5/14/96 Review VERSAR "Letter Report of Quarterly Groundwater Monitoring - March 5, 1996.

5/28/96 Review VERSAR "Site Assessment Report"-dated 5/6/96.

5/29/96 Finish reviewing VERSAR report. On February 28, 1996, eight (8) soil borings were drilled and one monitoring well (MW-6) was installed on the eastern section of the property to monitor petroleum hydrocarbon contamination associated with the former UST which was removed in February of 1994. Analytical results of groundwater samples collected during the March 6, 1996 sampling event detected benzene at a concentration of 7.5 ppb (MW-1). The other five wells (MW-2 through MW-6) were found to contain non-detectable concentrations of benzene. TPHd was detected in wells MW-1, MW-2, MW-5 and MW-6 at concentrations of 320 ppb, 53 ppb, 98 ppb and 77 ppb, respectively. Review California Enclosed Bays and Estuaries Plan (December 1993). Water quality objectives to protect saltwater aquatic life for lead is 5.6 ppb and for benzene is 21 ppb (4-day average).

7/9/96? Call from Stephen ~~Crowley~~ Wilson of Crowley Marine Services. He wants to schedule a meeting for July 16th at 10:00am. (206)443-8042.

7/15/96 Call to Stephen Wilson of Crowley Marine to confirm a meeting for tomorrow at 10:00 am. Review file for closure status. Informed Mr. Wilson that additional lead-contaminated soils need to be removed in BH18 and BH32 areas. Call to Paul Graff of VERSAR requesting information on soil borings SB-1 and SB-4. It appears soil samples were collected, put on hold, and not analyzed? He will call me back. Confer with BC.

10/1/96 Review RWQCB "Transmittal of Cleanup and Abatement Order For Crowley Marine Services, Pacific Drydock Yards I and II, Oakland Inner Harbor"-dated August 5, 1996. **This cleanup and abatement order requires the removal of the loose sand blast grit in the inner-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.**

1/14/97 Draft letter reducing GW monitoring from quarterly to semi-annually for BC review.

1/15/97 Final draft of letter sent after BC review.

1/3/96 Call from Paul Graft of VERSAR (916)863-9323. He will be onsite on Tuesday January 9, 1996 at 11:00 am for the transportation of lead-contaminated soils previously excavated and stockpiled on site. He will call to confirm a time for both of us to be on site to discuss remediation options (rapid site assessment). Since this is right on the bay, I will confer with the Bay and Estuary regulations for acceptable lead levels to be left in place and monitored. Will review file.

1/5/95 Call from/from/to Paul Graft of VERSAR. Meeting on site 1/9/96 is postponed. Review file.

1/8/96 Call from Paul Graft of VERSAR. Meeting on site at 11:00 am is reconfirmed. No soil disposal will be taking place.

1/9/96 Review file for meeting. Review 9/18/92 Addendum to Phase II Site Investigation as requested by Mr. Graft.

1/31/96 Fax copy of RWQCB "Interim Guidelines" to Paul Graft of VERSAR.

2/13/96 Review VERSAR "Revised Workplan Addendum"-dated January 26, 1996. One monitoring well will be installed within 10' of the former UST. Eight soil borings will be advanced and soil and grab groundwater samples will be collected. Draft work plan approval letter.

2/15/96 Call from/to Paul Graft of VERSAR. Left message that work plan was approved and that he should have received a copy of the approval letter today. He returned my call and informed me that a tentative date from field activities was February 26th a Monday, asked him to reconfirm a couple of days in advance.

2/26/96 Call from Paul Graft informing me that field work woild begin on Wednesday the 28th instead of Monday the 26th at between 8-9:00 am.

2/28/96 Call from Phil Cox of VERSAR requesting that I meet him on site to discuss monitoring well construction details to the drillers (Hazmat Drilling Company). On site to witness boring and construction of the first monitoring well. Since groundwater is very shallow in this area (approximately 3' bgs), they were concerned that 3 feet of blank casing would not be sufficient for the proper construction of the well, and whether there were any county requirements concerning well construction. I informed them that to the best of my knowledge that there were no requirements on the minimum amount of blank casing to be used in the construction of groundwater monitoring wells. I stated that I was under the impression that the other GW monitoring wells on site were constructed in this same manner. I told them that 3 feet of blank casing would be appropriate.

3/26/96 Review RWQCB "Expiration of NPDES Permits-Request for Technical Information"-dated March 22, 1996.

Review VERSAR "Addendum to Phase II Site Investigation Work Plan"-dated September 18, 1992. Following the preliminary investigation, an abandoned UST was identified near the eastern corner of PDDI.

On August 17-18, 1992, VERSAR conducted a follow-up investigation of the eastern portion of the site. The investigtion included collecting a sample of the contents of the abandoned UST, advancing an additional 16 boreholes and collecting soil and groundwater samples for analysis.

Laboratory analysis of a sample of the USTs contents detected 2,000 mg/L-TPHd, 4,700 mg/L-TPHg, benzene-270 mg/L, 1,100 mg/L-toluene, 64 mg/L-ethylbenzene and 300 mg/L-total xylenes.

Soil samples collected from borings BH20E, BH21E, BH26E, BH27E, BH31E and BH32E detected TPHd in concentrations greater than 100 mg/kg.

Groundwater samples collected from three of the boreholes (BH20E, BH27E and BH32E) detected 17 mg/L, 16 mg/L and 2.7 mg/L-TPHd and 0.260 mg/L, 0.320 mg/L and <0.05 mg/L-TPHg, respectively. No benzene was detected in any of the three groundwater samples collected for analysis.

As proposed in the Phase II work plan, it was agreed upon that soils exhibiting concentrations of BTEX greater than the practical quantitation reported limits (Tri-Regional Board Recommendations), soils exhibiting concentrations of TPHg of greater than 10 mg/kg, soils exhibiting concentrations of TPHd of greater than 100 mg/kg and soils exhibiting concentrations of TOG of greater than 1000 mg/kg will be removed and stockpiled pending determination of an appropriate remedial technology. Since the time of the work plan submittal, the remedial process has been identified as on-site thermal treatment (desorption), and will run concurrently with the excavation activities.

Addendum to Phase II Site Investigation Work Plan states that the interim remediation (thermal desorption) is not an cost-effective way to approach the remediation at the site. VERSAR recommends that five (5) groundwater monitoring wells are to be installed in revised locations from those originally proposed in the work plan. Following installation of the monitoring wells, approximately 16 borings will be advanced at the site, and appropriate soil and groundwater samples collected and analyzed.

Missing information on site from approximately 12/92 to 9/95. Talked to TP concerning additional files for this site. Found other file for site. Information documenting the 12/92 to 9/95 period is missing from the additional file (1 of 2).

Review VERSAR "Addendum to Work Plan for Site Investigation"-dated October 2, 1995. VERSAR proposed to install four additional MWs (MW-7 through MW-10) in the eastern portion of the site. In addition, one monitoring well (MW-11) will be installed to evaluate the extent of potential petroleum hydrocarbon impact from the unpermitted UST which has been previously removed from the site.

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12/8/95 New case from TP. Review file and prepare site summary.

Review VERSAR Inc., "Preliminary Investigation and Evaluation Report (Pier)"-dated July 24, 1992. This initial investigation consisted of the collection of soil samples from seventeen (17) borings at the eastern section of the site. From a total of 59 soil samples collected, twenty two (22) were submitted for analysis. The soil samples were selectively analyzed for TPHg, TPHd, TOG, BTEX, SVOCs and the CAM 17 metals Antimony, Arsenic, Barium, Beryllium, Cadium, Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium and Zinc. Of the thirteen samples analyzed for metals, only two samples exceed the STLC values by ten or more times. Concentrations in sample BH13-5E, taken at a depth of 4.5-5.0' bgs, detected 590 mg/kg lead and 13 mg/kg mercury, which both exceed ten times the STLC values of 5.0 mg/L and 0.2 mg/L, respectively.

Concentrations of TOG exceeding 100 mg/kg were detected in soil samples BH2-7.5E (9,100 mg/kg), BH5-5E (270 mg/kg), BH7-7E (130 mg/kg), BH9-7.5E (1,100 mg/kg) and BH12-6E (3,400 mg/kg). Concentrations of TPHg exceeding 100 mg/kg was detected in soil sample BH2-7.5E (250 mg/kg). Concentrations of TPHd exceeding 100 mg/kg were detected in soil samples BH2-7.5E (2,200 mg/kg) and BH12-6E (140 mg/kg). Soil sample BH5-5E detected benzene-0.012 mg/kg, toluene-0.0066 mg/kg and total xylenes-0.380 mg/kg, and BH5-5E was the only soil sample detecting benzene.

Semi-volatile organic compounds, (SVOCs), including polynuclear aromatic hydrocarbons (PAHs), were detected in soil sample BH1-4.5E and BH2-7.5E. Sample BH1-4.5E contained 18 mg/kg fluorene, 4.6 mg/kg anthracene, and 0.720 mg/kg benzo(k)fluoranthene. Sample BH2-7.5E contained 37 mg/kg isophorone and 8.3 mg/kg anthracene.

Groundwater samples were collected from boring BH4, BH12 and BH16. Sample BH4 contained 74 mg/L-TPHd, 32 mg/L-TOG, and 0.00058 mg/L-toluene. Sample BH12 detected 0.570 mg/L-TPHg, 1.4 mg/L-TPHd, 24 mg/L-TOG, 0.00053 mg/Ltoluene and 0.0073 mg/L-total xylenes. Sample BH16 detected concentrations of 0.410 mg/L-TPHd, 0.0059 mg/L-toluene and 0.0016 mg/L-total xylenes. The water sample collected from boring BH4 detected 3700 mg/L total dissolved solids (TDS).

The highest concentrations of contaminants were detectedfrom soil samples collected from borings BH2, BH5, BH7, BH9 and BH12. Boring BH2 was the only boring which detected concentrations of TPHd, TPHg and TOG at concentrations greater than 100 mg/kg.

VERSARs comments indicate that a unregistered UST was discovered in Area Three and may be a potential source for the petroleum hydrocarbons found in the soil and groundwater. The source of the PAH compounds detected in Area Three has not been identified.