

Enforcement Action

1- 400 Kg gasoline UST removed from site. Water in pit was very oily & had a gasoline odor. Sidewall soil samples not noticably contaminated. The considerable oily nature of water is suspicious of another oil source, possibly from surface spillage. Need to request a followup of soil & GW investigation. This site also has a "SLIC" oil & metals contamination investigation proceeding. Also tied in is PDD's Yd II subsurface investigation @ 320 Embarcadero 94606 therefore I think LOP should take over both UST + SLIC site investigations.

CROWLEY MARITIME CORPORATION

91 NOV 13 PM 1:06

November 11, 1991

Mr. Barney M. Chan
Hazardous Material Specialist
Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621

RE: Pacific Dry Dock and Repair, Yard 1

Dear Mr. Chan:

The purpose of this letter is to respond to your letter dated October 29, 1991 concerning the past removal of an underground storage tank at the above referenced site. In your letter, you requested submission of a work plan within 30 days to determine the extent of contamination and remediation of any discovered contamination.

As you know, we are presently performing a subsurface investigation of the western section of this site under a work plan approved by your agency. This plan was modified, at your request, to address the contamination discovered during removal of the underground tank. We feel that the area of the previous underground tank is presently being investigated according to professional standards and an additional work plan and investigation is not warranted. We plan to address the contamination in the area of the previous underground storage tank with the remediation of the entire western section. Therefore, we request an extension of your requirement to submit a work plan for investigation of the area of the previous underground storage tank until the report of the western section investigation is finalized. Our consultant will begin study of the appropriate remedial alternatives at that time. The data from this investigation must be compiled and studied prior to considering remedial alternatives.

Crowley Maritime Plaza, Post Office Box 2287, Seattle, Washington 98111 - (206) 443-8100 - Telex 6838207 - Fax (206) 443-8072
155 Grand Avenue, Oakland, California 94612 - (415) 251-7500 - Telex 6771520 - Fax (415) 251-7625
4300 B Street, Suite 507, Anchorage, Alaska 99503-5997 - (907) 563-1114 - Telex 090-25403 - Fax (907) 762-3330
3556 NW Front Street, Suite 380, Portland, Oregon 97210 - (503) 274-2134 - Fax (503) 274-7084

We appreciated your cooperation in this matter. If any questions arise, feel free to contact me at (206) 443-7882.

Sincerely,

George A. Brooks

George A. Brooks
Manager, Environmental Control

cc: S. Wilson, Versar
C. Nalen

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Director

Telephone Number: (415)

October 29, 1991

Mr. George Brooks
Mgr. Environmental Control
Crowley Maritime Corporation
2401 Fourth Avenue
P.O. Box 2287
Seattle, Washington 98111

Re: Request for Work Plan for the Unauthorized Petroleum Fuel Release at 1441 Embarcadero, Oakland CA 94606, dba Pacific Dry Dock

Dear Mr. Brooks:

Alameda County Environmental Health, Hazardous Materials Division, has received analytical results of soil and water samples taken subsequent to the removal of a 400 gallon gasoline tank at the above referenced site. These results were sent to our agency by your consultant, Ms. Yvonne Lembi, of Versar Inc. The results indicate that there was some Total Petroleum Hydrocarbon as gasoline, TPHg, and Benzene, Toluene, Ethylbenzene and Xylenes, (BTEX), in the soil and the ground water sample. In fact, the ground water sample had 3.4% TPHg and 170 parts per million (ppm) Toluene, 480 ppm Ethylbenzene and 1,900 ppm Xylenes. Our division uses the "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites" for guidance when determining whether further investigation is required at tank removal sites. Accordingly, when the ground water has potentially been impacted as evidenced by detectable levels of petroleum hydrocarbons in water samples, as was in this case, a soil/ground water investigation is required.

Therefore, you are requested to provide a work plan within thirty (30) days which minimally determines the extent of soil and ground water contamination and provides for the remediation of any contamination. Enclosed please find the contents of a "typical" work plan to use as guidance.

All proposals, reports and analytical results pertaining to this investigation and remediation must be sent to our office and the Regional Water Quality Control Board (RWQCB) to the attention of Mr. Eddy So. Their address is : 2101 Webster St., 4th Floor, Oakland CA 94612.

The County acknowledges the receipt of the proposed work plan for the western section of Yard I, at this same site, and realizes that there may be some overlap in the investigation of the contamination from the tank and that associated with surface spills. Hopefully, information received from the investigation of the western section

will prove useful in determining the extent of contamination around the former tank excavation pit. Certainly, once all the subsurface soil and ground water investigation is completed it would prove wise to address any remediation or ground water monitoring in an entire site remediation plan. This site plan may also eventually include the eastern section of Yard I.

The County is also aware that the contamination found in the tank pit of the former gasoline tank was not typical of what might have been expected. In fact, considerable oily material was observed floating on the surface of the water in the pit. Please be advised that this contamination is considered the responsibility of Crowley Maritime until which time you provide evidence of its origin in an upgradient location. Such evidence may include chromatograms of the hydrocarbons found in the pit and that from the upgradient source, verification of ground water gradient, historical records of the contents of the tank and documentation of the monitoring program used for the tank and the identification of the upgradient source.

Please be aware that this is a formal request for technical reports pursuant to the California Water Code, Section 13267 (b). Any extensions on agreed upon time deadlines must be confirmed in writing by either this Division or the RWQCB.

You may contact me at (510) 271-4320 should you have any questions regarding this letter.

Sincerely,

Barney M Chan

Barney M. Chan
Hazardous Materials Specialist

enclosure

cc: G. Jensen, Alameda County District Attorney, Consumer and Environmental Protection Division
E. So, RWQCB
H. Hatayama, DOHS
Y. Lembi, Versar
D. Schoenholtz, Port of Oakland

1441W-WP

Versar INC. SACRAMENTO

91 OCT 28 PM 3:01 October 24, 1991

Mr. Barney Chan
Hazardous Materials Specialist
Alameda County Health Department
800 Swan Way, Room 200
Oakland, California 94621

Reference: Modifications to the Work Plan for the Western Section of Pacific Dry Dock Yard I, 1441 Embarcadero, Oakland, California; Versar Job No. 7703.26

Dear Mr. Chan:

Per our telephone conversation of October 22, 1991, this letter documents our response to your letter of October 16, 1991 documenting the changes to the Work Plan for the Western Section of Pacific Dry Dock Yard I. A copy of your letter is included as Attachment I. I have reviewed your comments and have the following responses:

1. Versar Inc., on behalf of Pacific Dry Dock and Repair Co., will move the boring which had been originally proposed for the center of the western section of Yard I closer to the tank excavation area in an effort to define the lateral extent of hydrocarbon-impacted soils near the former tank location.

2. As you have requested, a minimum of one soil sample and one ground-water sample taken near the waste-oil tank, the above-ground storage tanks and the former underground storage tank locations will be analyzed for the full suite of waste oil parameters i.e. Total Petroleum Hydrocarbons as gasoline and diesel (TPH-d and -g); benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method 8020; oil and grease by EPA Method 5520E and F; chlorinated hydrocarbons by EPA Method 8010 or 8240; semi-volatiles by EPA Method 8270; and the metals cadmium, chromium, lead, nickel and zinc.

   However, as we discussed in our conversation on October 22, 1991, Versar will not analyze all other samples collected for all the analytes listed in our work plan. Versar will analyze selected samples for selected parameters of those listed i.e. oil and grease by 5520E and F; TPH-d and TPH-g; BTEX by EPA Method 8020; and semi-volatiles by Method 8270. The samples to be analyzed and the parameters for which they will be analyzed, beyond the requirements stated above, will

5330 PRIMROSE DRIVE • SUITE 228 • FAIR OAKS, CALIFORNIA 95628
TELEPHONE: (916) 962-1612 • FAX: (916) 962-2678

be selected based on field screening methods including headspace analysis, and visual and olfactory characterization.

Versar will proceed with the stated work on October 25, 1991 as planned. If you have any questions or comments, or require supplemental information, please contact me at (916) 962-1612.

Sincerely,

Yvonne M. Lembi

Yvonne M. Lembi
Geologist

cc: George Brooks, Crowley Maritime Corp.
Dan Schoenholtz, Port of Oakland

ATTACHMENT I

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Director

RECEIVED
OCT 22 1991
Ans'd.....

Telephone Number: (415)

October 16, 1991

Mr. George Brooks
Mgr. Environmental Control
Crowley Maritime Corporation
2401 Fourth Avenue
P.O. Box 2287
Seattle, Washington 98111

Re: Work Plan for the Western Section of Yard I at 1441 Embarcadero, Oakland CA 94606, dba Pacific Dry Dock

Dear Mr. Brooks:

This letter is to acknowledge the conversation I had with Ms. Yvonne Lembi of Versar regarding the adequacy of their proposed work plan for the western section of Yard I. In general, their proposed plan is acceptable with the addition/clarification of the following items mentioned in our October 15th conversation:

1. The proposed boring in the center of the site, south of the underground storage tank will be moved closer to the excavation pit area as an attempt to define the lateral extent of contamination of the former fuel tank.

2. Because of the potential source of waste oil near the waste oil tank and the storage tanks and because of the observation of oil in the water from the underground fuel tank pit, a minimum of one soil and one water sample on the southly side of these three locations will be analyzed for the full waste oil parameters i.e. Total Petroleum Hydrocarbons as gasoline and diesel, TPHg and TPHd, BTEX, Oil and Grease by Method 5520 E and F, Chlorinated Hydrocarbons by Method 8010 or 8240, Semi-volatiles by Method 8270 and the metals, cadmium, chromium, lead, nickel and zinc. All other samples which are analyzed should be analyzed for the stated parameters in the work plan i.e. Oil and Grease by 5520 E and F, TPHd and TPHg, BTEX and semi-volatiles by Method 8270.

With these items taken into account, you may proceed with this subsurface investigation. Please note this is an approval for only the western section of Yard I. The eastern section of Yard I and Yard II will be reviewed individually. Please contact me at (510) 271-4320 should you have any questions regarding this letter.

Sincerely,

Barney M. Chan

Barney M. Chan
Hazardous Materials Specialist

cc: G. Jensen, Alameda County District Attorney Office
R. Hiett, RWQCB
Y. Lembi, Versar
H. Hatayama, DOHS
D. Schoenholtz, Port of Oakland

1441WestPDD

Versar INC. SACRAMENTO

91 OCT 23 AM 11:01

October 22, 1991

Mr. Barney Chan
Hazardous Materials Specialist
Division of Hazardous Materials
Department of Environmental Health
Alameda County Health Department
800 Swan Way, Room 200
Oakland, California 94621

Reference: Underground Storage Tank Unauthorized Release (LEAK)/Contamination Site Report for Pacific Dry Dock Yard I, 1441 Embarcadero Avenue, Oakland, California; Versar Job No. 7703.26

Dear Mr. Chan:

Please find enclosed the Underground Storage Tank Unauthorized Release (LEAK)/Contamination Site Report for Pacific Dry Dock Yard I, 1441 Embarcadero Avenue, Oakland, California. Once you have signed the form, please forward the report to the Regional Water Quality Control Board.

If you have any questions or require supplemental information, please contact our Fair Oaks office at (916) 962-1612.

Sincerely,

Yvonne M. Lembi

Yvonne M. Lembi
Geologist

cc: Mr. George Brooks - Crowley Maritime Corp.

5330 PRIMROSE DRIVE • SUITE 228 • FAIR OAKS, CALIFORNIA 95628
TELEPHONE: (916) 962-1612 • FAX: (916) 962-2678

UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY ☐ YES ☒ NO

HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? ☐ YES ☒ NO

REPORT DATE: 10/18/91

CASE #:

FOR LOCAL AGENCY USE ONLY

I HEREBY CERTIFY THAT I AM A DESIGNATED GOVERNMENT EMPLOYEE AND THAT I HAVE REPORTED THIS INFORMATION TO LOCAL OFFICIALS PURSUANT TO SECTION 25180.7 OF THE HEALTH AND SAFTY CODE.

SIGNED: Barney M Chan DATE: 10-23-91

REPORTED BY

NAME OF INDIVIDUAL FILING REPORT: Yvonne M. Lembi

PHONE: (916) 962-1612

SIGNATURE: Yvonne M. Lembi

REPRESENTING ☒ OWNER/OPERATOR ☐ REGIONAL BOARD ☐ LOCAL AGENCY ☐ OTHER

COMPANY OR AGENCY NAME: Versar Inc.

ADDRESS: 5330 Primrose Drive, Suite 228 (STREET) Fair Oaks (CITY) CA (STATE) 95628 (ZIP)

RESPONSIBLE PARTY

NAME: Pacific Dry Dock Repair Co. ☐ UNKNOWN

CONTACT PERSON: George Brooks

PHONE: (206) 443-8519

ADDRESS: 2401 Fourth Avenue (STREET) Seattle (CITY) WA (STATE) 98111 (ZIP)

SITE LOCATION

FACILITY NAME (IF APPLICABLE): Pacific Dry Dock (Yard I)

OPERATOR: Pacific Dry Dock Repair Co.

PHONE: (415) 518-1380

ADDRESS: 1441 Embarcadero (STREET) Oakland (CITY) Alameda (COUNTY) 94606 (ZIP)

CROSS STREET: 10th Street Avenue

TYPE OF AREA ☐ COMMERCIAL ☒ INDUSTRIAL ☐ RURAL ☐ RESIDENTIAL ☐ OTHER

TYPE OF BUSINESS ☐ RETAIL FUEL STATION ☐ FARM ☒ OTHER ship yard

IMPLEMENTING AGENCIES

LOCAL AGENCY / AGENCY NAME: Alameda County Health Agency

CONTACT PERSON: Mr. Barney Chan

PHONE: (510) 271-4320

REGIONAL BOARD: San Francisco Bay Region

CONTACT PERSON: Mr. Eddy So

PHONE: (510) 464-1255

SUBSTANCES INVOLVED

(1) NAME: Unleaded gasoline — QUANTITY LOST (GALLONS): ☒ UNKNOWN

(2) ☐ UNKNOWN

DISCOVERY/ABATEMENT

DATE DISCOVERED: 09/24/91

HOW DISCOVERED ☐ INVENTORY CONTROL ☐ SUBSURFACE MONITORING ☐ NUISANCE CONDITIONS ☐ TANK TEST ☒ TANK REMOVAL ☐ OTHER

DATE DISCHARGE BEGAN: ☒ UNKNOWN

HAS DISCHARGE BEEN STOPPED? ☒ YES ☐ NO IF YES, DATE 09/24/91

METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY)

☒ REMOVE CONTENTS ☐ REPLACE TANK ☒ CLOSE TANK ☐ REPAIR TANK ☐ REPAIR PIPING ☐ CHANGE PROCEDURE ☒ OTHER remove tank

SOURCE/CAUSE

SOURCE OF DISCHARGE: ☐ TANK LEAK ☒ UNKNOWN ☐ PIPING LEAK ☐ OTHER

TANKS ONLY/CAPACITY: 400 GAL. AGE ____ YRS ☒ UNKNOWN

MATERIAL: ☐ FIBERGLASS ☒ STEEL ☐ OTHER

CAUSE(S): ☐ OVERFILL ☐ RUPTURE/FAILURE ☐ CORROSION ☒ UNKNOWN ☐ SPILL ☐ OTHER

CASE TYPE

CHECK ONE ONLY

☐ UNDETERMINED ☐ SOIL ONLY ☒ GROUNDWATER ☐ DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)

CURRENT STATUS

CHECK ONE ONLY

☒ SITE INVESTIGATION IN PROGRESS (DEFINING EXTENT OF PROBLEM) ☐ CLEANUP IN PROGRESS ☐ SIGNED OFF (CLEANUP COMPLETED OR UNNECESSARY) ☐ NO ACTION TAKEN ☐ POST CLEANUP MONITORING IN PROGRESS ☐ NO FUNDS AVAILABLE TO PROCEED ☐ EVALUATING CLEANUP ALTERNATIVES

REMEDIAL ACTION

CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)

☐ CAP SITE (CD) ☐ EXCAVATE & DISPOSE (ED) ☐ REMOVE FREE PRODUCT (FP) ☐ ENHANCED BIO DEGRADATION (IT) ☐ CONTAINMENT BARRIER (CB) ☐ EXCAVATE & TREAT (ET) ☐ PUMP & TREAT GROUNDWATER (GT) ☐ REPLACE SUPPLY (RS) ☐ TREATMENT AT HOOKUP (HU) ☐ NO ACTION REQUIRED (NA) ☐ OTHER (OT)

COMMENTS

Laboratory analysis results for soil and ground-water samples received 10/17/91

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Director

Telephone Number: (415)

October 16, 1991

Mr. George Brooks
Mgr. Environmental Control
Crowley Maritime Corporation
2401 Fourth Avenue
P.O. Box 2287
Seattle, Washington 98111

Re: Work Plan for the Western Section of Yard I at 1441 Embarcadero, Oakland CA 94606, dba Pacific Dry Dock

Dear Mr. Brooks:

This letter is to acknowledge the conversation I had with Ms. Yvonne Lembi of Versar regarding the adequacy of their proposed work plan for the western section of Yard I. In general, their proposed plan is acceptable with the addition/clarification of the following items mentioned in our October 15th conversation:

1. The proposed boring in the center of the site, south of the underground storage tank will be moved closer to the excavation pit area as an attempt to define the lateral extent of contamination of the former fuel tank.

2. Because of the potential source of waste oil near the waste oil tank and the storage tanks and because of the observation of oil in the water from the underground fuel tank pit, a minimum of one soil and one water sample on the southly side of these three locations will be analyzed for the full waste oil parameters i.e. Total Petroleum Hydrocarbons as gasoline and diesel, TPHg and TPHd, BTEX, Oil and Grease by Method 5520 E and F, Chlorinated Hydrocarbons by Method 8010 or 8240, Semi-volatiles by Method 8270 and the metals, cadmium, chromium, lead, nickel and zinc. All other samples which are analyzed should be analyzed for the stated parameters in the work plan i.e. Oil and Grease by 5520 E and F, TPHd and TPHg, BTEX and semi-volatiles by Method 8270.

With these items taken into account, you may proceed with this subsurface investigation. Please note this is an approval for only the western section of Yard I. The eastern section of Yard I and Yard II will be reviewed individually. Please contact me at (510) 271-4320 should you have any questions regarding this letter.

Sincerely,

Barney M Chan

Barney M. Chan
Hazardous Materials Specialist

cc: G. Jensen, Alameda County District Attorney Office
R. Hiett, RWQCB
Y. Lembi, Versar
H. Hatayama, DOHS
D. Schoenholtz, Port of Oakland

1441WestPDD

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

FACSIMILE TRANSMITTAL

TO:

1-916-962-2678 — Floor/Room # _____
Fax Phone Number

Name: Yvonne Lembi - Versar
Title/Section

Agency: _____

Address: _____

Phone #: ( ) _____

FROM:

_____ — Floor/Room # _____
Fax Phone Number

Date: 9-11-91 — Time Sent: 1100 am

Sender: Barney Chan — Hazardous Materials Specialist
Title/Section

Phone #: (510) 271-4320

Number of Pages Including Transmittal Sheet: 4

Special Instructions/Comments:

Yvonne, here is a copy of Alameda County's fee ordinance allowing the county to charge $67/hr for plan review. I hope this will expedite the submission of the $670. deposit for our oversight @ Pacific Dry Dock. If not please give me a call - Barney Chan

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621
PHONE NO. 415/271-4320

UNDERGROUND TANK CLOSURE/MODIFICATION PLANS

1. Business Name _____

   Business Owner _____

2. Site Address _____

   City _____ Zip _____ Phone _____

3. Mailing Address _____

   City _____ Zip _____ Phone _____

4. Land Owner _____

   Address _____ City, State _____ Zip _____

5. EPA I.D. No. _____

6. Contractor _____

   Address _____

   City _____ Phone _____

   License Type _____ ID# _____

7. Consultant _____

   Address _____

   City _____ Phone _____

TRANSMISSION REPORT

TIME : SEP 11 '91 11:06
TEL NUMBER : 415-568-3706
NAME : ALCO ENV HLTH HAZMAT

NBR	CARD#	FILE	DATE	TIME	DURATION	PGS	TO	MODE		STATUS
032		106	SEP 11	11:03	0:02'36"	4	9169622678	G3	01	OK

Versar INC. SACRAMENTO

August 16, 1991

Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

Reference: Deposit Submittal for 1441 The Embarcadero, Oakland, California; Versar Job No. 7703.26

To Whom It May Concern:

Enclosed please find a check for $670. This sum is to be applied toward any fees incurred in the review of the investigation and remediation plans for 1441 The Embarcadero, Oakland, California. The site under investigation at that address is the Pacific Drydock and Repair Yard I.

If you have any questions or concerns about this matter, please contact me or Stephen Wilson at (916)962-1612.

Sincerely,

Yvonne M. Lembi

Yvonne M. Lembi
Geologist

Enclosure

91 SEP 23 AM 8:57

Don Schwenkler

CROWLEY MARITIME CORPORATION

May 31, 1991

Mr. Barney Chan
Alameda County Health Care Services Agency
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, CA 94621

RE: Pacific Dry Dock & Repair, 320 and 1440 Embarcadero, Oakland

Dear Mr. Chan,

As requested in your April 12, 1991 letter, we are submitting a Work Plan for a contamination investigation of the western portion of Yard 1 at 1440 Embarcadero. This work plan was under development when your letter was received. Work plans for the remaining part of Yard 1 and Yard 2 are presently being developed and will be forwarded when complete.

If any questions arise concerning this matter, feel free to contact me at (206) 443-7882.

Sincerely,

George A. Brooks

George A. Brooks
Manager, Environmental Control

Enclosure

91 JUN 03 AM 11:15

PACIFIC DIVISION
Crowley Maritime Plaza, Post Office Box 2287, Seattle, Washington 98111 - (206) 443-8100 - Telex 47-40099
101 California Street, San Francisco, California 94111-5875 - (415) 546-2500 - Telex 34-0578
201 Danner Avenue, Suite 200, Anchorage, Alaska 99502 - (907) 349-8551 - Telex 090-25403
Post Office Box 17178, Portland, Oregon 97217-0178 - (503) 283-1244 - Telex 36-0935

Project Specialist (print) Barney Chan
OK 5/28/91 Blka

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621
PHONE NO. 415/271-4320

ACCEPTED

DEPARTMENT OF ENVIRONMENTAL HEALTH
470 - 27th Street, Third Floor
Oakland, CA 94612
Telephone: (415) 874-7237

These plans have been reviewed and found to be acceptable and essentially meet the requirements of State and local health laws. Changes to your plans indicated by this Department are to assure compliance with State and local laws. The project proposed herein is now released for issuance of any required building permits for construction.

One copy of these accepted plans must be on this job and available to all contractors and craftsmen involved with the removal.

Any change or alterations of these plans and specifications must be submitted to this Department and to the Fire and Building Inspection Department to determine if such changes meet the requirements of State and local laws. Notify this Department at least 48 hours prior to the following required inspections:

_____Removal of Tank and Piping
_____Sampling
_____Final Inspection

Issuance of a permit to operate is dependent on compliance with accepted plans and all applicable laws and regulations.

THERE IS A FINANCIAL RESPONSIBILITY REQUIREMENT FOR THIS PLAN

UNDERGROUND TANK CLOSURE PLAN
*** * * Complete according to attached instructions * * ***

1. **Business Name** Pacific Dry Dock and Repair Yard

   Business Owner Crowley Maritime Corporation

2. **Site Address** 1441 Embarcadero

   City Oakland **Zip** 94606 **Phone** (415)839-4020

3. **Mailing Address** P.O. Box 2287

   City Seattle **Zip** 98111 **Phone** (206)443-7882

4. **Land Owner** Port of Oakland

   Address 530 Water Street **City, State** Oakland, CA **Zip** 94607

5. **Generator name under which tank will be manifested** _____

   Crowley Maritime Corporation

   EPA I.D. No. under which tank will be manifested CAD 009140864

rev 12/90

6. Contractor Environmental Control Industries

Address 2700 Teagarden Street

City San Leandro Phone (415)614-0180

License Type A, Asbestos, B2 ID# 425101

7. Consultant Versar Inc.

Address 5330 Primrose Drive, Suite 228

City Fair Oaks, CA 95628 Phone (916)962-1612

8. Contact Person for Investigation

Name R. Stephen Wilson Title Senior Geologist

Phone (916)962-1612

9. Number of tanks being closed under this plan One

Length of piping being removed under this plan Less than 5 ft

Total number of tanks at facility One

10. State Registered Hazardous Waste Transporters/Facilities (see instructions).

** Underground tanks are hazardous waste and must be handled ** as hazardous waste

a) Product/Residual Sludge/Rinsate Transporter

Name Erickson EPA I.D. No. CAD 009466392

Hauler License No. #019 License Exp. Date 5/92

Address 255 Parr Boulevard

City Richmond State CA Zip 94801

b) Product/Residual Sludge/Rinsate Disposal Site

Name Gibson Pilot EPA I.D. No. CAD043260702

Address 475 Seaport Boulevard

City Redwood City State CA Zip 94063

c) Tank and Piping Transporter

Name Erickson EPA I.D. No. CAD 009466392

Hauler License No. #019 License Exp. Date 5/92

Address 255 Parr Boulevard

City Richmond State CA Zip 94801

d) Tank and Piping Disposal Site

Name Erickson EPA I.D. No. CAD 009466392

Address 255 Parr Boulevard

City Richmond State CA Zip 94801

11. Experienced Sample Collector

Name John C. Bird, R.E.A.

Company Versar Inc.

Address 5330 Primrose Drive, Suite 228

City Fair Oaks State CA Zip 95628 Phone (916)962-1612

12. Laboratory

Name Trace Analytical Laboratories

Address 3423 Investment Boulevard, Unit B

City Hayward State CA Zip 94545

State Certification No. 1199

13. Have tanks or pipes leaked in the past? Yes [ ] No [X]

If yes, describe.

14. Describe methods to be used for rendering tank inert

25 lbs of dry ice per 1,000 gallons tank capacity.

Before tanks are pumped out and inerted, all associated piping must be flushed out into the tanks. All accessible associated piping must then be removed. Inaccessible piping must be plugged.

The Bay Area Air Quality Management District (771-6000), along with local Fire and Building Departments, must also be contacted for tank removal permits. Fire departments typically require the use of explosion proof combustible gas meters to verify tank inertness. It is the contractor's responsibility to bring a working combustible gas meter on site to verify tank inertness.

15. Tank History and Sampling Information

Tank		Material to be sampled (tank contents, soil, ground-water, etc.)	Location and Depth of Samples
Capacity	Use History (see instructions)		
400 gallons	Unknown	Soil and Water	Sidewall soil sample above the water table. and water if present

One soil sample must be collected for every 20 feet of piping that is removed. A ground water sample must be collected should any ground water be present in the excavation.

Excavated/Stockpiled Soil	
Stockpiled Soil Volume (Estimated) 25 yd3	**Sampling Plan** Random sampling grid, as per RWQCB guidlines. 1 discrete / 20 yd^3

Stockpiled soil must be placed on bermed plastic and must be completely covered by plastic sheeting.

16. **Chemical methods and associated detection limits to be used for analyzing samples**

The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed. See attached Table 2.

Contaminant Sought	EPA, DHS, or Other Sample Preparation Method Number	EPA, DHS, or Other Analysis Method Number	Method Detection Limit
Leaded gas	GCFID (5030)		Water 50.00 ppb Soil 1.0 ppm
BTEX	EPA 8020		Water 0.5 ppb Soil 0.005ppm
~~TPH w/BTEX~~	~~EPA 8260~~		Same as above for soil
~~Total Lead~~	~~AA~~		As per California Admin. code
TEL	DHS-LUFT		
~~EDB~~	~~DHS-AB 1803~~		

17. **Submit Site Health and Safety Plan (See Instructions)**

18. Submit Worker's Compensation Certificate copy

Name of Insurer National Union Fire Insurance Co.

19. Submit Plot Plan (See Instructions)

20. Enclose Deposit (See Instructions)

21. Report any leaks or contamination to this office within 5 days of discovery. The report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report form. (see Instructions)

22. Submit a closure report to this office within 60 days of the tank removal. This report must contain all the information listed in item 22 of the instructions.

I declare that to the best of my knowledge and belief the statements and information provided above are correct and true.

I understand that information in addition to that provided above may be needed in order to obtain an approval from the Department of Environmental Health and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Safety and Health Administration) requirements concerning personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Specialist at least three working days in advance of site work to schedule the required inspections.

Signature of Contractor

Name (please type) Kurt Zimmerman, ECI

Signature _____

Date 5/7/91

Signature of Site Owner or Operator

Name (please type) John C. Bird, Versar signing for Crowley Maritime Corp

Signature John C Bird

Date 5/8/91

ACORD. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY) 5/05/91

PRODUCER

DSI INSURANCE SERVICES
1737 N. FIRST STREET, SUITE 400
SAN JOSE, CA 95112
DORA SHUEY
(408) 436-7180
(408) 436-7187 (FAX)

INSURED

ENVIRONMENTAL CONTROL INDUSTRIES
2700 TEAGARDEN STREET
SAN LEANDRO, CA 94577

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY LETTER	A	NATIONAL UNION FIRE INSURANCE CO.
COMPANY LETTER	B	MASSACHUSETTS BAY (HANOVER)
COMPANY LETTER	C	WINDSOR INSURANCE LIMITED
COMPANY LETTER	D	
COMPANY LETTER	E	

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITIONS OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS	
	GENERAL LIABILITY				GENERAL AGGREGATE	$ 3,000
	X COMMERCIAL GENERAL LIABILITY				PRODUCTS-COMP/OPS AGGREGATE	$ 1,000
A	X CLAIMS MADE X OCCUR	AA17778447	8/31/90	8/31/91	PERSONAL & ADVERTISING INJURY	$ 1,000
	X OWNER'S & CONTRACTOR'S PROT.				EACH OCCURRENCE	$ 1,000
	X "TRUE OCCURRENCE"				FIRE DAMAGE (Any one fire)	$ 50
	X ASBESTOS ABATEMENT				MEDICAL EXPENSE (Any one person)	$ 1
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT	$ 1,000.
	ANY AUTO					
	ALL OWNED AUTOS				BODILY INJURY (Per person)	$
B	X SCHEDULED AUTOS	ADM3746014	8/31/90	8/31/91		
	X HIRED AUTOS				BODILY INJURY (Per accident)	$
	X NON-OWNED AUTOS					
	GARAGE LIABILITY				PROPERTY DAMAGE	$
	EXCESS LIABILITY				EACH OCCURRENCE	AGGREGATE
C		EXCESS OF GL & AUTO	4/1/91	8/31/91	$ 4,000,	$ 4,000,
	X OTHER THAN UMBRELLA FORM	WTI01221				
	WORKER'S COMPENSATION				STATUTORY	
	AND				$ 1,000, (EACH ACCIDENT)	
A	EMPLOYERS' LIABILITY	RMWC4196736	4/1/91	4/1/92	$ 1,000, (DISEASE-POLICY LIMIT)	
					$ 1,000, (DISEASE-EACH EMPLOYEE)	
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

THE AGGREGATE LIMIT OF LIABILITY IS APPLICABLE TO ALL OF THE NAMED INSURED'S SCHEDULED PROJECT.
"FOR INFORMATION ONLY".

CERTIFICATE HOLDER

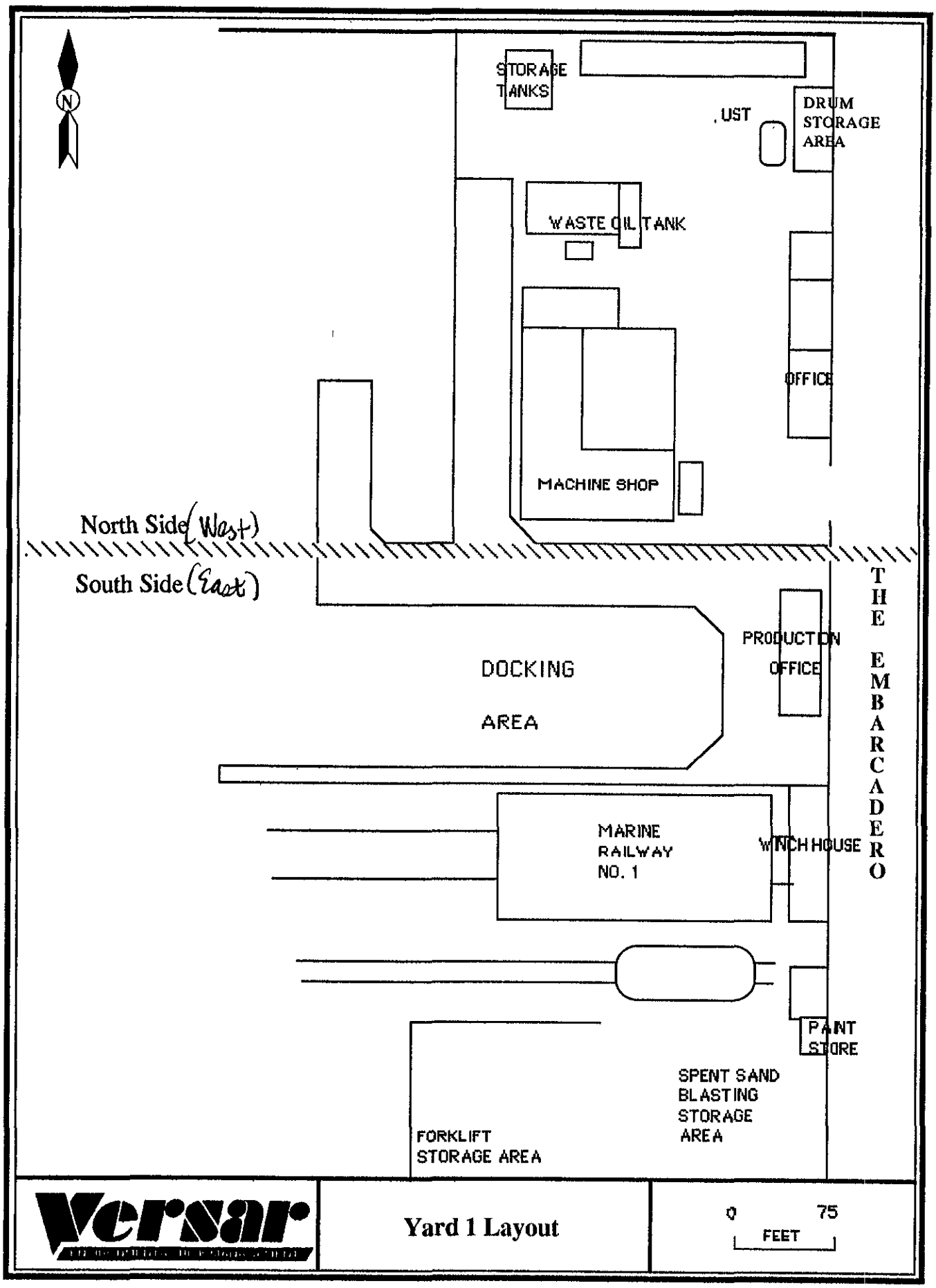
"FOR INFORMATION ONLY"

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAY WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAI SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON TH COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

JAMES W. UNTIEDT


STORAGE TANKS
UST
DRUM STORAGE AREA
WASTE OIL TANK
OFFICE
MACHINE SHOP
North Side (West)
South Side (East)
DOCKING AREA
PRODUCTION OFFICE
THE EMBARCADERO
MARINE RAILWAY NO. 1
WINCH HOUSE
PAINT STORE
SPENT SAND BLASTING STORAGE AREA
FORKLIFT STORAGE AREA
Versar
Yard 1 Layout
0
75
FEET

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

May 6, 1991

Mr. George Brooks
Mgr. Environmental Control
Lost Control and Environmental Affairs
Crowley Maritime Corporation
2401 Fourth Avenue
P.O. Box 2287
Seattle, Washinton 98111

Re: Pacific Dry Dock, 320 and 1441 Embarcadero, Oakland CA 94606

Dear Mr. Brooks:

This letter is to acknowledge that Alameda County Environmental Health, Hazardous Materials Division agrees to an extension of thirty (30) days from the previously agreed to date, May 12, 1991, for the submittal of a workplan to address the contamination at the above referenced locations. In the interim,our office will be in contact with the Regional Water Quality Control Board (RWQCB) to determine which items of the remediation will be delegated to to Alameda County Environmental Health and which items they will oversee. It was suggested that a meeting of the concerned parties should be arranged once our roles are defined. You will be kept abreast with any changes in our office's oversight. Until this issue is resolved,it would be advisable to send remediation proposals and other related communication to both our agencies.

Please contact me at (415) 271-4320 should you have any questions.

Sincerely,

Barney M. Chan,
Hazardous Materials Specialist

cc: Gil Jensen, Alameda County District Attorney, Consumer and Environmental Protection Division
Lester Feldman and Dave Barr, RWQCB
H. Hatayama,DOHS
R. Hartsock, Pacific Dry Dock Repair Co., 1441 Embarcadero, Oakland 94606
D. Schoenholtz and M. Heffes, Port of Oakland
E. Howell, Chief, Hazardous Materials Division

pddock1 #4

BR

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

May 3, 1991

Mr. George Brooks
Mgr. Environmental Control
Lost Control and Environmental Affairs
Crowley Maritime Corporation
2401 Fourth Avenue
P.O. Box 2287
Seattle, Washinton 98111

Re: Pacific Dry Dock, 320 and 1441 Embarcadero, Oakland CA 94606

Dear Mr. Brooks:

This letter is to acknowledge that Alameda County Environmental Health, Hazardous Materials Division agrees to an extension of thirty (30) days from the previously agreed to date, May 12, 1991, for the submittal of a workplan to address the contamination at the above referenced locations. In the interim, our office will be in contact with the Regional Water Quality Control Board (RWQCB) to determine which items of the remediation will be delegated to to Alameda County Environmental Health and which items they will oversee. It was suggested that a meeting of the concerned parties should be arranged once our roles are defined. You will be kept abreast with any changes in our office's oversight. Until this issue is resolved, it would be advisable to send remediation proposals and other related communication to both our agencies.

Please contact me at (415) 271-4320 should you have any questions.

Sincerely,

Barney M. Chan,
Hazardous Materials Specialist

cc: Gil Jensen, Alameda County District Attorney, Consumer and Environmental Protection Division
Lester Feldman and Dave Barr, RWQCB
H. Hatayama, DOHS
R. Hartsock, Pacific Dry Dock Repair Co., 1441 Embarcadero, Oakland 94606
D. Schoenholtz and M. Heffes, Port of Oakland
E. Howell, Chief, Hazardous Materials Division

pddock1 #4

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

Certified #P 062 128 351

April 12, 1991 , 5/12 ext 6/12

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

Mr. Charles Nalen
Vice President
Lost Control and Environmental Affairs
Crowley Maritime Corporation
2401 Fourth Avenue
P.O. Box 2287
Seattle, Washington 98111

Re: Pacific Dry Dock, 320 and 1441 Embarcadero, Oakland CA 94606

NOTICE OF VIOLATION

Dear Mr. Nalen:

Alameda County Environmental Health, Hazardous Materials Division is the County agency which has assumed the role of enforcing the State of California's hazardous materials laws and regulations as stated in the California Code of Regulations, Title 22 Division 4 (22CCR) and the California Health and Safety Code, Division 20 (CH&SC). Our agency assumes this role by a Memorandum of Understanding with the California Department of Health Services (DOHS). We also have been given the Delegation of Responsibility by the Regional Water Quality Control Board to act in their behalf to protect the waters of the State.

Our division has recently received the Site Assessment Report for the Pacific Dry Dock and Repair Yard located at the above referenced locations as prepared for you by Versar Inc.. The report recounts the study of soil sampling and analytical results performed at these two sites in December 1989 and January 1990. A total of twelve (12) soil samples were collected from Yard 1, 1441 Embarcadero, and a total of sixteen (16) samples were collected from Yard 2, 320 Embarcadero. These samples were both surface and subsurface samples ranging from 0.5 to 5.0 ft. in depth. Results indicate significant total petroleum hydrocarbon contamination on both yards, by EPA Method 418.1, with the highest level noted to be 109,000 mg/kg (ppm). There was also found semi-volatile organic compounds including tetrachloroethylene (TCE) and pyrene, and significant levels of heavy metals, particularly copper and lead above total threshhold limit concentrations (TTLC) and soluble threshhold limit concentrations (STLC).

Because of these results these properties are considered to have experienced unauthorized disposal of hazardous materials, the extent of which must be determined and remediated.

You should be made aware of Section 25189.5 (d) of the California Health and Safety Code which states that the disposal of any hazardous waste at an unpermitted facility is potentially subject to civil fines of not less than five thousand dollars ($5000) or more than one hundred thousand dollars ($100,000) for each day of the violation. In accordance with Section 66328 of CCR, T22 a plan of correction must be submitted to our office within 30 days of receipt of this letter. The plan should specify those actions Crowley Maritime Corporation will take to address this violation.

Attached is the contents of a "typical" workplan specific to the release of a petroleum hydrocarbon. Your plan should also address the other contaminants found in this report. Please send copies of all reports, analytical results, workplans etc. to our Division and to the Regional Water Quality Control Board to the attention of Mr. Lester Feldman. Their address is 2101 Webster St., 4th Floor, Oakland CA 94612.

Please submit two checks for $500.00 each, payable to the County of Alameda for our oversight of these site remediations. Our time will be debited from these fees at a rate of $67.00 per hour. Any remainder, upon completion of the project, will be refunded to you. Note that Section 3-141.6 of the Ordinance Code of the County of Alameda provides for deposits for the review of plans.

Please contact the undersigned at (415) 271-4320 should you have any questions regarding this letter.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

enclosure: workplan to Mr. Nalen only

cc: Gil Jensen, Alameda County District Attorney, Consumer and Environmental Protection Division
Lester Feldman, RWQCB
H. Hatayama, DOHS
Robert Hartsock, Pacific Drydock and Repair Co., 1441 Embarcadero, Oakland 94606
D.Schoenholtz and M. Heffes, Port of Oakland
Edgar Howell, Chief, Hazardous Materials Division

SR

Plan for determining extent of soil contamination on site.

B. Describe method and criteria for screening clean versus contaminated soil. If onsite soil aeration/bioremediation is to be utilized, then provide a complete description of method that includes:

- volume and rate of aeration/turning
- method of containment and cover
- wet weather contingency plans
- permits obtained

C. Describe security measures

IV. Plan for determining ground water contamination

- Construction and placement of wells should adhere to the requirements of the "Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks". Provide a description of placement and rationale for the location of monitoring wells including a map to scale.

- The placement and number of wells must be able to determine the extent and magnitude of the free product and dissolved product plumes.

A. Drilling method for construction of monitoring wells

- expected depth and diameter of monitoring wells
- date of expected drilling
- casing type, diameter, screen interval, and pack and slot sizing techniques
- depth and type of seal
- development method and criteria for adequacy of development
- plans for cuttings and development water

B. Ground water sampling plan

- method for free product measurement, observation of sheen
- well purging procedures
- sample collection procedures
- chain of custody procedures
- procedures for determining ground water gradient

Below lists the contents of a "typical" workplan as requested for after an unauthorized petroleum fuel release is observed.

Our office will be the lead agency overseeing both the soil and groundwater remediation of this site. The Regional Water Quality Control Board (RWQCB) is currently unable to oversee the large number of contamination cases within Alameda County and has delegated the handling of this case to our Division. We will be in contact with the RWQCB in order to provide you with guidance concerning the RWQCB's remediation requirements. However, please be aware that you are responsible for diligent actions to protect waters of the State.

To complete contaminant assessment and begin any possible remediation, we require that you submit a work plan which, at a minimum, addresses the items listed below and presents a timetable for their completion. Please submit this workplan within 30 days of the date of this letter.

I. Introduction

A. Statement of scope of work
B. Site map showing location of existing and past underground storage tanks and associated piping
C. Site History
- provide historical site use and ownership information. Include a description of types and locations of hazardous materials used on site.

II. Site Description

A. Vicinity description including hydrogeologic setting
B. Initial soil contamination and excavation results
- provide sampling procedures used
- indicate depth to ground water
- describe soil strata encountered
- provide soil sampling results, chain of custody forms, identity of sampler
- describe methods for storing and disposal of all soils

III. Plan for determining extent of soil contamination on site

A. Describe approach to determine extent of lateral and vertical contamination
- identify subcontractors, if any
- identify methods or techniques used for analysis
- provide sampling map showing all lines of excavation and sampling points
- if a step out procedure is used, define action level for determination of "clean" isopleth
- provide chain of custody forms, lab analysis results, all receipts and manifests, & identity of sampler

Plan for determining groundwater contamination.

C. Sampling schedule

- measure free product weekly for first month following well installation
- measure free product and dissolved constituents monthly for first three months.
- after first three months monitor quarterly.
- monitoring must occur a minimum of one year.

V. Provide a site safety plan

VI Development of a Remediation Plan.

A. The Remediation Plan is to include a time schedule for remediation, and, at minimum, must address the following issues:

- removal of all free product. Manual bailing is not acceptable as a recovery system. Actual amount of free product removed must be monitored and tabulated.

- remediation of contaminated soils and dissolved constituents must follow RWQCB's resolution No. 68-16.

- soils containing 1,000+ ppm of hydrocarbons must be remediated. Soils containing between 100 and 1,000 ppm must be remediated unless sufficient evidence is provided which indicates no adverse effects on groundwater will occur. Clean up of soils to 100 ppm is strongly recommended.

- design of remedial action system should be based on a review of hydrogeologic and water quality data and on an evaluation of mitigation alternatives. The determination of probable capture zone(s) of extraction system(s) should be based on aquifer characteristics as determined by aquifer test data

VII Reporting

A. Technical reports should be submitted with a cover letter from your company. The letter must be signed by an authorized representative.

B. Monthly reports must be submitted for the next three months with the first report due 90 days from the above letter date.

C. Quarterly reports must be submitted with the first report due 90 days after the final monthly report. These reports should describe the status of the investigation and cleanup.

D. All reports and proposals must be signed by a California-Certified Engineering Geologist, California Registered Geologist or a California-Registered Civil Engineer (see page 2, 2 June 1988 RWQCB document). A statement of qualifications should be included in all reports. Initial tank removal and soil sampling does not require such expertise; however, borehole and monitoring well installation and logging, and impact assessments do require such a professional.

BC

P 062 128 351

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to
Street and No.
P.O. State and ZIP Code
Postage
Certified Fee
Special Delivery Fee
Restricted Delivery Fee
Return Receipt Showing to whom & Date Delivered
Return Receipt Showing to whom, Date, & Addressee's Address
TOTAL Postage and Fees
Postmark or Date

PS Form 3800, June 1985

BC

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. (Extra charge) 2. ☐ Restricted Delivery (Extra charge)

3. Article Addressed to:
Mr. Charles Nalen
Vice President
Lost Control and Env. Affair
Crowley Maritime Corp.
2401 Fourth Avenue
Seattle, Washington 98111

4. Article Number
P 062 128 351

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Address
X

6. Signature — Agent
X M. Cole

7. Date of Delivery
4-22-91

8. Addressee's Address (ONLY if requested and fee paid)
BOX SECTION
MAIN POST OFFICE
SEATTLE, WA 98111

PS Form 3811, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT