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Ser 1811WW/L2206
13 MAR 1992

From: Commander, Western Division, Naval Facilities Engineering Command
To: Distribution

Subj: PROPOSED ADDITIONAL FIELD WORK AT SITES 4 AND 5 FOR THE RI/FS,
NAS ALAMEDA

1. By enclosure (1), we are proposing that fieldwork in addition to that contemplated in the previously approved Naval Air Station (NAS) Alameda Remedial Investigation/ Feasibility Study (RI/FS) Workplan be carried out at Site 4 (Building 360) and Site 5 (Building 5).
2. It is requested that you provide this office with any comments you may have on enclosure (1) as soon as possible so that the Navy may proceed with the proposed additional field work. If you have any further questions regarding this matter, the point of contact is Mr. Wing Wong, Code 1811WW, (415) 244-2537.

Sincerely,

original signed by:

LOUISE T. LEW
By direction

Encl:

(1) Proposed Additional Field Work at Sites 4 and 5 for the RI/FS, NAS Alameda

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**PROPOSED ADDITIONAL FIELD WORK AT SITES 4 AND 5 FOR THE RI/FS,
NAS ALAMEDA**

During the Phase 2B and 3 field investigation of the Site 4 (Building 360) plating shop, elevated metal concentrations were detected in scrape samples from the Plating Shop interior. Further characterization is necessary to determine health and safety requirements for personnel conducting future investigations in the shop.

During field investigation of Site 5 (Building 5) for Phases 2B and 3, it was brought to the attention of the Navy that the approved work plans did not include sampling within Building 5 where a metal plating shop is located. Further discussions with Naval Aviation Depot (NADEP) personnel indicated that there were four other areas that should also be included in the field investigation (a selective plating shop, a wastewater treatment area, a former hazardous waste storage area, and a battery storage area).

The plating shop was an area where aircraft parts were plated using both cyanide and chromium processes. It was closed in June of 1990, when a replacement facility was opened in another part of the base. The selective plating shop is an area where individual small items, or selected portions of larger items, are plated by hand. Bulk plating is not done at this shop. A floor drain in the selective plating shop is used to discharge spent fluids to the sewer system. The spent fluids enter the industrial waste sewer system without pretreatment. The selective plating shop is still active. The wastewater treatment area contains sumps which were used to store cyanide and chrome containing wastewaters prior to pretreatment. In the past the area served the plating shop, the cleaning shop, and the conversion coating area. Since the plating shop was closed in June of 1990, the wastewater treatment area serves only the cleaning shop and the conversion coating area. The former hazardous waste storage area was closed in mid-1988. Drummed waste was stored in the area. Wastes included spent solvents, waste paint, and waste oil. Lead/acid and nickel/cadmium batteries are serviced in the battery storage area. Wastewater from the area enters the industrial waste sewer system without pretreatment. Proposed additional work at Sites 4 and 5 is described below.

Proposed Work at Site 4

Additional sampling at Site 4 is necessary in order to define the extent of metals (particularly chromium) detected on interior surfaces within the plating shop. These data will provide the basis for health and safety requirements for personnel conducting investigations in the shop.

Twelve samples will be collected from the interior of the Building 360 plating shop. Four discrete scrape samples will be collected from the floors, four wipe samples will be collected from the walls, and four wipe samples will be collected from the rafters or other overhead fixtures. All 12 samples will be analyzed for Hazardous Substance List (HSL) metals plus hexavalent chromium and total cyanide, as identified in Table 1.

Proposed Work at Site 5

Plating Shop Ten boreholes will be drilled through the Building 5 plating shop floor; five on each side of the dividing wall separating the cyanide processes from the chromium processes. Eight of the boreholes will be advanced to a depth of 5 feet, anticipated to correspond to the capillary zone above the water table. The two remaining boreholes will be drilled to a depth of 23 feet adjacent to the 18-foot deep sumps used to drain the concrete sub-floor. All boreholes will be advanced with hollow stem augers.

Two soil samples will be collected from each of the eight shallow borings, for a total of 16 samples. In each shallow boring, one sample will be collected from immediately beneath the concrete floor and one sample will be collected from a depth of approximately 5 feet, anticipated to correspond to the capillary zone above the water table.

A total of eight soil samples will be collected from the two deep borings located adjacent to the sumps. In each deep boring, one sample will be collected from immediately beneath the concrete floor, one from a depth of 5 feet, a third at a depth adjacent to the bottom of the sump (18 feet), and a fourth from approximately 5 feet below the bottom of the sump, or a depth of 23 feet.

All soil samples will be analyzed for HSL metals plus hexavalent chromium, cyanide, pH, and volatile organic compounds (VOC) as identified in Table 2. In addition, one sample per borehole, chosen at random, will be analyzed for total organic carbon (TOC) and Total Solids (TS, also reported as moisture content).

One grab groundwater sample will be collected from each of the ten boreholes. If groundwater is not encountered in the shallow borings above a depth of 5 feet, the borings will be continued to approximately 2 feet below the water table. The groundwater samples will be analyzed for HSL metals plus hexavalent chromium, cyanide, and VOC.

Twelve samples will be collected from the interior of the Building 5 plating shop. Four discrete scrape samples will be collected from the floors, four wipe samples will be collected from the walls, and

four wipe samples will be collected from the rafters or other overhead fixtures. All 12 samples will be analyzed for HSL metals plus hexavalent chromium, and cyanide as identified in Table 2.

Selective Plating Shop. One subsurface soil sample will be collected from a borehole drilled adjacent to the floor drain used to discharge spent fluids. The borehole will be advanced with a hollow stem auger. The sample will be collected from a depth equal to the bottom of the elbow beneath the drain. The sample will be analyzed for HSL metals plus hexavalent chromium, cyanide, pH, TS, TOC, and VOC, as shown in Table 2.

Wastewater Treatment Area. Two boreholes will be drilled to a depth of approximately 15 feet in the wastewater treatment area, adjacent to the sumps used to store wastewater prior to pretreatment (Figure 1). The boreholes will be drilled with hollow stem augers. One borehole will be drilled adjacent to the cyanide wastewater sump; one borehole will be drilled adjacent to the chromium wastewater treatment sump. One soil sample will be collected from each borehole at a depth adjacent to or approximately one foot below the bottom of the sumps. In addition, a grab groundwater sample will be collected from the open boreholes. The soil samples will be analyzed for HSL metals plus hexavalent chromium, cyanide, VOC, TS, semivolatile organic compounds (SVOC), and pH. One randomly chosen soil sample will be analyzed for TOC. Groundwater samples will be analyzed for HSL metals plus hexavalent chromium, cyanide, VOC, SVOC, and total dissolved solids (TDS).

Former Hazardous Waste Storage Area. One borehole will be drilled in the area formerly used to store drummed waste (Figure 1). The borehole will be drilled to a depth of 15 feet using a truck mounted rig equipped with hollow-stem augers. Soil samples will be collected continuously from the ground surface to the total depth of each hole. A total of four soil samples from the borehole (one surface, three subsurface) will be retained for chemical analysis. Soil samples will be analyzed for HSL metals plus hexavalent chromium, cyanide, pH, TS, VOC, and SVOC. In addition, one randomly chosen soil sample from the borehole will be analyzed for TOC.

A monitoring well will be constructed in the borehole. The well will be developed and sampled. Groundwater samples will be analyzed for HSL metals plus hexavalent chromium, cyanide, VOC, SVOC, and TDS.

Battery Storage Area. One borehole will be drilled in the battery storage area (Figure 1). The borehole will be drilled to a depth of 15 feet using a truck mounted rig equipped with hollow-stem augers. Soil samples will be collected continuously from the ground surface to the total depth of each hole. A total of four soil samples from the borehole (one surface, three subsurface) will be retained for chemical

analysis. Soil samples will be analyzed for HSL metals plus hexavalent chromium, cyanide, pH, TS, VOC, and SVOC. In addition, one randomly chosen soil sample from the borehole will be analyzed for TOC.

A monitoring well will be constructed in the borehole. The well will be developed and sampled. Groundwater samples will be analyzed for HSL metals plus hexavalent chromium, cyanide, VOC, SVOC, and TDS.

Surveying

Boring and monitoring well locations in the wastewater treatment area, and the hazardous waste and battery storage areas will be surveyed by a State of California-licensed surveyor. Locations will be surveyed horizontally relative to the State Plane Coordinate System and vertically relative to mean sea level.

Chemical Analyses

All analyses required for the additional work at Sites 4 and 5 will be performed by the qualified analytical laboratory that is under contract for this Contract Task Order. Table 3 summarizes the number and type of samples that will be collected and the analyses that will be performed.

Quality assurance/quality control samples and procedures will be in accordance with established protocols in the approved work plans.

Reporting

Data generated during the additional field work will be submitted as an addendum to the Data Summary Report for Phases 2B and 3 of the RI/FS field work. The report will provide a summary and interpretation of the data, a quality control (QC) assessment, identification of data gaps, and recommendations for future work, if necessary.

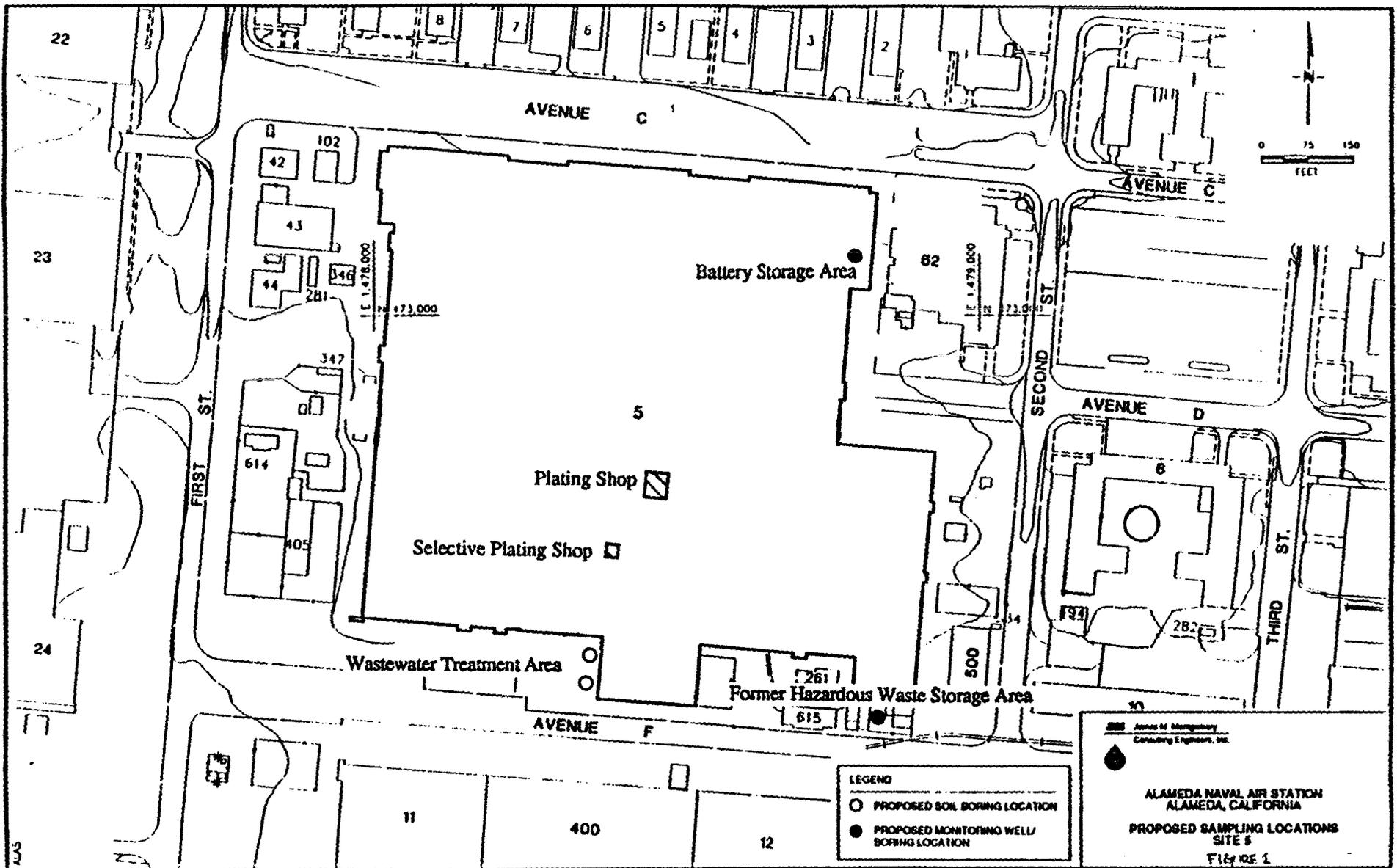


TABLE 1

LABORATORY ANALYSES FOR SAMPLES TAKEN AT SITE 4

Parameter	Number of Samples
Scrape	
HSL Metals	4
Hexavalent Chromium	4
Total Cyanide	4
Wipe	
HSL Metals	8
Hexavalent Chromium	8
Total Cyanide	8
Duplicate Samples	1

HSL Metals include Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mn, Mg, Hg, Ni, K, Se, Ag, Na, Tl, V, and Zn

TABLE 2

LABORATORY ANALYSES FOR SAMPLES TAKEN AT SITE 5

Parameter	Plating Shop	Selective Plating Shop	Wastewater Treatment Area	Hazardous Waste/Battery Storage Area
Soil, Scrape, Wipe				
HSL Metals	36	1	2	8
Hexavalent Chromium	36	1	2	8
Total Cyanide	36	1	2	8
pH	24	1	2	8
VOA	24	1	2	8
SVOC	0	0	2	8
Total Solids	24	1	2	8
TOC	10	1	1	2
Duplicate Samples	3	0	0	1
Groundwater				
HSL Metals	10	0	2	2
Hexavalent Chromium	10	0	2	2
Total Cyanide	10	0	2	2
VOA	10	0	2	2
SVOC	0	0	2	2
TDS	10	0	2	2
Duplicate Samples	1	0	0	0

HSL Metals include Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mn, Mg, Hg, Ni, K, Se, Ag, Na, Ti, V, and Zn

VOA - volatile organic compounds

SVOC - semivolatile organic compounds

TOC - total organic carbon

TDS - total dissolved solids

TABLE 3

SUMMARY OF LABORATORY ANALYSES

Parameter	Method No.	No. Field Samples	No. QC Samples	Total No. Samples
Soil, Scrape, Wipe				
HSL Metals	CLP/RAS	59	5	64
Hexavalent Chromium	EPA 7197	59	5	64
VOA	CLP/RAS w/TICS	35	3	38
SVOC	CLP/RAS w/TICS	10	1	11
Total Cyanide	CLP/RAS	59	5	64
Total Solids	CLP	35	3	38
pH	EPA 9040	35	3	38
TOC	MOD. ASTM	14	0	14
Groundwater				
HSL Metals	CLP/RAS	14	1	15
Hexavalent Chromium	EPA 7197	14	1	15
VOA	CLP/RAS w/TICS	14	1	15
SVOC	CLP/RAS w/TICS	4	0	4
Total Cyanide	CLP/RAS	14	1	15
TDS	SAS/160.1	14	1	15

HSL Metals include Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mn, Mg, Hg, Ni, K, Se, Ag, Na, Tl, V, and Zn

VOA - volatile organic compounds

SVOC - semivolatile organic compounds

TOC - total organic carbon

TDS - total dissolved solids

CLP - contract laboratory procedure

RAS - routine analytical services

TICS - tentatively identified compounds

SAS - special analytical services