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CLEAN II Program  
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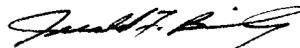
Commanding Officer  
Naval Facilities Engineering Command  
Southwest Division  
Mr. Richard Selby, Code 0233  
Building 128  
1220 Pacific Highway  
San Diego, CA 92132-5187

Subject: Submittal of Data Quality Objectives for additional Points of Interest 93 - Former Vertical Steel Structure (Near Building 49), Naval Training Center, San Diego, California

Dear Mr. Selby:

Attached are two copies of the Data Quality Objectives for additional Points of Interest 93 - Former Vertical Steel Structure (Near Building 49), Naval Training Center, San Diego, California. If further information is required, please contact me at (619) 687-8795 or Kathryn Parker at (619) 687-8714.

Very truly yours,



Jerald F. Bailey  
Project Manager

Attachments  
JFB/dc



### **3.2 POI 93 – FORMER VERTICAL STEEL STRUCTURE (NEAR BUILDING 49)**

#### **3.2.1 Statement of Problem**

Organochlorine pesticides above the PRGs were reported in soil within a former vertical steel structure (structure). The soil was excavated during a previous investigation. However, the history, use, and extent of abandoned sewer piping associated with the structure, the soil beneath the piping, and groundwater near the structure have not been adequately assessed.

##### **3.2.1.1 SITE DESCRIPTION AND OPERATIONAL HISTORY**

On January 10, 1996, the previously unknown steel structure was discovered during remedial activities at Site 7 (OHM 1996). Site 7, which is located immediately adjacent to Building 49 (POI 14), consists of a former 3,200-gallon UST. The location of the structure and the former 3,200-gallon UST is shown on Figure 3-?. Site 7 is discussed further in the next section, and POI 14 is discussed in Section 3.3.

Based on information presented in an OHM report (OHM 1996a), the structure is approximately 6 feet in diameter, and was reported to extend to a depth of approximately 20 feet bgs. The structure does not appear to have a bottom, although it is unknown if it did at one time. Four vertical, 4-inch diameter metal pipes were present within the structure. Two of these pipes extended outside of the structure, and apparently were formerly connected to an abandoned sewer pipe nearby. The purpose and historical use of the structure is currently unknown.

##### **3.2.1.2 PREVIOUS INVESTIGATIONS**

The former 3,200-gallon UST at Site 7 was removed in 1988. This former UST was reported to have contained heating oil. Subsequently, various site assessment and remedial activities have been conducted for Site 7. Details of these activities are documented in the Final Report, Site Assessment Activities, Site 7 (OHM 1995a), and the Final Closure Report, Site 7 (OHM 1996a). Three groundwater monitoring wells were also installed as part of the previous site assessments (MW-1 through MW-3). The locations of wells MW-2 and MW-3 and the former UST are shown on Figure 3-? (well MW-1 is shown on Figure 3-4, POI No. 14).

The remedial activities at Site 7 consisted of excavation of petroleum hydrocarbon-impacted soil, and confirmation soil sampling. The previously unknown structure was discovered on 10 January 1996, during these remedial activities. Subsequently, site assessment and soil excavation activities were expanded to include the location of the structure. The structure investigation activities are also presented in the Final Closure Report (OHM 1996a).

Initially, soil samples were collected from within the structure, and analyzed for VOCs, SVOCs, organochlorine pesticides/PCBs, TPH, and Title 22 metals. Organochlorine pesticides 4,4'-DDE and 4,4'-DDD were reported in soil samples at concentrations that exceeded the applicable residential PRGs.

As a result, soil from within the structure was excavated to a depth of approximately 20 feet, and the top 8 feet of the structure was removed, along with four metal pipes. Groundwater samples were collected from nearby downgradient monitoring wells MW-2

and MW-3, from outside of the structure using the backhoe bucket, and from within the structure itself. TPH, dieldrin, 4,4'-DDE, and 4,4'-DDD were reported above detection limits in the groundwater sample obtained from within the structure. These compounds were not reported above detection limits in the groundwater samples from monitoring wells MW-2 and MW-3 or in samples collected using the backhoe bucket. Concentrations of VOCs and organochlorine pesticides/PCBs were reported below detection limits in soil samples collected from four direct-push soil borings within and adjacent to the structure. The soil and water sample locations for the structure are shown on Figure 3-?.

Based on the above results, the OHM report (OHM 1996a) concluded that pesticide impacted soil appears to have been limited to within the structure, and that this soil has been removed. The report also concluded that pesticide impacted groundwater appeared to be limited to the area of the former UST excavation. However, the regulating agencies have indicated that additional investigation is necessary regarding the history, use, and discharge point of the abandoned sewer pipe, that sediment samples should be collected along the pipe, and that an additional groundwater sample should be collected near the structure to confirm the previous results (OHM 1996b).

### **3.?.2 Identification of Decisions**

The if-then statement which defines the investigation at POI 93 is as follows:

If organochlorine pesticide concentrations in soil and groundwater are below project-specific threshold limits, then NFA will be recommended. If organochlorine pesticide concentrations in soil or groundwater are above project-specific threshold limits, then further action will be considered.

### **3.?.3 Identification Of Decision Inputs**

Inputs necessary to make the decisions include plans, drawings, or other information about the structure and associated piping, geophysical data for the abandoned sewer pipe location, previous analytical results reported by OHM (OHM 1996a), and the results of soil and groundwater sample analyses for organochlorine pesticides utilizing appropriate analytical methods and method detection limits. Analytical results will be compared with project specific threshold levels to assess the need for further action. The analytical methods, method detection limits, and project specific threshold levels selected for POI 93 are presented on Table 3-?.

### **3.?.4 Study Boundaries**

The populations of interest are organochlorine pesticide concentrations in soil adjacent to the abandoned sewer pipeline, and in groundwater in the immediate vicinity of the structure.

### **3.?.5 Decision Rules**

The decision rules established for POI 93 are identified as follows:

If the organochlorine pesticide concentrations in soil and groundwater are below the project specific threshold levels, then NFA will be recommended. If the organochlorine pesticide concentrations in soil or groundwater exceed the project specific threshold levels, then FA will be considered.

### **3.7.6 Sampling Design**

The field investigation for POI 93 will be conducted by advancing one soil boring to groundwater outside and on the downgradient side of the structure. Groundwater is at approximately 9.5 feet bgs. One soil sample will be collected at the capillary fringe, and one groundwater sample will be collected from the boring. The proposed boring location is presented on Figure 3-?. In addition, one groundwater sample will be collected from existing monitoring well MW-2, located further downgradient of the structure.

The field investigation will also consist of collecting and analyzing soil samples along the abandoned sewer pipe once geophysical data, and plans and drawings if available, have identified the location of the pipe beyond what is already known. The number and locations of sample points along the pipe will be chosen after the file review and geophysical survey.

Soil and groundwater samples will be analyzed for organochlorine pesticides by U.S. EPA method 8080.

**Table 3-?**  
**Project-Specific Threshold Levels and Method Detection Limits for POI<sup>a</sup> 93**

Parameter	SOIL			WATER		
	U.S. EPA <sup>b</sup> Method Number	Project- Specific Threshold Levels <sup>c</sup> (mg/kg) <sup>d</sup>	Method Detection Limits (mg/kg)	Water Quality Criteria <sup>e</sup> (µg/L) <sup>f</sup>	Project- Specific Threshold Levels <sup>g</sup> (µg/L)	Method Detection Limits (µg/L)
<b>Organochlorine Pesticides</b>						
alpha-BHC <sup>h</sup>	8080	0.071	0.01	0.013	0.39	0.04
beta-BHC	8080	0.25	0.03	0.046	1.38	0.1
delta-BHC	8080	NE <sup>i</sup>	0.01	NE	NE	0.04
gamma-BHC (Lindane)	8080	0.34	0.01	0.16	4.8	0.04
Aldrin	8080	0.026	0.01	0.00014	<b>0.0042<sup>j</sup></b>	<b>0.04</b>
Heptachlor	8080	0.099	0.01	0.00017	<b>0.0051</b>	<b>0.04</b>
Heptachlor Epoxide	8080	0.049	0.01	0.00007	<b>0.0021</b>	<b>0.04</b>
Endosulfan I	8080	3.3	0.01	2.0 <sup>k</sup>	60.0	0.04
Endosulfan II	8080	3.3	0.01	2.0 <sup>k</sup>	60.0	0.04
Dieldrin	8080	0.028	0.01	0.00014	<b>0.0042</b>	<b>0.04</b>
Endrin	8080	20.0	0.01	0.0023	0.069	0.04
Endosulfan Sulfate	8080	NE	0.01	2.0 <sup>k</sup>	60.0	0.04
4,4'-DDE <sup>l</sup>	8080	1.3	0.01	0.0006 <sup>m</sup>	<b>0.018</b>	<b>0.04</b>
4,4'-DDD <sup>n</sup>	8080	1.9	0.01	0.0006 <sup>m</sup>	<b>0.018</b>	<b>0.04</b>
4,4'-DDT <sup>o</sup>	8080	1.3	0.01	0.0006 <sup>m</sup>	<b>0.018</b>	<b>0.04</b>
Methoxychlor	8080	330	0.02	100	3,000	0.1
alpha-Chlordane	8080	0.34	0.1	0.000081 <sup>p</sup>	<b>0.00243</b>	<b>0.5</b>
gamma-Chlordane	8080	0.34	0.1	0.000081 <sup>p</sup>	<b>0.00243</b>	<b>0.5</b>
Toxaphene	8080	0.4	0.3	0.00002	<b>0.006</b>	<b>1.0</b>

Notes:

- <sup>a</sup> POI – Point of Interest
- <sup>b</sup> U.S. EPA – United States Environmental Protection Agency
- <sup>c</sup> project-specific threshold levels for soil are based upon 1995 Region IX preliminary remediation goals for residential land use set by the United States Environmental Protection Agency, February 1995 update (U.S. EPA 1995)
- <sup>d</sup> mg/kg – milligrams per kilogram
- <sup>e</sup> water quality criteria, except as noted, are obtained from the California Enclosed Bays and Estuaries Plan (SWRCB 1993), the numbers represent the most conservative (lowest) value from the Water Quality Objectives for human-health and saltwater aquatic life protection
- <sup>f</sup> µg/L – micrograms per liter
- <sup>g</sup> project threshold levels for water include a factor of 30 to the water quality criteria due to dispersion and tidal dilution prior to discharge into surface water
- <sup>h</sup> BHC – benzene hexachloride

(table continues)

**Table 3-?** (continued)

<sup>i</sup> NE – not established

<sup>j</sup> **bolded values indicate project threshold levels less than the method detection limits; therefore the detection limits will be used as the project threshold levels for these compounds**

<sup>k</sup> additive concentration for Endosulfan I, Endosulfan II, Endosulfan Sulfate

<sup>l</sup> DDE – dichlorodiphenyldichloroethane

<sup>m</sup> additive concentration for 4,4'-DDE, 4,4'-DDD, 4,4'-DDT

<sup>n</sup> DDD – dichlorodiphenyldichloroethene

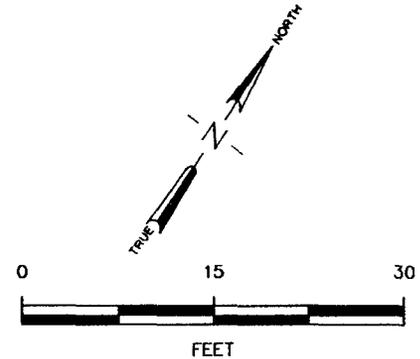
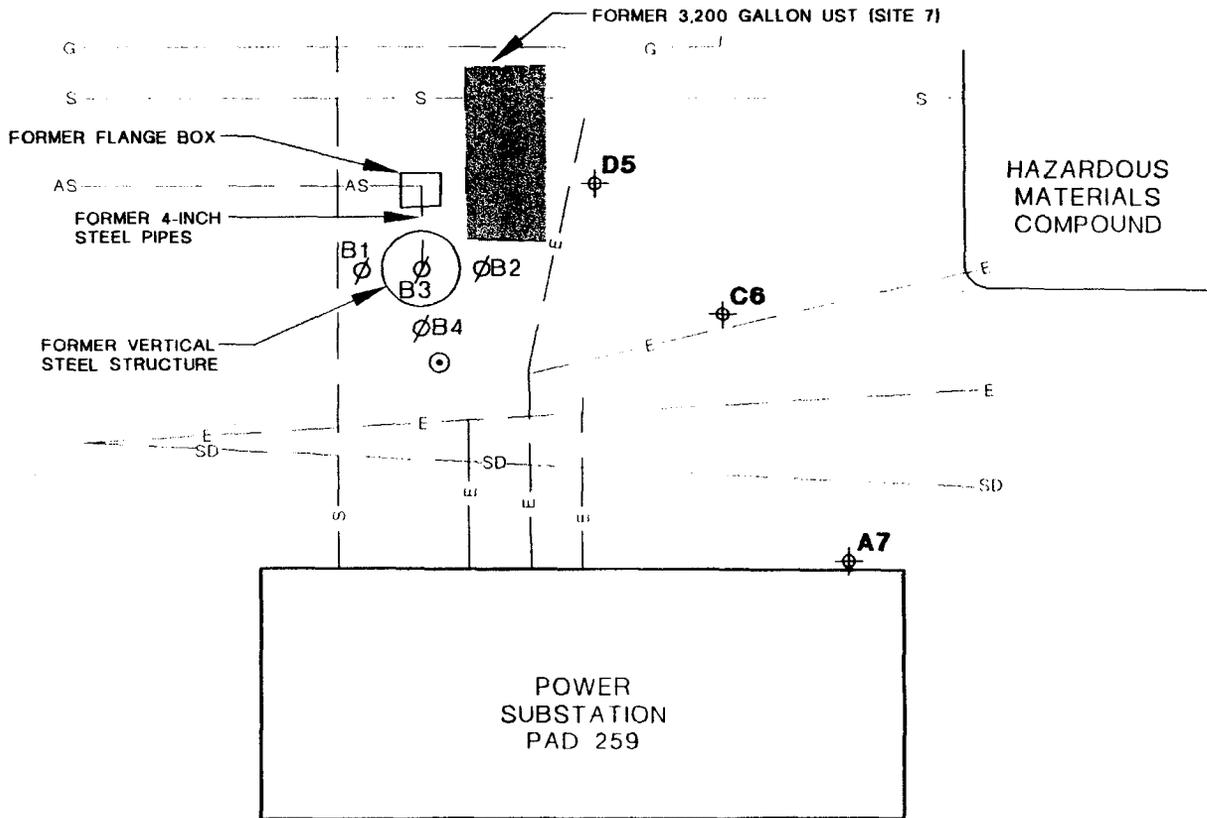
<sup>o</sup> DDT – dichlorodiphenyltrichloroethane

<sup>p</sup> additive concentration for alpha-Chlordane, gamma-Chlordane

BUILDING 49

**LEGEND:**

-  PROPOSED DIRECT-PUSH BORING WITH GROUNDWATER SAMPLING
-  DIRECT-PUSH SOIL BORING (OHM INVESTIGATION)
-  GROUNDWATER SAMPLE USING BACKHOE (OHM INVESTIGATION)
-  GROUNDWATER MONITORING WELL (OHM SITE 7 INVESTIGATION)
-  ABANDONED SEWER PIPE
-  SEWER PIPE
-  ELECTRICAL LINE
-  GAS LINE
-  STORM DRAIN PIPE



SA/ESA Work Plan - Points of Interest

**Figure 3-?**

POI No. 93 (Former Vertical Steel Structure)

Naval Training Center, San Diego, California



**Bechtel National, Inc.**  
CLEAN II Program

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Rev No: A

NOTE: FIGURE BASED ON A SCHEMATIC OF FORMER PIPE LAYOUT, AND SOIL AND GROUNDWATER SAMPLE LOCATIONS FIGURE, BY OHM 1996a