

Phase I ESA Update
Environmental
Investigation
for
Stone Boat Yard
Alameda, California

Elevated metals
detected on
Allied Engineering
property at
2421 Blanding.

Prepared For

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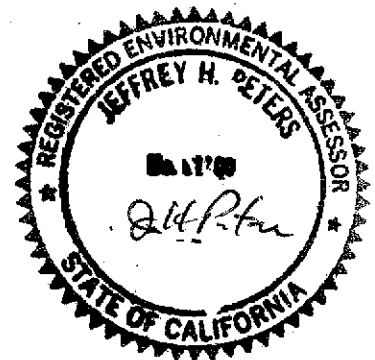
Project #240165

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adjacent to a tidal canal connected to the bay. Based on these observations it is expected that the concrete cover has effectively eliminated infiltration of contaminants directly into soil underneath the site for at least 20 years. While any contaminant that found its way below the concrete would likely have reached the brackish groundwater fairly quickly and dispersed. Results from the UST investigation indicate insignificant residual contamination of petroleum at that site which was low enough to receive a declaration of no-further action from the ACHCSA.

Other Conditions of Concern

There were no signs of stressed vegetation, barren soil, sumps, pits, or ponds that might indicate hazardous materials use or waste. No strong or unusual odors were noted at the site or in the general area. As previously indicated, virtually the entire property is under concrete.

6.0 FINDINGS AND CONCLUSIONS

Since the 1999 investigation, the most significant change at the site has been the final closure of the UST underneath the sidewalk in front of the site by filling with concrete. Olson properties has continued to dispose of waste in accordance with state law by licensed subcontractors. Contamination of the subsurface has likely been effectively eliminated by the concrete pads which cover the site.

Perhaps the most significant new issue is the area of metal shavings contaminated soil adjacent to the northeast corner of the property on land belonging to Allied Engineering and Production Company. This zone of probable contamination extends from approximately Mean Lower Low Water to the top of the bank (approximately 8 feet vertical distance) and about 30 feet along the bank slope above the cut or ditch that forms the approximate property line. Testing of a grab sample from this area reveals very high concentrations of chromium and nickel, a slightly lower concentration of lead, and moderately high concentrations of cadmium and zinc. Some of the elevated chromium and nickel may be due to digestion of stainless steel shavings which occur in the soil, rather than the actual occurrence of soluble and biologically mobile and available metallic compounds attached to soil particles. Elevated levels of lead, cadmium and zinc may also reflect other material (beside the stainless steel shavings) disposed of by Allied in the fill of this area. The total volume of these metals contained in the bank does not appear to be large, but it is difficult to ascertain how far into the bank the metal shavings material extends along the waterfront. The site is included on the LUST and CA SLIC list provided to EDR, but no current actions are proposed.

Another potentially significant environmental condition which might affect the subject property due to current or past uses is the occurrence of sediment (Bay Mud) with elevated levels of metals. The three sediment samples taken near the dock and boat ramp indicate that local concentrations of copper and zinc are elevated. This is a common concern in boatyards. This is an area of potential future environmental liability that prospective property purchasers need to be aware of. There are currently no firm criteria with which to judge action levels for low level contaminated sediments, only for highly contaminated sediments. Currently neither the County or Regional Board have an active program to routinely investigate or clean-up contaminated sediments, or sediments with

slightly to moderately elevated levels of metals. In part this is due to uncertainty over the criteria and clean-up standards that should apply, and partly this is due to the realization that it may be better to let the mildly contaminated sediments lie undisturbed, rather than re-suspend them in the water column during dredging and removal.

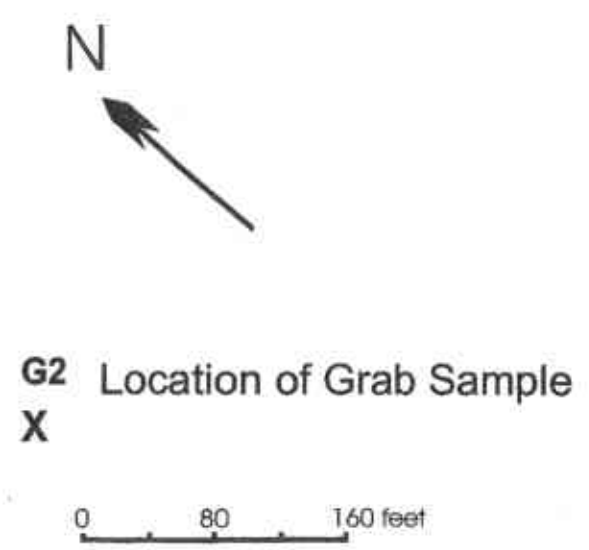
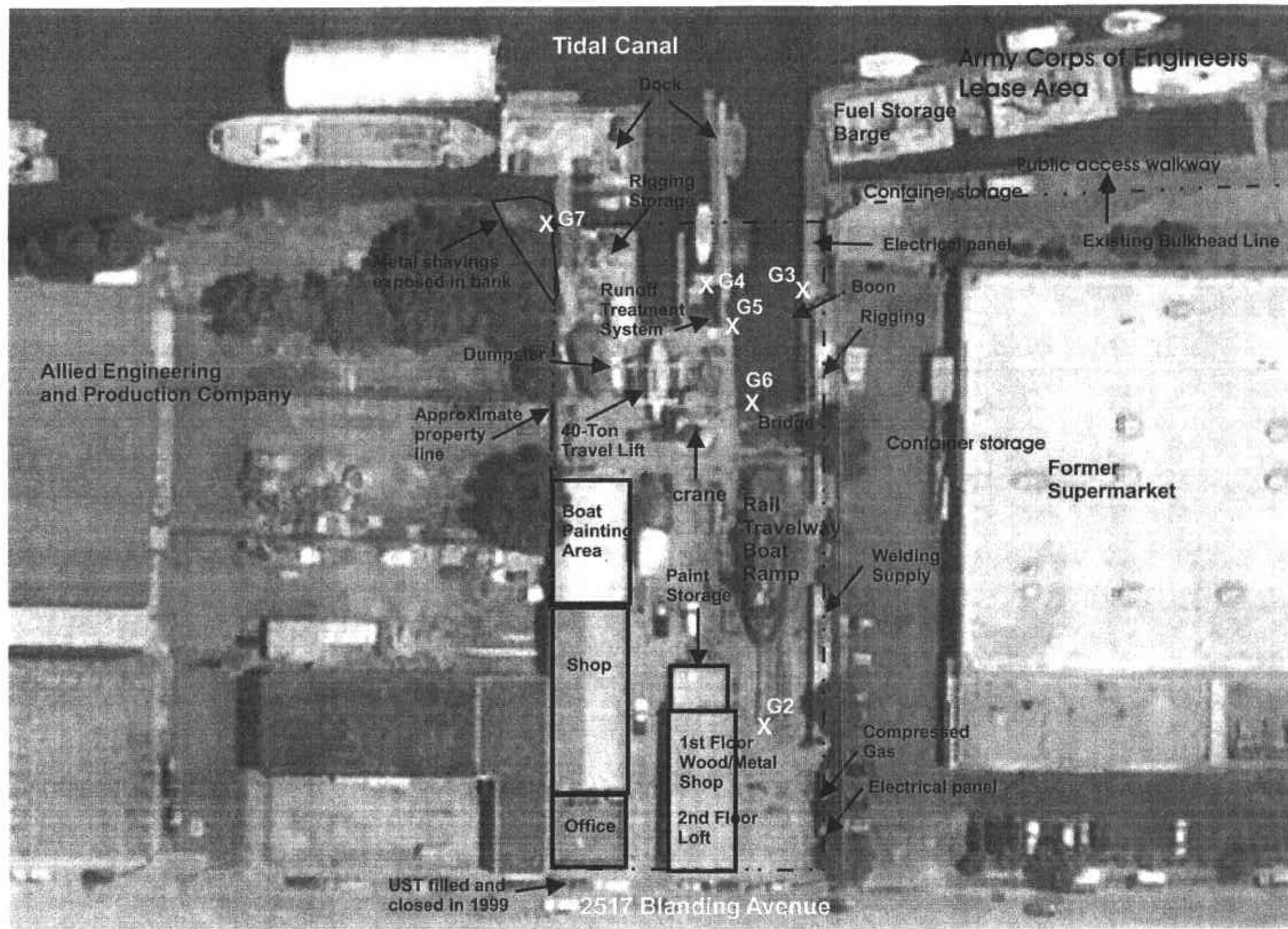
Our assessment did not discover any other evidence or information of spills or other release incidents relating to storage, use and disposal of hazardous materials. Based on the inspection of the facility and subsequent interviews with knowledgeable parties, there were no indications of any significant recent use of hazardous materials at or immediately adjacent to the property aside from the remnant metals containing fill material on the Allied property.

Based on our analysis of available reports, aerial photos and other information, it is unlikely that any of the sites listed in the environmental databases could affect the site. We do not recommend a Phase II investigation be conducted, provided the site continues in a commercial or industrial land use. Additional investigations should be conducted if there is a proposed change in land use to residential and removal of the concrete slabs is planned.

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-97 of 2517 Blanding Avenue, Alameda, California. Any exceptions to, or deletions from, this practice are described in Section 2.3 of this report.

**Table 1: Summary of Environmental Samples
Stone Boatyard Phase I**

	Site Location	metal concentration (mg/kg)					
		Cadmium	Chromium (total)	Copper	Nickel	Lead	Zinc
G2	Site 1 – Cable spool detritus	26	82	8600	37	86	13,000
G3	Site 2 – Exposure in channel concrete wall	4.5	16	75	14	6.4	93
G4	Site 3* – Sediment - end of dock	3.5	37	150	34	25	140
G5	Site 4* – Sediment - side of dock	6.0	<120	6900	28	42	3000
G6	Site 5* -Sediment - end of ramp	3.0	33	220	27	41	140
G7	Site 6 - Soil bank cut w/metal turnings	27	12,000	1100	5400	1100	600
	Title 22 TTLC for soil ^a	100	2,500	2,500	2,000	1,000	5,000
	Effective Range Median for soil (ERM) ^b	9.6	370	270	NDA	218	410
	US EPA Region 9, PRG's for Commercial/Industrial sites ^c	450	450	41,000	20,000	750	100,000
	Environmental Screening Level (ESLS) ^d (SFRWQCB) Commercial /Industrial Land Use Only	7.4	58	230	750	150	600
^a Total Threshold Limit concentration. ^b Effective Range Median from State Water Resources Control Board, March 1998. "Draft Functional Equivalent Document, Water Quality Control Policy for Guidance on the Development of Regional Toxic Hot Spot Cleanup Plans" ^c Preliminary Remediation Goals. ^d San Francisco Regional Water Quality Control Board, July 2003, ESL Summary Table B. * Samples taken from top of sediment at low tide.							



Date:	10/07/04	<p>QUESTA ENGINEERING CORP. P.O. Box 70556 · 1220 Skyway Cove Road · Point Richmond, CA 94807</p>	<p>Stone Boat Yard Phase 1 Update Alameda, California</p>	<p>FIGURE 1</p>
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