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NWS EARLE
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Investigation Report
for
Screening Sampling At The Former Precious Metals Recycling Facility

Naval Weapons Station Earle
Colts Neck, New Jersey

Northern Division
Naval Facilities Engineering Command

Contract No. N62472-90-D-1298
Contract Task Order 0154

July 1998

Investigation Report
for
Screening Sampling At The Former Precious Metals Recycling Facility
Naval Weapons Station Earle, Colts Neck, New Jersey

COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Northern Division
Environmental Branch, Code 18
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop No. 82
Lester, Pennsylvania 19113-2090

Submitted by:
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Contract No. N62472-90-D-1298
Contract Task Order 0154

July 1998

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NAVY/1229/

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1.0 INTRODUCTION

Brown & Root Environmental (B&R Environmental) submits this letter report for screening sampling site investigations at the former precious metals recovery facility (PMRF) at NWS Earle in response to a request for change from the Navy for Contract Task Order No. 154 under Contract N62472-90-D-1298, Comprehensive Long - Term Environmental Action-Navy (CLEAN).

Details of sampling activities performed at the former PMRF are described in the Field Sampling Plan Addendum (B&R Environmental, April 1998) and in the Field Trip Report (B&R Environmental, May 1998 [Attachment C])

This "letter report" has been prepared to present screening sampling investigation results for Navy review.

2.0 SUMMARY OF FIELD INVESTIGATION

The objective of this study was to determine if historical operations at the former PMRF resulted in contamination to the building structures (interior or exterior), surface soil surrounding the facility, or the drainage ditches east and south of the facility.

2.1 RESULTS OF SURFACE SOIL INVESTIGATION

Six composite surface soil samples were collected and analyzed for TAL metals. Table 2-1 presents a comparison of the laboratory analytical results to the NJDEP Non-Resident Direct Contact Soil Cleanup Criterion (where one exists). No concentration of metals in surface soil samples were found to exceed the NJDEP Non-Resident Direct Contact Soil Cleanup Criteria. However, cadmium was found at concentrations above the NJDEP Residential Direct Contact Soil Cleanup Criteria, 1 mg/kg, in four of six samples (PMRF-SS-01, PMRF-SS-02, PMRF-SS-03, and PMRF-SS-04). Cadmium concentrations were generally above the typical background cadmium concentration (0.57 mg/kg) found in surface soils during the Navy's Installation Restoration Program (IRP) remedial investigation (RI) at NWS Earle. The nearest residential housing is located approximately 1,000 feet from the former PMRF.

Attachment A contains the summary of analytical results. Attachment B, Figures 1 and 3, show sample locations and Attachment D contains field records.

2.2 RESULTS OF SEDIMENT INVESTIGATION

Four composite sediment samples were collected and analyzed for TAL metals. Concentrations of cadmium found in the sediments were lower than those found in surface soil samples. At the request of the Navy at the time field sample collection, an unplanned sediment sample was obtained from the surface water drainage box located north of Building 38. This sample was identified as PMRF-BOX-01. Analysis of the PMRF-BOX-01 sample showed the presence of several PAHs (estimated values). The concentration of cadmium in the PMRF-BOX-01 sample was 4.2 mg/kg.

Attachment A contains the summary of analytical results. Attachment B, Figure 1, shows sample locations and Attachment D contains field records.

TABLE 2-1

SURFACE SOIL ANALYTICAL RESULTS COMPARED TO REFERENCE CRITERIA

PMRF

NWS EARLE, COLTS NECK NEW JERSEY

MG/KG

COMPOUND	PMRF-SS-01	PMRF-SS-02	PMRF-SS-03	PMRF-SS-04	PMRF-SS-05	PMRF-SS-06	*NJDEP REFERENCE
ALUMINUM	2580	2420	2360	2740	160	226	NA
ANTIMONY	0.44	3.9	0.24	4.8	0.27		340
ARSENIC	1.7	1.3	1.6	1.3	0.18 U	0.17 U	20
BARIUM	7.1	6.2	11.5	7.2	3.0	3.6	47000
BERYLLIUM	0.17	0.09	0.11	0.09	0.02	0.03	1
CADMIUM	1.5	61.3	3.3	66.9	0.33	0.78	100
CHROMIUM	33.1	28.8	56.9	60.8	1.0	1.2	500
COPPER	2.8	55.8	16.7	61.1	2.7	2.9	600
IRON	7840	12700	5680	14000	421	534	NA
LEAD	32.4	67.4	13.5	72.9	13.7	14.2	600
MANGANESE	7.7	44.8	25.1	51.8	4.1	4.7	NA
MERCURY	0.46	1.4	0.35	0.19	0.16	0.28	270
NICKEL	1.0	26.7	23.8	55.1	0.09 U	0.08 U	2400
SELENIUM	0.74	0.86	0.49	0.91	0.20	0.27	3100
SILVER	20.6	55.4	43.2	53.0	2.2	3.7	4100
THALLIUM	0.14 U	0..14 U	0.15 U	0.15 U	0.14 U	0.14 U	2
VANADIUM	25.6	12.4	11.6	14.2	3.0	4.5	7100
ZINC	25.9	739	161	705	3.4	3.8	1500

* NJDEP Non-Resident Direct Contact Soil Cleanup Criterion.

NA Not applicable.

U Not Detected

2.3 RESULTS OF SURFACE WATER INVESTIGATION

Two surface water samples were collected and analyzed for TAL metals. The presence of cadmium, lead and manganese were notable in PMRF-SW-01.

Attachment A contains the summary of analytical results. Attachment B, Figure 1, shows sample locations and Attachment D contains field records.

2.4 RESULTS OF CONCRETE CORE INVESTIGATION

Five concrete core samples were collected and analyzed for TAL metals.

Attachment A contains the summary of analytical results. Attachment B, Figures 1 and 3, show sample locations and Attachment D contains field records.

2.5 RESULTS OF WIPE SAMPLE INVESTIGATION

Nine wipe samples were collected and analyzed for TAL metals. Numerous metals including cadmium, chromium, lead, manganese and silver were notably present on the wipe samples.

Attachment A contains the summary of analytical results. Attachment B, Figure 1 show sample locations and Attachment D contains field records.

LIST OF ACRONYMS

RB	Rinsate Blank
SW	Surface Water
CC	Concrete Core
SS	Surface Soil
WI	Wipe Sample

ATTACHMENT A

CTO154 - NWS EARLE
WIPES DATA
RECRA LABNET - CHICAGO
SDG: U04403

SAMPLE NUMBER:	PMRF-W1-01			PMRF-W1-02			PMRF-W1-03			PMRF-W1-04		
SAMPLE DATE:	04/22/98			04/22/98			04/22/98			04/22/98		
LABORATORY ID:	9804G403-001			9804G403-002			9804G403-003			9804G403-004		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	100.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	UG/WI			UG/WI			UG/WI			UG/WI		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	8680			9930			756			28500		
ANTIMONY	15.1			14.3			1.8			820		
ARSENIC	7.7			12.1			0.20	U		37.5		
BARIUM	4250			736			42.6			967		
BERYLLIUM	0.55			0.29			0.05			1.9		
CADMIUM	124			77.0			0.73			2460		
CALCIUM	24700			44600			7120			49100		
CHROMIUM	332			934			10.6			308		
COBALT	34.7			14.4			0.47			47.6		
COPPER	100000			296			10.7			7920		
IRON	21600			46100			1390			50700		
LEAD	1530			4400			15.9			9180		
MAGNESIUM	4800			6860			678			8540		
MANGANESE	164			300			15.1			564		
MERCURY	15.4			5.6			2.0			2380		
NICKEL	1250			73.5			3.8			953		
POTASSIUM	3990			8920			463			46100		
SELENIUM	2.1			2.1			1.1			6.0		
SILVER	288			336			118			296		
SODIUM	32700			19700			6180			94700		
THALLIUM	0.16	U		0.80	U		0.16	U		0.80	U	
VANADIUM	21.2			48.5			1.5			34.9		
ZINC	80300			24000			70.6			222000		

CTO154 - NWS EARLE
WIPES DATA
RECRA LABNET - CHICAGO
SDG: U04403

SAMPLE NUMBER:	PMRF-W1-05			PMRF-W1-06			PMRF-W1-07			PMRF-W1-08		
SAMPLE DATE:	04/22/98			04/22/98			04/22/98			04/22/98		
LABORATORY ID:	9804G403-005			9804G403-006			9804G403-007			9804G403-008		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	100.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	UG/WI			UG/WI			UG/WI			UG/WI		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	4580			5830			106			15.8		
ANTIMONY	25.5			83.9			0.96			0.43		
ARSENIC	3.2			7.1			0.20	U		0.20	U	
BARIUM	279			240			5.0			0.80		
BERYLLIUM	0.17			0.28			0.06			0.06		
CADMIUM	36.9			193			0.45			0.03	U	
CALCIUM	16300			12000			909			152		
CHROMIUM	68.3			108			0.93			0.18		
COBALT	15.6			8.7			0.06	U		0.06	U	
COPPER	391			854			2.9			0.25		
IRON	11000			16500			173			27.3		
LEAD	394			1270			6.0			0.46		
MAGNESIUM	2320			2330			124			24.1		
MANGANESE	110			178			2.6			1.1		
MERCURY	32.2			0.01	U		0.01	U		0.01	U	
NICKEL	50.2			60.3			0.10	U		0.10	U	
POTASSIUM	2120			6150			54.0			28.7		
SELENIUM	1.9			1.9			0.91			0.54		
SILVER	277			237			36.7			0.36		
SODIUM	2370			8710			162			158		
THALLIUM	0.16	U		0.16	U		0.16	U		0.16	U	
VANADIUM	10.1			14.0			0.20			0.06		
ZINC	4420			13800			36.0			1.6		

CTO154 - NWS EARLE
WIPES DATA
RECRA LABNET - CHICAGO
SDG: U04403

SAMPLE NUMBER:	PMRF-W1-09			
SAMPLE DATE:	04/22/98	/ /	/ /	/ /
LABORATORY ID:	9804G403-009			
QC_TYPE:	NORMAL			
% SOLIDS:	100.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/WI			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	3130											
ANTIMONY	0.38											
ARSENIC	1.5											
BARIUM	45.2											
BERYLLIUM	0.19											
CADMIUM	50.0											
CALCIUM	1310											
CHROMIUM	292											
COBALT	4.8											
COPPER	17.7											
IRON	7400											
LEAD	62.3											
MAGNESIUM	1370											
MANGANESE	176											
MERCURY	0.35											
NICKEL	22.5											
POTASSIUM	491											
SELENIUM	1.2											
SILVER	192											
SODIUM	287											
THALLIUM	0.16	U										
VANADIUM	8.4											
ZINC	2250											

CTO154 - NWS EARLE
SOIL DATA
RECRA LABNET - CHICAGO
SDG: U04378

SAMPLE NUMBER:	PMRF-BOX-01			
SAMPLE DATE:	04/22/98	/ /	/ /	/ /
LABORATORY ID:	9804G378-019			
QC_TYPE:	NORMAL			
% SOLIDS:	83.8 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,2,4-TRICHLOROBENZENE	390	U										
1,2-DICHLOROBENZENE	390	U										
1,3-DICHLOROBENZENE	390	U										
1,4-DICHLOROBENZENE	390	U										
2,2'-OXYBIS(1-CHLOROPROPANE)	390	U										
2,4,5-TRICHLOROPHENOL	390	U										
2,4,6-TRICHLOROPHENOL	390	U										
2,4-DICHLOROPHENOL	390	U										
2,4-DIMETHYLPHENOL	390	U										
2,4-DINITROPHENOL	2000	U										
2,4-DINITROTOLUENE	390	U										
2,6-DINITROTOLUENE	390	U										
2-CHLORONAPHTHALENE	390	U										
2-CHLOROPHENOL	390	U										
2-METHYLNAPHTHALENE	390	U										
2-METHYLPHENOL	390	U										
2-NITROANILINE	2000	U										
2-NITROPHENOL	390	U										
3,3'-DICHLOROBENZIDINE	780	U										
3-NITROANILINE	2000	U										
4,6-DINITRO-2-METHYLPHENOL	2000	U										
4-BROMOPHENYL PHENYL ETHER	390	U										
4-CHLORO-3-METHYLPHENOL	390	U										
4-CHLOROANILINE	390	U										
4-CHLOROPHENYL PHENYL ETHER	390	U										
4-METHYLPHENOL	390	U										
4-NITROANILINE	2000	U										
4-NITROPHENOL	2000	U										
ACENAPHTHENE	390	U										
ACENAPHTHYLENE	390	U										
ANTHRACENE	390	U										
BENZO(A)ANTHRACENE	150	J										
BENZO(A)PYRENE	150	J										
BENZO(B)FLUORANTHENE	250	J										

CTO154 - NWS EARLE
SOIL DATA
RECRA LABNET - CHICAGO
SDG: U04378

SAMPLE NUMBER:	PMRF-BOX-01			
SAMPLE DATE:	04/22/98	/ /	/ /	/ /
LABORATORY ID:	9804G378-019			
QC_TYPE:	NORMAL			
% SOLIDS:	83.8 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/KG			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
BENZO(G,H,I)PERYLENE	130	J										
BENZO(K)FLUORANTHENE	120	J										
BENZOIC ACID	780	U										
BENZYL ALCOHOL	390	U										
BIS(2-CHLOROETHOXY)METHANE	390	U										
BIS(2-CHLOROETHYL)ETHER	390	U										
BIS(2-ETHYLHEXYL)PHTHALATE	390	U										
BUTYLBENZYL PHTHALATE	390	U										
CARBAZOLE	390	U										
CHRYSENE	180	J										
DI-N-BUTYL PHTHALATE	390	U										
DI-N-OCTYL PHTHALATE	390	U										
DIBENZO(A,H)ANTHRACENE	390	U										
DIBENZOFURAN	390	U										
DIETHYL PHTHALATE	390	U										
DIMETHYL PHTHALATE	390	U										
FLUORANTHENE	320	J										
FLUORENE	390	U										
HEXACHLOROBENZENE	390	U										
HEXACHLOROBUTADIENE	390	U										
HEXACHLOROCYCLOPENTADIENE	390	U										
HEXACHLOROETHANE	390	U										
INDENO(1,2,3-CD)PYRENE	130	J										
ISOPHORONE	390	U										
N-NITROSO-DI-N-PROPYLAMINE	390	U										
N-NITROSODIPHENYLAMINE	390	U										
NAPHTHALENE	390	U										
NITROBENZENE	390	U										
PENTACHLOROPHENOL	2000	U										
PHENANTHRENE	180	J										
PHENOL	390	U										
PYRENE	400											

CTO154 - NWS EARLE
WATER DATA
RECRA LABNET - CHICAGO
SDG: U04378

SAMPLE NUMBER:	PMRF-042198-C			PMRF-RB-042298A			PMRF-RB-042298B			PMRF-SW-01		
SAMPLE DATE:	04/21/98			04/22/98			04/22/98			04/22/98		
LABORATORY ID:	9804G378-004			9804G378-020			9804G378-021			9804G378-012		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	20.4			30.6			27.9			6330		
ANTIMONY	1.7	U		1.7	U		1.7	U		1.7	U	
ARSENIC	2.0	U		2.0	U		2.0	U		2.0	U	
BARIUM	1.7			0.27			0.21			27.6		
BERYLLIUM	0.48			0.33			0.47			1.2		
CADMIUM	0.30	U		0.30	U		0.30	U		13.0		
CALCIUM	50.6			72.5			53.2			4440		
CHROMIUM	0.70	U		0.70	U		0.70	U		4.7		
COBALT	0.60	U		0.60	U		0.60	U		0.62		
COPPER	1.2	U		1.2	U		1.2	U		9.5		
IRON	19.1			28.0			29.3			9240		
LEAD	1.0	U		1.3			1.4			19.0		
MAGNESIUM	14.8			12.6	U		17.3			1590		
MANGANESE	0.62			0.40	U		0.40	U		105		
MERCURY	0.10	U		0.10	U		0.10	U		0.26		
NICKEL	1.0	U		1.0	U		1.0	U		1.2		
POTASSIUM	146			148			154			443		
SELENIUM	1.7	U		1.7	U		1.7	U		3.1		
SILVER	0.60	U		0.60	U		0.60	U		48.8		
SODIUM	295	U		295	U		295	U		2890		
THALLIUM	1.6	U		1.6	U		1.6	U		1.6	U	
VANADIUM	0.50	U		0.50	U		0.50	U		4.8		
ZINC	8.4			7.1			5.3			233		

CTO154 - NWS EARLE
WATER DATA
RECRA LABNET - CHICAGO
SDG: U04378

SAMPLE NUMBER:	PMRF-SW-02											
SAMPLE DATE:	04/22/98			/ /			/ /			/ /		
LABORATORY ID:	9804G378-011											
QC_TYPE:	NORMAL											
% SOLIDS:	0.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	UG/L											
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	774											
ANTIMONY	1.7	U										
ARSENIC	2.0	U										
BARIUM	14.0											
BERYLLIUM	0.63											
CADMIUM	0.30	U										
CALCIUM	353											
CHROMIUM	1.2											
COBALT	0.60	U										
COPPER	1.2	U										
IRON	226											
LEAD	4.1											
MAGNESIUM	225											
MANGANESE	16.6											
MERCURY	0.10	U										
NICKEL	1.0	U										
POTASSIUM	201											
SELENIUM	1.7	U										
SILVER	0.60	U										
SODIUM	2740											
THALLIUM	1.6	U										
VANADIUM	0.93											
ZINC	33.5											

CTO154 - NWS EARLE
SOIL DATA
RECRA LABNET - CHICAGO
SDG: U04378

SAMPLE NUMBER:	PMRF-BOX-01			PMRF-CC-01			PMRF-CC-02			PMRF-CC-03		
SAMPLE DATE:	04/22/98			04/22/98			04/22/98			04/22/98		
LABORATORY ID:	9804G378-019			9804G378-014			9804G378-015			9804G378-016		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	83.8 %			86.1 %			100.0 %			100.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	1570			7930			6610			3610		
ANTIMONY	0.14	U		0.21			0.14	U		0.13	U	
ARSENIC	1.8			6.3			5.1			0.39		
BARIUM	9.3			47.2			55.4			24.9		
BERYLLIUM	0.07			0.35			0.39			0.11		
CADMIUM	4.2			0.45			0.89			0.24		
CALCIUM	596			58300			62300			26600		
CHROMIUM	14.8			19.7			22.5			5.1		
COBALT	1.5			656			739			480		
COPPER	11.5			59.7			106			24.2		
IRON	11200			9410			9730			5250		
LEAD	11.7			15.1			9.8			4.3		
MAGNESIUM	520			4690			3770			1730		
MANGANESE	47.5			143			114			83.5		
MERCURY	0.17			0.02	U		0.02	U		0.07		
NICKEL	3.2			12.7			12.2			3.3		
POTASSIUM	218			1650			1750			703		
SELENIUM	0.81			0.77			0.95			0.32		
SILVER	110			14.0			74.1			2.6		
SODIUM	221			1010			695			462		
THALLIUM	0.14	U		0.13	U		0.13	U		0.13	U	
VANADIUM	11.8			26.8			18.5			4.4		
ZINC	208			55.1			65.8			11.1		

CTO154 - NWS EARLE
SOIL DATA
RECRA LABNET - CHICAGO
SDG: U04378

SAMPLE NUMBER:	PMRF-CC-04			PMRF-CC-05			PMRF-SD-01			PMRF-SD-02		
SAMPLE DATE:	04/22/98			04/22/98			04/22/98			04/22/98		
LABORATORY ID:	9804G378-017			9804G378-018			9804G378-008			9804G378-009		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	100.0 %			100.0 %			76.4 %			77.8 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	3770			3960			5050			5890		
ANTIMONY	10.8			0.20			0.18	U		0.17	U	
ARSENIC	0.71			0.38			3.2			5.6		
BARIUM	46.1			24.4			17.4			16.1		
BERYLLIUM	0.09			0.11			0.19			0.17		
CADMIUM	69.5			0.40			0.61			0.43		
CALCIUM	43900			50000			1090			834		
CHROMIUM	13.4			6.7			22.9			23.2		
COBALT	564			77.1			1.0			0.18		
COPPER	197			13.8			6.0			6.9		
IRON	9400			2980			7030			8590		
LEAD	93.3			5.5			10.4			8.0		
MAGNESIUM	11500			3560			337			352		
MANGANESE	117			66.8			15.2			9.3		
MERCURY	2.5			0.35			0.08			0.08		
NICKEL	22.7			2.0			2.5			0.26		
POTASSIUM	5320			2380			618			555		
SELENIUM	0.89			0.31			1.2			1.2		
SILVER	204			5.4			14.0			2.9		
SODIUM	1050			213			311			322		
THALLIUM	0.14	U		0.13	U		0.17	U		0.16	U	
VANADIUM	5.0			4.3			21.3			19.6		
ZINC	1760			19.9			17.0			17.4		

CTO154 - NWS EARLE
SOIL DATA
RECRA LABNET - CHICAGO
SDG: U04378

SAMPLE NUMBER:	PMRF-SD-03			PMRF-SD-04			PMRF-SS-01			PMRF-SS-02		
SAMPLE DATE:	04/22/98			04/22/98			04/21/98			04/21/98		
LABORATORY ID:	9804G378-010			9804G378-013			9804G378-001			9804G378-002		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	75.4 %			86.1 %			90.3 %			91.0 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	4620			271			2580			2420		
ANTIMONY	0.18	U		0.17	U		0.44			3.9		
ARSENIC	6.6			0.20	U		1.7			1.3		
BARIUM	38.6			1.3			7.1			6.2		
BERYLLIUM	0.42			0.06			0.17			0.09		
CADMIUM	0.28			0.03	U		1.5			61.3		
CALCIUM	5500			15.1			113			202		
CHROMIUM	16.3			2.7			33.1			28.8		
COBALT	0.54			0.06	U		0.30			1.4		
COPPER	3.4			0.31			2.8			55.8		
IRON	13100			424			7840			12700		
LEAD	5.5			4.7			32.4			67.4		
MAGNESIUM	1850			22.8			344			220		
MANGANESE	36.0			4.3			7.7			44.8		
MERCURY	0.03	U		0.02	U		0.46			1.4		
NICKEL	1.1			0.10	U		1.0			26.7		
POTASSIUM	602			75.2			773			241		
SELENIUM	1.4			0.18			0.74			0.86		
SILVER	2.7			0.74			20.6			55.4		
SODIUM	249			117			25.8	U		26.0	U	
THALLIUM	0.17	U		0.16	U		0.14	U		0.14	U	
VANADIUM	37.6			2.6			25.6			12.4		
ZINC	5.6			0.73			25.9			739		

CTO154 - NWS EARLE
SOIL DATA
RECRA LABNET - CHICAGO
SDG: U04378

SAMPLE NUMBER:	PMRF-SS-03			PMRF-SS-04			PMRF-SS-05			PMRF-SS-06		
SAMPLE DATE:	04/21/98			04/22/98			04/22/98			04/22/98		
LABORATORY ID:	9804G378-003			9804G378-005			9804G378-006			9804G378-007		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	85.1 %			92.4 %			91.4 %			91.8 %		
UNITS:	MG/KG			MG/KG			MG/KG			MG/KG		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	2360			2740			160			226		
ANTIMONY	0.24			4.8			0.27					
ARSENIC	1.6			1.3			0.18	U		0.17	U	
BARIUM	11.5			7.2			3.0			3.6		
BERYLLIUM	0.11			0.09			0.02	U		0.03		
CADMIUM	3.3			66.9			0.33			0.78		
CALCIUM	576			207			23.7			33.1		
CHROMIUM	56.9			60.8			1.0			1.2		
COBALT	1.0			2.0			0.05	U		0.05	U	
COPPER	16.7			61.1			2.7			2.9		
IRON	5680			14000			421			534		
LEAD	13.5			72.9			13.7			14.2		
MAGNESIUM	351			234			16.5			13.0		
MANGANESE	25.1			51.8			4.1			4.7		
MERCURY	0.35			0.19			0.16			0.28		
NICKEL	23.8			55.1			0.09	U		0.08	U	
POTASSIUM	369			286			35.5			34.7		
SELENIUM	0.49			0.91			0.20			0.27		
SILVER	43.2			53.0			2.2			3.7		
SODIUM	444			26.9	U		74.5			77.0		
THALLIUM	0.15	U		0.15	U		0.14	U		0.14	U	
VANADIUM	11.6			14.2			3.0			4.5		
ZINC	161			705			3.4			3.8		

ATTACHMENT B

NUS CORPORATION AND SUBSIDIARIES — STANDARD CALCULATION SHEET

CLIENT: NWS - EARLE	FILE NO.:	BY:	PAGE OF
SUBJECT: Precious metals Recovery Facility		CHECKED BY:	DATE:

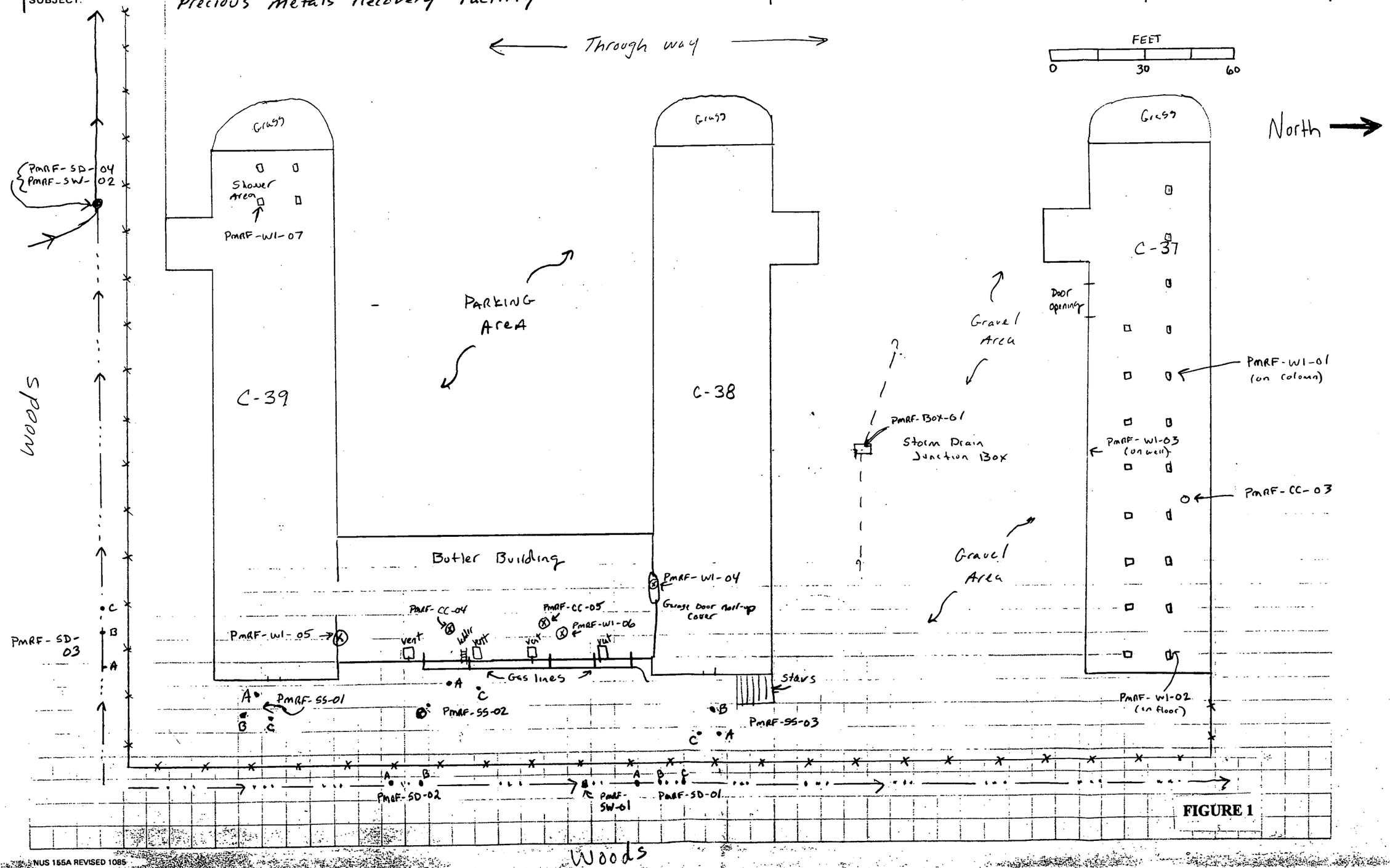


FIGURE 1

NUS 155A REVISED 1085

CALCULATION WORKSHEET Order No. 19116 (01-91) PAGE _____ OF _____

CLIENT	JOB NUMBER
NWS-EARLE	
SUBJECT: Precious metals Recovery Facility -	
BASED ON	DRAWING NUMBER

BY	CHECKED BY	APPROVED BY	DATE

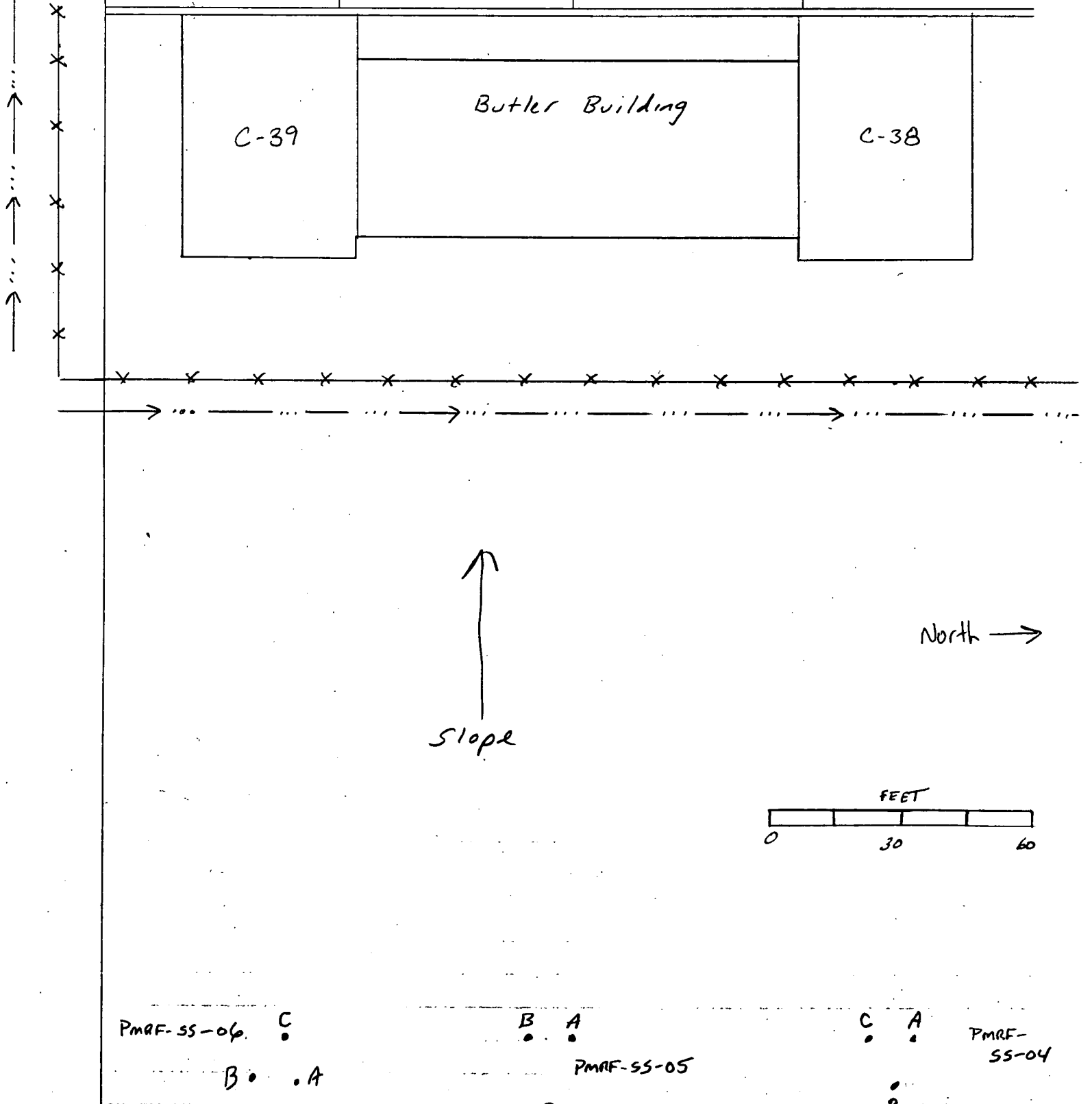


FIGURE 2

NUS CORPORATION AND SUBSIDIARIES

STANDARD CALCULATION SHEET

CLIENT: NWS - EARLE	FILE NO.:	BY:	PAGE OF
SUBJECT: Precious metals Recovery Facility		CHECKED BY:	DATE:

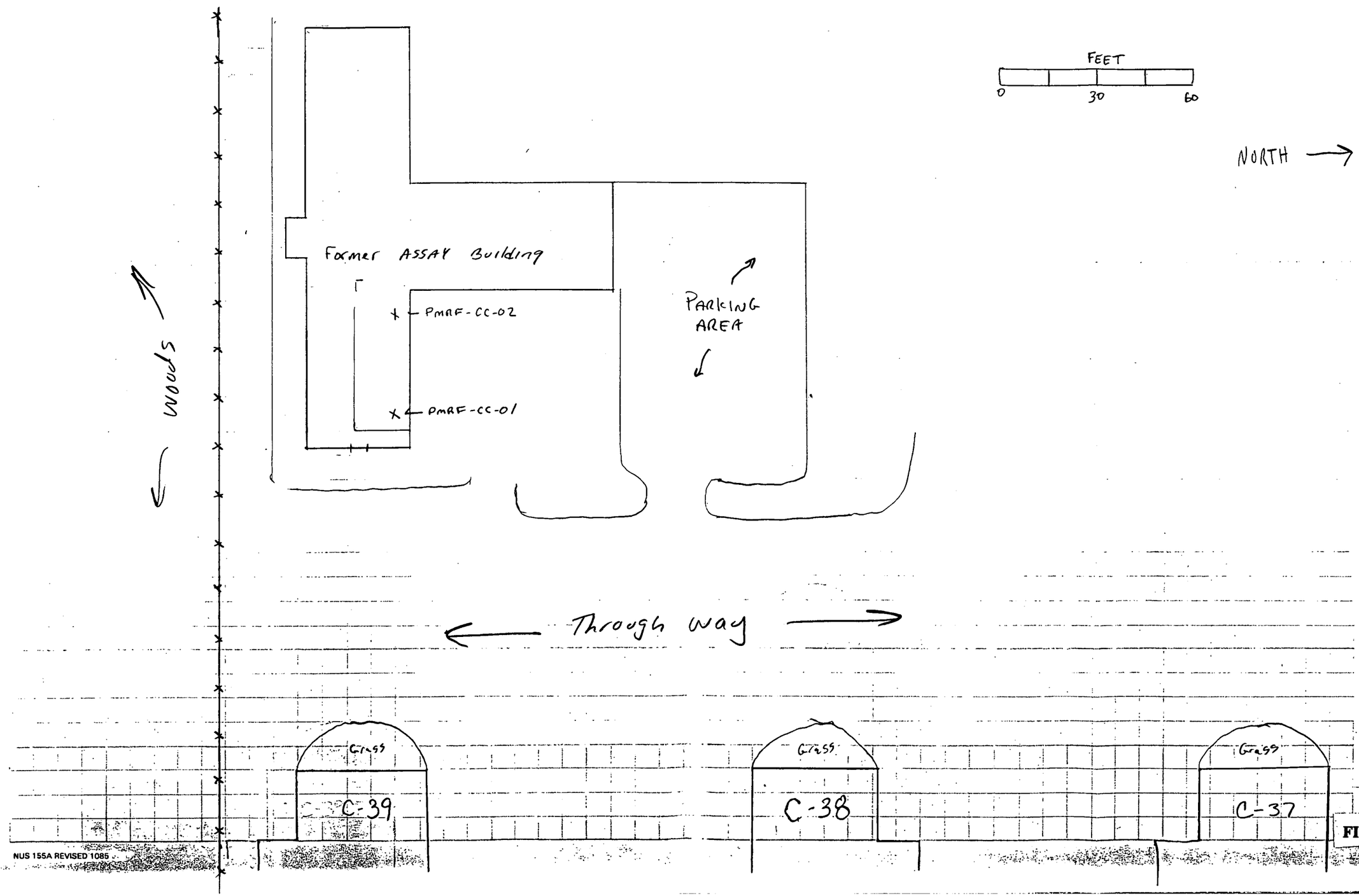


FIGURE 3

NUS 155A REVISED 1085

ATTACHMENT C

FIELD TRIP REPORT

FOR

DELINEATION SAMPLING at the OLD PESTICIDE SHOP and SCREENING SAMPLING at the OLD PRECIOUS METALS RECOVERY FACILITY at NWS EARLE

Prepared by

Brown & Root Environmental

May 1998

1.0 OLD PESTICIDE SHOP

1.1 Introduction

The primary objective of the additional sampling at the Old Pesticide Shop was to further delineate the contamination found during the screening sampling and analysis. In order to accomplish this objective additional sampling and analysis for chlorinated pesticides was conducted. The additional sampling consisted of collecting surface and subsurface soils, surrounding the building, at 23 different locations and from three depths (surface, one foot below ground surface, and three feet below ground surface). All samples were analyzed for chlorinated pesticides. The results of the additional sampling and analysis will be used as the basis for determining the potential extent of pesticide contamination.

1.2 Surface soil sampling

On April 20 and 21, 1998, 25 surface soil samples (including two duplicates) were collected at the Old Pesticide Shop. The locations were based upon the previous sampling event results and were selected in the field. The locations were spaced evenly at 7.5-foot by 15 to 20-foot spaces throughout the southern side of the site and 10 foot by 15 foot spaces throughout the northern side of the site.

The soil samples were collected according to NJDEP Field Sampling Procedures Manual dated May 1992 and B&R Environmental SOP SA-1.3. Stainless steel trowels were used to obtain the samples and were decontaminated with Liquidnox, water, methanol, and deionized water between sample locations. The soil samples were placed directly into laboratory supplied 8-ounce jars and stored on ice. All surface soil samples were analyzed for chlorinated pesticides at RECRA Lab Net in University Park, Illinois.

The surface soils generally consisted of grayish-dark brown silty fine grained sand with some organics. No elevated Photo Ionization Detector (PID) readings were observed or noted in the surface soils.

1.3 Subsurface soil sampling

On April 20 and 21, 1998, 25 subsurface soil samples (including two duplicates) were collected from a depth of 1-foot below ground surface (bgs) and 26 subsurface soil samples (including three duplicates) were collected from a depth of 3-feet bgs at the Old Pesticide Shop. The location of each subsurface soil sample corresponded with the same location as the surface soil sample.

A stainless steel hand auger and trowel were used to obtain the samples and were decontaminated with Liquidnox, water, methanol, and deionized water between sample locations. The soil samples were placed directly into laboratory supplied 8-ounce jars and stored on ice. All subsurface soil samples were analyzed for chlorinated pesticides at RECRA Lab Net in University Park, Illinois.

The subsurface soils at 1-foot bgs generally consisted of a dark grayish brown to grayish tan silty fine grained sand or an olive green clayey fine grained sand with some silt. Elevated PID readings were observed and noted at locations 25, 26, 28, and 29. These PID readings ranged between 1.0 PPM to 6.0 PPM. There were sweet aromatic odors observed at these same locations.

The subsurface soils at 3-feet bgs generally consisted of tan, orange-tan, or grayish brown silty fine grained sand with some subround pebbles. Elevated PID readings were observed and noted at locations 25, 26, and 29. These PID readings ranged between 1.2 PPM and 10.8 PPM. There were sweet aromatic odors observed at these same locations.

The hand auger soil borings were backfilled with the soil cuttings that were removed from each location.

2.0 Old Precious Metals Recovery Facility

2.1 Introduction

The primary objective of the sampling at the Precious Metals Recovery Facility was to determine if operations had resulted in contamination of the building interior or exterior structures, of the soil immediately surrounding the building, or of the drainage ditch located east and south of the building complex. In order to accomplish this objective a screening sampling and analysis for Target Analyte List Metals was conducted. The screening sampling consisted of wipe

sampling of the interior steel framing, the painted floor surfaces in the Butler Building and the former warehouse (also from a storm drain junction box); concrete core sampling of the interior concrete surfaces in Building C-46 (assay building), the Butler Building, and Building C-37 (warehouse); and composite sampling of surface soils from the area east to southeast of the Butler Building, between the building complex and the fence and outside the fence. Surface water and sediment samples were obtained from the drainage ditch east and south of the Butler Building and Building C-39. A sediment sample was collected from the storm drain junction box. Also, a surface water and sediment sample was collected from the confluence of the drainage ditch with the stream south of Building C-39. All samples were analyzed for Target Analyte List metals. However, the storm drain junction box, sediment sample, also had semivolatiles analyzed. The results of the screening sampling and analysis will be used as the basis for determining whether releases of metals have occurred and the possibility of any future delineation sampling and analysis.

2.2 Surface soil sampling

On April 21 and 22, 1998, 6 composite surface soil samples, each comprised of three grab locations, were collected from 6 locations at the Precious Metals Recovery Facility (PMRF). Three soil composite samples were obtained from the area east of building C-38, the Butler Building, and building C-39 and west of the fence line. The locations were biased toward stressed or nonexistent vegetation areas. At each location, three aliquot grab samples were obtained, from a depth of 0-6 inches, with a stainless steel trowel and homogenized in a stainless steel bowl. Three soil composite samples were obtained on the hillside, 150 feet east of the building complex fence line. The locations were biased toward stressed or nonexistent vegetation areas. Dead trees were observed in the area of these locations. The locations were also down-wind and higher in elevation than the roof vents of the Butler Building. At each location, three aliquot grab samples were obtained, from 0-6 inches, with a stainless steel trowel and homogenized in a stainless steel bowl.

The soil samples were collected according to NJDEP Field Sampling Procedures Manual dated May 1992 and B&R Environmental SOP SA-1.3. The stainless steel trowels and bowls were decontaminated with Liquidnox, water, methanol, and deionized water between sample locations. The soil samples were placed directly into laboratory supplied 8-ounce jars and

stored on ice. The surface soil samples were analyzed for TAL Metals at RECRA Lab Net in University Park, Illinois.

The surface soil samples generally consisted of grayish brown silty very fine to medium grained sand with some subround pebbles and a trace of clay to a orange brown silty fine to medium grained sand in the surface soils located adjacent to the buildings. The surface soil samples consisted of a gray to dark gray silty fine grained sand in the soils located on the hillside east of the fence line.

2.3 Surface Water and Sediment Sampling

On April 22, 1998, two surface water samples were collected at the PMRF. One surface water sample was collected from the drainage ditch that flows north, located 7-feet east of the fence line, bordering the building complex . One surface water sample was collected at the confluence of the drainage ditch flowing west, located south of the building complex fence line and the stream, located south of building C-39. The sample's were obtained by directly dipping a laboratory supplied 1-liter plastic bottle into the water and allowing the surface water to flow into the bottle. The sample's were then preserved with nitric acid and stored on ice. Specific conductivity and pH measurements were recorded at the time of sample collection. The surface water samples were analyzed for TAL Metals at RECRA Lab Net in University Park, Illinois.

On April 22, 1998, three composite sediment samples, each comprised of two to three aliquot grab samples, and two grab sediment samples were collected at the PMRF. Two composite s diment samples were collected from the drainage ditch that flows north, located 7 fe t east of the fence line, bordering the building complex. One composite sediment sample was collected from the eastern end of the drainage ditch flowing west, located south of the fence lin , bordering the building complex. One grab sediment sample was collected from the confluence of the drainage ditch flowing west, located south of the building complex fence line, and the stream, located south of building C-39. One grab sediment sample was collected from a storm drainage junction box, located north of building C-38.

At each composite sediment sample location, two to three aliquot grab samples were obtained using a stainless steel hand auger and trowel and homogenized in a stainless steel bowl. A stainless steel hand auger and trowel was used to obtain the grab sediment sample at the confluence location. A stainless steel trowel was used to obtain the sediment sample from the floor of the storm drain junction box. The samples were collected from a depth of 0-6 inches from the center of the drainage ditch or stream with the exception of the storm drain sample.

The composite sediment samples located east of the building complex fence line generally consisted of a dark gray clayey fine to medium grained sand with some silt and pebbles or a tan fine grained sandy clay and silt. The composite sediment sample located south of the building complex fence line consisted of a yellow brown and gray very fine grained sand with clay. The two grab sediment samples generally consisted of a grayish brown silty fine grained sand with pebbles.

The surface water and sediment samples were collected according to NJDEP Field Sampling Procedures Manual dated May 1992 and B&R Environmental SOP SA-1.3. The stainless st el hand augers, trowels, and bowls were decontaminated with Liquidnox, water, methanol, and deionized water between sample locations. The sediment samples were placed directly into laboratory supplied 8-ounce jars and stored on ice. The sediment samples were analyzed for TAL Metals at RECRA Lab Net in University Park, Illinois. The storm drain junction box, sediment sample, also had semivolatile analysis.

2.4 Concrete Core Sampling

On April 22, 1998, five concrete core samples were collected at the PMRF. Two concrete core samples were collected from the former assay laboratory building floor, near the northern windows. Two concrete core samples were collected from cracked and pitted areas, on the Butler Building floor, near where former furnaces were located. One concrete core sample was collected from a stained area, on the floor of building C-37, where drums may have been stored.

Th samples were collected with a 2-inch diameter coring bit in conjunction with an electric concrete coring machine. During coring, the bit and surrounding area were kept damp with

deionized water applied from a spray bottle. The coring bit was advanced to a depth of 2 inches and withdrawn from the floor. A chisel was driven down into the open area, which the coring bit had cut, snapping the core from the surrounding concrete. The concrete core was then placed into a laboratory supplied 8- ounce sample container and stored on ice. The samples were analyzed for TAL Metals by RECRA Lab Net in University Park, Illinois.

The concrete coring bit was decontaminated with Liquidnox, water, methanol, and deionized water between sample locations.

2.5 Surface Wipe Sampling

On April 22, 1998, nine surface wipe samples (including one blank) were collected at the PMRF. Three surface wipe samples were collected from the Butler Building: one from a dusty surface on top of a garage door roll-up cover, located between building C-38 and the Butler Building; one from the concrete floor, located near a former furnace; and one from a dusty wall ledge, located between the Butler Building and building C-38. Three surface wipe samples were collected from building C-37: one from a dusty ledge of a pillar column; one from the dusty concrete floor; and one from the southern wall, three feet off the floor. One surface wipe sample was collected from the shower area located at the western end of building C-39, from a pillar column. One surface wipe sample was collected from the lower wall of the storm drain junction box, located north of building C-38. The surface wipe blank sample was collected in the Butler Building and was only exposed to air.

These wipe samples were collected according to NJDEP Field Sampling Procedures Manual dated May 1992. Samples were collected using a sterile, wrapped gauze pad (3 in. X 3 in.). The gauze pad was soaked with distilled water and excess water was squeezed out immediately before collection. The gauze pad was then wiped in both the horizontal and vertical directions over a premeasured area (25 cm X 25cm). The gauze pad was then placed into a sample container and stored on ice. The surface wipe samples were analyzed for TAL metal analysis by RECRA Lab Net in University Park, Illinois..

ATTACHMENT D

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- [x] Surface Soil
- [ ] Subsurface Soil
- [ ] Sediment
- [ ] Lagoon/Pond
- [ ] Other_____

Project Site Name: NWS - EARLE

Project Site Number: 1229-1700

Source Number: PMRF - SS - 01

Source Location: Prec. Metals Recov. Facilit

Sample Method: Stainless Steel Trowel & Bowl

Depth Sampled: 0-6" bgs

Sample Date & Time: 4-21-98 @ 1630

Sampled by: P Davis, S. Patselas

Signature(s): Paul M Di

Sample Type

- [x] Low Concentration
- [ ] High Concentration
- [ ] Grab
- [x] Composite
- [ ] Grab - Composite

Analysis	Preservative:
[ ] TCL VOAs	dark, 4°C
[ ] TCL SVOAs	dark, 4°C
[ ] TCL Pest/PCBs	dark, 4°C
[x] TAL Metals	4°C
[ ] Cyanide	4°C

Composite Sample Data

Sample	Time	Color and Description
A	1628	Silty med. grained
B	1629	Sand - small subroun
C	1629	pebbles (Brown)

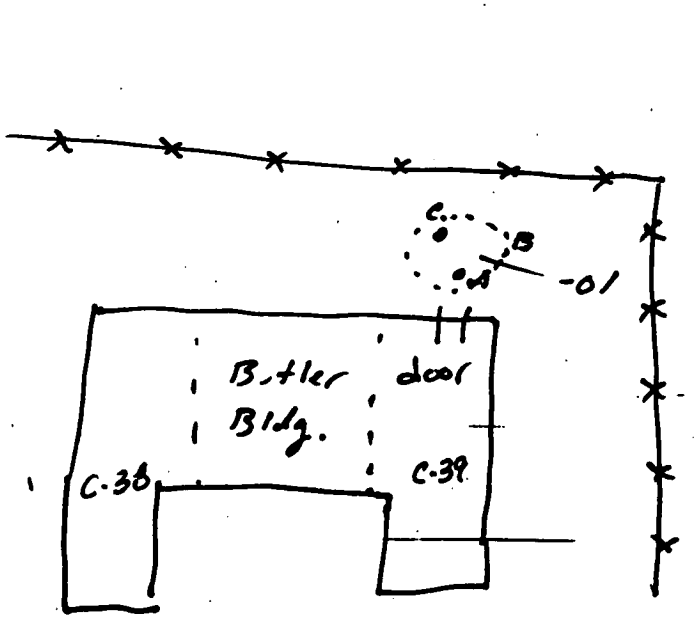
Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Brown	Silty medium grained sand small subround pebbles

Observations and Notes

- [ ] Duplicate sample taken

Sample Location Map



Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- [x] Surface Soil
- [ ] Subsurface Soil
- [ ] Sediment
- [ ] Lagoon/Pond
- [ ] Other_____

Project Site Name: NWS - EARLE

Project Site Number: 1229-1700

Source Number: PMRF-SS-02

Source Location: Prec. metals Recov. Facility

Sample Method: Stainless steel Trowel & bowl

Depth Sampled: 0-6" bgs

Sample Date & Time: 4-21-98 @ 1653

Sampled by: P. Davis, S. Patselas

Signature(s): Paul Davis

Sample Type

- [x] Low Concentration
- [ ] High Concentration
- [ ] Grab
- [x] Composite
- [ ] Grab - Composite

Analysis	Preservative:
[ ] TCL VOAs	dark, 4°C
[ ] TCL SVOAs	dark, 4°C
[ ] TCL Pest/PCBs	dark, 4°C
[x] TAL Metals	4°C
[ ] Cyanide	4°C

Observations and Notes

- [ ] Duplicate sample taken

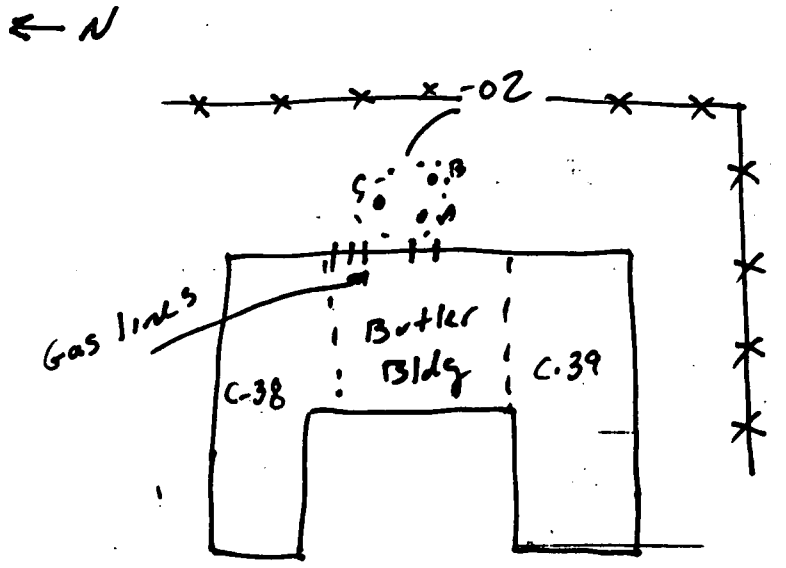
Composite Sample Data

Sample	Time	Color and Description
A	1650	Brn. Silty F.G. Sand
B	1650	Or. Brn Silty Fine Sand
C	1651	Brn. Silty F.G. Sand

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Brown + orange brn.	Silty fine-med grained sand

Sample Location Map



Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- [x] Surface Soil
- [ ] Subsurface Soil
- [ ] Sediment
- [ ] Lagoon/Pond
- [ ] Other_____

Project Site Name: NWS - EARLE

Project Site Number: 1229-1700

Source Number: PMRF-SS-03

Source Location: Prec. Metals Recov. Facility

Sample Method: Stainless steel Trowel & bowl

Depth Sampled: 0-6" bgs

Sample Date & Time: 4-21-98 @ 1708

Sampled by: P. Davis, S. Patselas

Signature(s): Paul M. Davis

Sample Type

- [x] Low Concentration
- [ ] High Concentration
- [ ] Grab
- [x] Composite
- [ ] Grab - Composite

Analysis	Preservative:
[ ] TCL VOAs	dark, 4°C
[ ] TCL SVOAs	dark, 4°C
[ ] TCL Pest/PCBs	dark, 4°C
[x] TAL Metals	4°C
[ ] Cyanide	4°C

Observations and Notes

- [ ] Duplicate sample taken

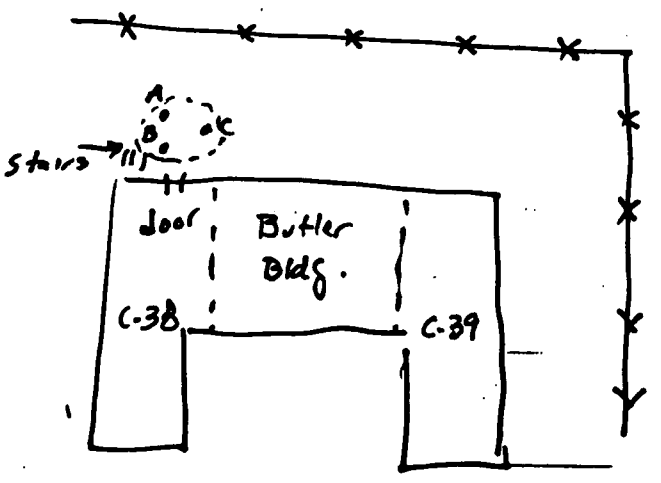
Composite Sample Data

Sample	Time	Color and Description
A	1702	Brn. silty FG sand
B	1703	Gray silty UFG sa. (clay)
C	1704	Gray " " " "

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Brown & Gray	silty very fine to fine grained sand - (clay)

Sample Location Map



Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- [x] Surface Soil
- [ ] Subsurface Soil
- [ ] Sediment
- [ ] Lagoon/Pond
- [ ] Other_____

Project Site Name: NWS - EARLE

Project Site Number: 1229-1700

Source Number: PMRF-SS-04

Source Location: Prec. metals Recov. Facilit

Sample Method: Stainless steel Trowel + bowl

Depth Sampled: 0-6" bgs

Sample Date & Time: 4-22-98 @ 0855

Sampled by: P. Davis, S. Patselas

Signature(s): Paul m. Di

Composite Sample Data

Sample	Time	Color and Description
A	0847	Dark gray silty FG Sa
B	0848	↓
C	0849	

Sample Type

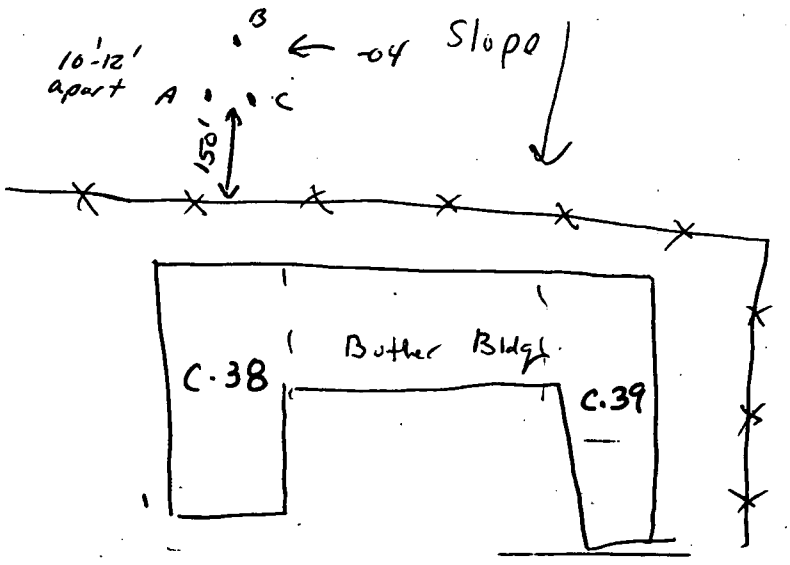
- [x] Low Concentration
- [ ] High Concentration
- [ ] Grab
- [x] Composite
- [ ] Grab - Composite

Analysis	Preservative:
[ ] TCL VOAs	dark, 4°C
[ ] TCL SVOAs	dark, 4°C
[ ] TCL Pest/PCBs	dark, 4°C
[x] TAL Metals	4°C
[ ] Cyanide	4°C

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, W t. etc.)
Dark gray	silty fine grained sand

Sample Location Map



Observations and Notes

- [ ] Duplicate sample taken

Area of stressed vegetation & dead trees collected on hillside
Area is higher than roadways

Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- [x] Surface Soil
- [ ] Subsurface Soil
- [ ] Sediment
- [ ] Lagoon/Pond
- [ ] Other_____

Project Sit Name: NWS - EARLE

Project Site Number: 1229-1700

Source Number: PMRF-SS-05

Source Location: Prec. metals Recov. Facility

Sample Method: Stainless steel Trowel & bowl

Depth Sampled: 0-6" bgs

Sample Date & Time: 4-22-98 @ 0915

Sampled by: P. Davis, S. Patselas

Signature(s): Paul M. D

Sample Type

- [x] Low Concentration
- [ ] High Concentration
- [ ] Grab
- [x] Composite
- [ ] Grab - Composite

Analysis	Preservative:
[ ] TCL VOAs	dark, 4°C
[ ] TCL SVOAs	dark, 4°C
[ ] TCL Pest/PCBs	dark, 4°C
[x] TAL Metals	4°C
[ ] Cyanide	4°C

Composite Sample Data

Sample	Time	Color and Description
A	0908	Gray Silty f.g. sand
B	0910	" " " "
C	0912	Gray Silty F.G. Sand

Sample Data

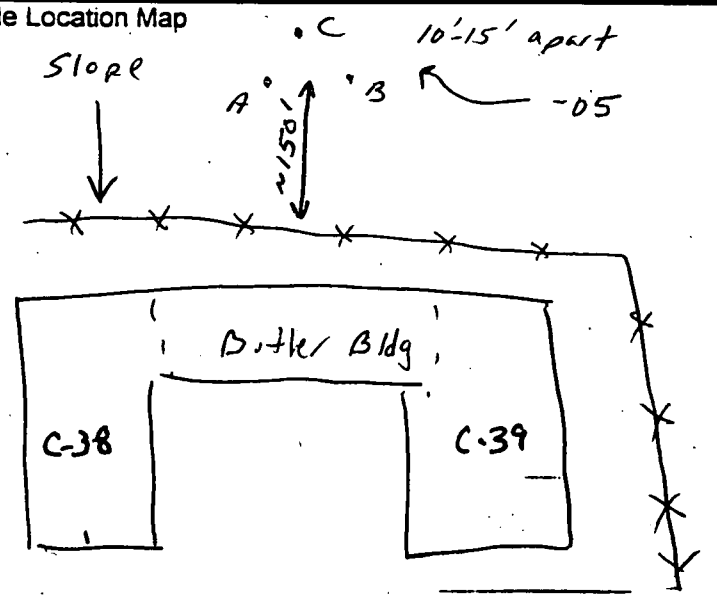
Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Gray	Silty fine grained Sand

Observations and Notes

- [ ] Duplicate sample taken

Area of dead trees
Collected on hillside
Area is higher than
roof vents

Sample Location Map



Revised 4/5/96

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- [x] Surface Soil
- [ ] Subsurface Soil
- [ ] Sediment
- [ ] Lagoon/Pond
- [ ] Other_____

Project Site Name: NWS - EARLE

Project Site Number: 1229-1700

Source Number: PMRF - SS-0C

Source Location: Prec. metals Recov. Facility

Sample Method: Stainless steel Trowel & bowl

Depth Sampled: 0-6" bgs

Sample Date & Time: 4-22-98 @ 1040

Sampled by: P. Davis, S. Patselas

Signature(s): Paul Davis

Composite Sample Data

Sample	Time	Color and Description
A	1035	Dark gray F.G. Silty Sand
B	1036	Dark gray Silty F.G. Sand
C	1037	" " " " "

Sample Type

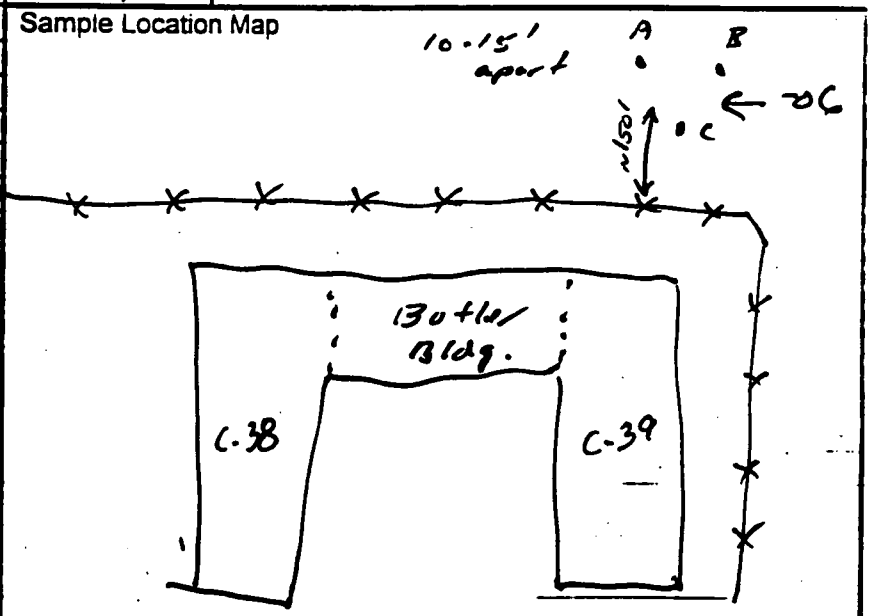
- [x] Low Concentration
- [ ] High Concentration
- [ ] Grab
- [x] Composite
- [ ] Grab - Composite

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Dark gray	Silty fine grained Sand

Analysis	Preservative:
[ ] TCL VOAs	dark, 4°C
[ ] TCL SVOAs	dark, 4°C
[ ] TCL Pest/PCBs	dark, 4°C
[x] TAL Metals	4°C
[ ] Cyanide	4°C

Sample Location Map



Observations and Notes

- [ ] Duplicate sample taken

Area of Stressed vegetation & dead trees
Area is higher than roof vents, on hillside

Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ■ Sediment
- ☐ Lagoon/Pond
- ☐ Other_____

Project Site Name: NWS - EARLE

Project Site Number: 1229-1700

Source Number: PMRF-SD-01

Source Location: Prec. metals Recovery Fac.

Sample Method: Hand Auger / Trowel / S.S. Bowl

Depth Sampled: 0-6"

Sample Date & Time: 4-22-98 @ 1100

Sampled by: P. Davis, S. Patselas

Signature(s): Paul Davis

Sample Type

- ■ Low Concentration
- ☐ High Concentration
- ☐ Grab
- ■ Composite
- ☐ Grab - Composite

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

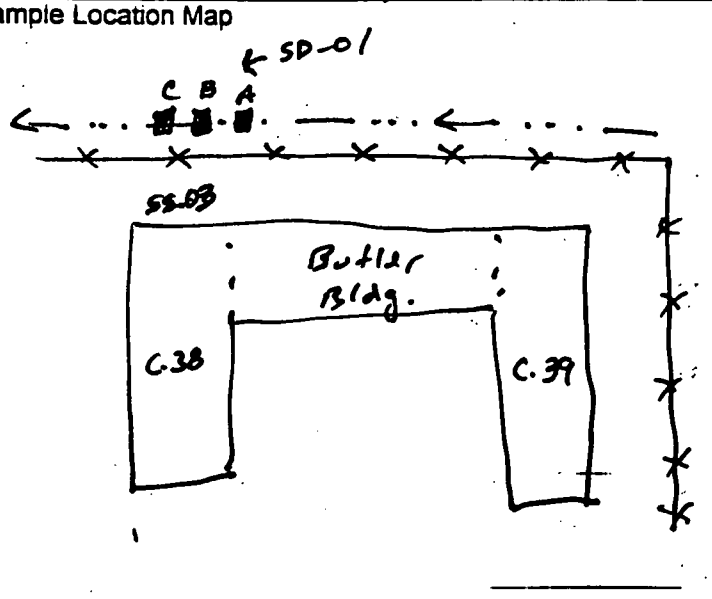
Composite Sample Data

Sample	Time	Color and Description
A	1051	Dk. Gray Clayey FG Sand
B	1053	" " "
C	1056	" " "
		(some silt)

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Dark Gray	Clayey f-m grained sand some silt/pebbles wet

Sample Location Map



Observations and Notes

☐ Duplicate sample taken

Collected from drainage ditch across fence from SS-03.

Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ■ Sediment
- ☐ Lagoon/Pond
- ☐ Other_____

Project Site Name: NWS - EARLE

Project Site Number: 1229-1700

Source Number: PMRF - SD-02

Source Location: Prec. metals Recovery Fac

Sample Method: Hand Auger / Trowel S.S. Bowl

Depth Sampled: 0-6" bgs

Sample Date & Time: 4.22.98 @ 1130

Sampled by: P. Davis, S. Patselas

Signature(s): [signature]

Composite Sample Data

Sample	Time	Color and Description
A	1123	Tan Sandy clay & Silt
B	1125	Tan Sandy Clay & Silt

Sample Type

- ■ Low Concentration
- ☐ High Concentration
- ☐ Grab
- ■ Composite
- ☐ Grab - Composite

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Sample Data

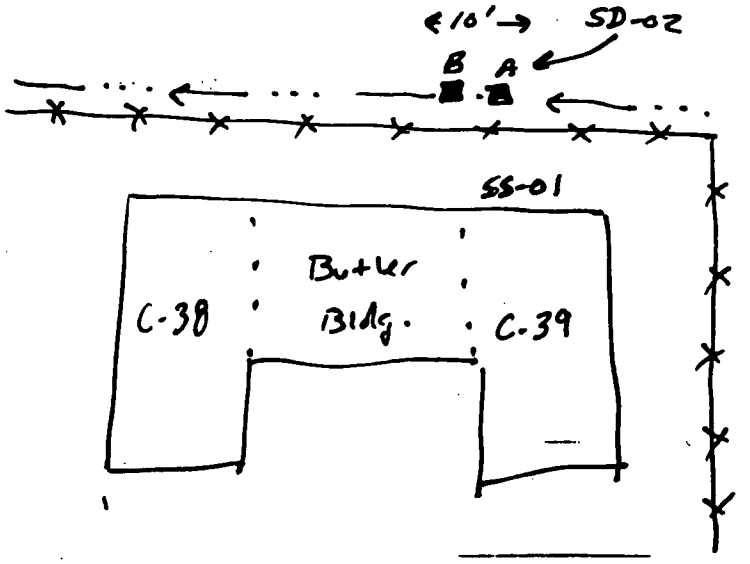
Color	Description: (Sand, Clay, Dry, Moist, W t. etc.)
Tan	fine grained sandy clay & silt

Observations and Notes

☐ Duplicate sample taken

Across from SS-01

Sample Location Map



Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ■ Sediment
- ☐ Lagoon/Pond
- ☐ Other_____

Project Site Name: NWS - EARLE

Project Site Number: 1229-1700

Source Number: PMRF-SD-03

Source Location: Prec. Metals Recovery Fac

Sample Method: Hand Auger / trowel / S.S. bowl

Depth Sampled: 0-6" bgs

Sample Date & Time: 4-22-98 @ 1145

Sampled by: P. Davis, S. Patselas

Signature(s): Paul Davis

Composite Sample Data

Sample	Time	Color and Description
A	1133	Dk. Grey VFG Sa. w/ Silt
B	1135	Yellow brn. VFG Sand/clay
C	1137	" " " " "

Sample Type

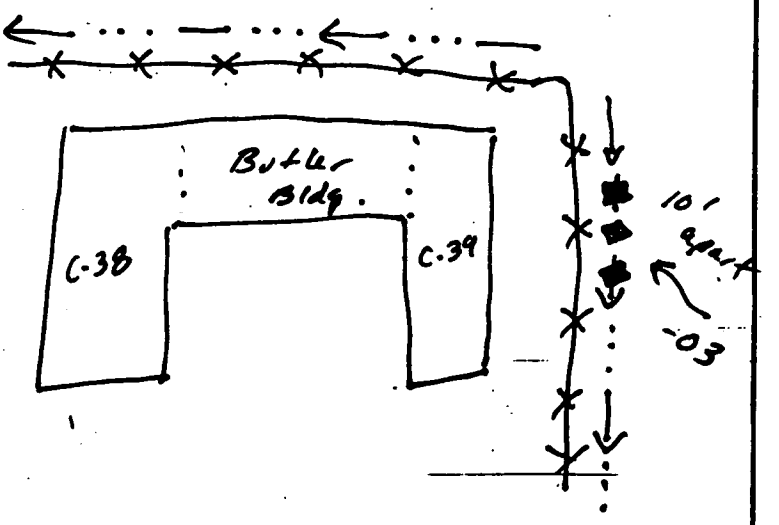
- ■ Low Concentration
- ☐ High Concentration
- ☐ Grab
- ■ Composite
- ☐ Grab - Composite

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Yellow brown/grey	very fine grained sand w/ clay wet

Sample Location Map



Observations and Notes

☐ Duplicate sample taken

Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ■ Sediment
- ☐ Lagoon/Pond
- ☐ Other_____

Project Site Name: NWS - EARLE

Project Site Number: 1229-1700

Source Number: PMRF- Box-01

Source Location: Prec. metals Recovery Fac

Sample Method: S.S. Trowel

Depth Sampled: On surface

Sample Date & Time: 4-22-98 @ 1625

Sampled by: P. Davis, S. Patselas

Signature(s): Paul Davis

Sample Type

- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
■ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Composite Sample Data

Sample	Time	Color and Description

N.A.

Sample Data

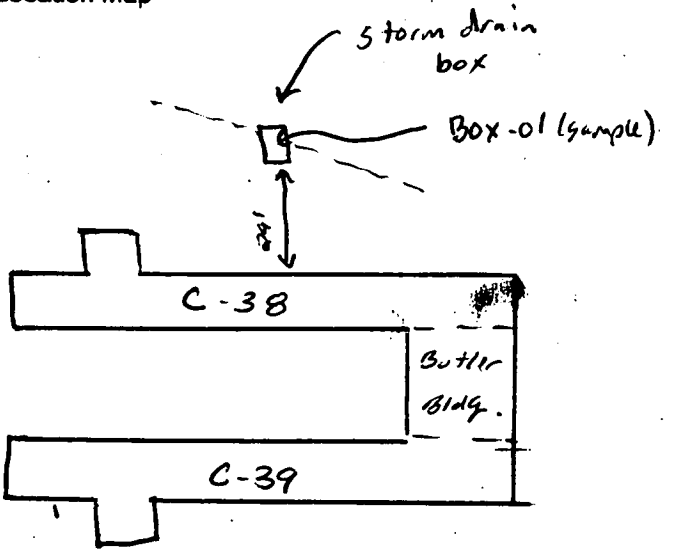
Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Gray brown	Silty fine grained Sand w/ pebbles

Observations and Notes

☐ Duplicate sample taken

Collected from storm drain Junction box north of bldg. C-38. Sediment on bottom of box.

Sample Location Map



Revised 4/5/98

SURFACE WATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NWS- EARLE
Project No.: 1229 -1700

[] Stream
[] Spring
[] Pond
[] Lake
[■] Other: Drainage Ditch
[] QA Sample Type:

Sample ID No.: PMRF-SW-01
Sample Location: Prec. Metals Recov. Fac.
Sampled By: PD / SP
C.O.C. No.:

Type of Sample:
[■] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. ~~mS/cm~~ µS	Temp. Degrees C	Turbidity NTU	DO mg/l	Salinity %	Other NA
Date: 4-22-98								
Time: 1110								
Depth: Surface								
Method: Direct Dip	clear	5.43	5.71			—	—	—

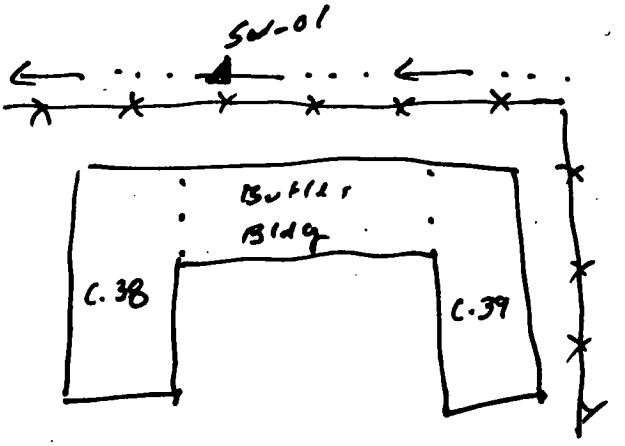
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TAL metals	HNO3	1 L poly	—

OBSERVATIONS / NOTES:

Drainage ditch east of Butler Bldg. 15'-20' South of PMRF-SD-01 location.

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Paul M. [illegible]

SURFACE WATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NAVS- EARLE
Project No.: 1229-1700

Sample ID No.: PMRF-SW-02
Sample Location: Prec. metals recov. Fac.
Sampled By: PD/SD
C.O.C. No.:

[x] Stream
[] Spring
[] Pond
[] Lake
[] Other: Confluence of ditch
[] QA Sample Type:

Type of Sample:
[x] Low Concentration
[] High Concentration

SAMPLING DATA:

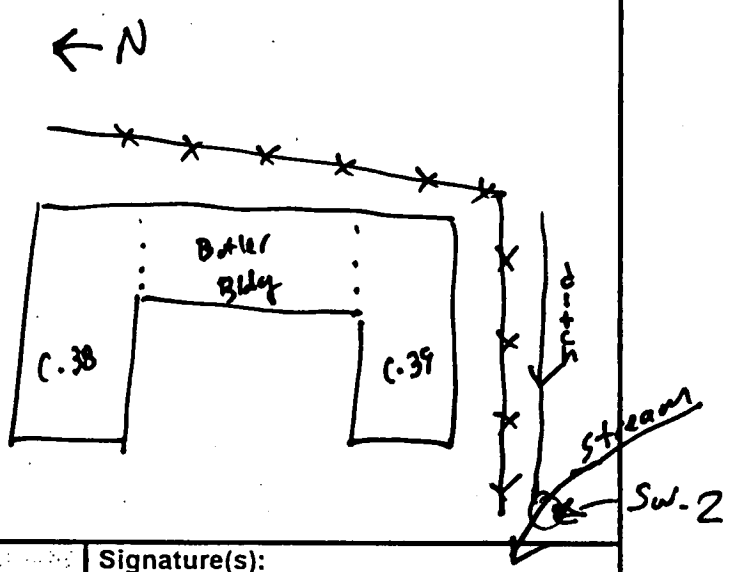
Date: 4·22·98	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 1210	Visual	Standard	~~mS/cm~~ uS	Degrees C	NTU	mg/l	%	NA
Depth: Surface								
Method: direct dip	clear	3.84	83.5			—	—	—

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TAL metals	4°/HNO3	1 L poly	✓

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Concrete Core

Project Site Name: NWS - EARLE

Project Site Number: 1229-1700

Source Number: PMRF - CC-01

Source Location: Prec. Metals Recov. Fac.

Sample Method: Concrete Core Drill (Hollow Bit)

Depth Sampled: 0 - 2" bgs

Sample Date & Time: 4-22-98 @ 1310

Sampled by: P. Davis, S. Patselas

Signature(s): [signature]

Composite Sample Data

Sample	Time	Color and Description
	N.A.	

Sample Type

- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Sample Data

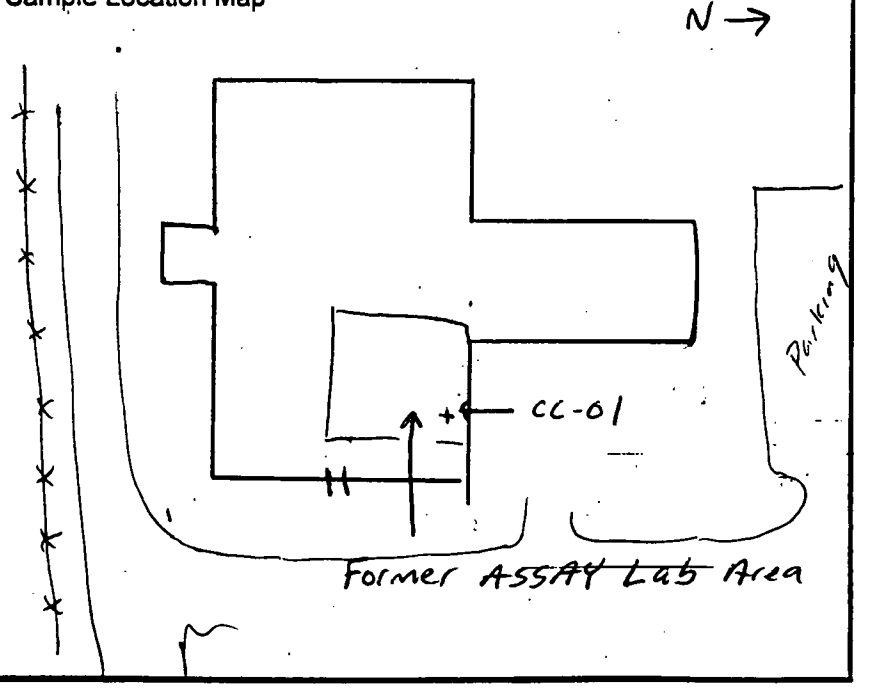
Color	Description: (Sand, Clay, Dry, Moist, W t. etc.)
Gray	Concrete - some agregate 2" slug

Observations and Notes

☐ Duplicate sample taken

Collected from former Assay building. Concrete floor. Near window

Sample Location Map



Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Concrete Core

Project Site Name NWS - EARLE

Project Site Number 1229-1700

Source Number PMRF - CC-02

Source Location Prec. Metals Recov. Fac.

Sample Method: Concrete Core Drill (Hollow Bit)

Depth Sampled: 0 - 2" bgs

Sample Date & Time: 4.22-98 @ 1335

Sampled by: P. Davis, S. Patselas

Signature(s): Paul Davis

Sample Type

- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Composite Sample Data

Sample	Time	Color and Description
	N.A.	

Sample Data

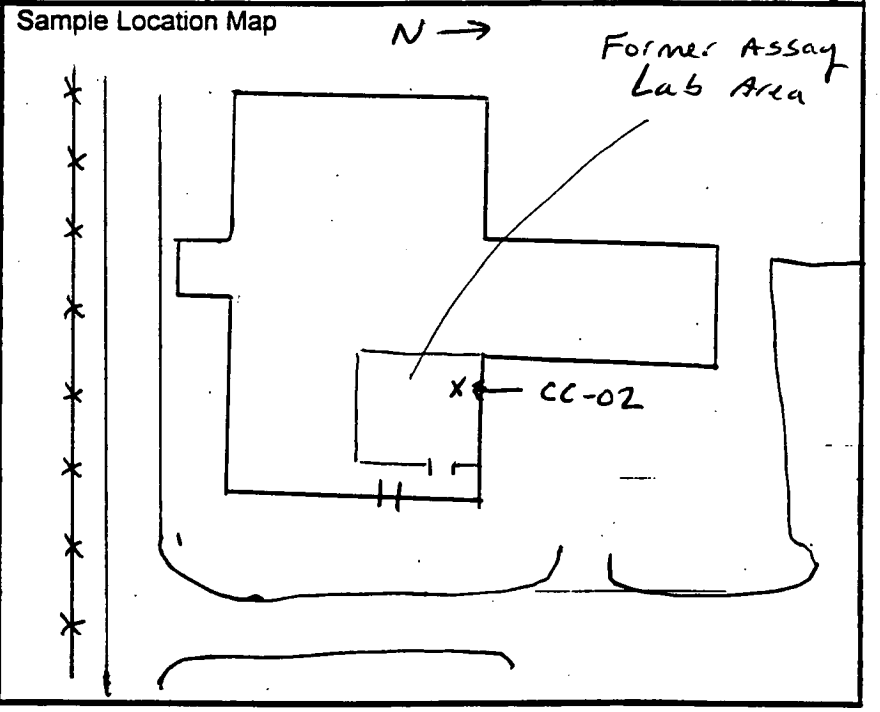
Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Gray	Concrete slug 2" dia Sand aggregate

Observations and Notes

☐ Duplicate sample taken

Collected from former Assay Building. Concrete floor. Near window

Sample Location Map



Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Concrete Core

Project Site Name: NWS - EARLE

Project Site Number: 1229-1700

Source Number: PMRF - CC-03

Source Location: Prec. Metals Recov. Fac.

Sample Method: Concrete Core Drill (Hollow Bit)

Depth Sampled: 0 - 2" bgs

Sample Date & Time: 4-22-98 @ 1405

Sampled by: P. Davis, S. Patselas

Signature(s): Paul Davis

Sample Type

- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Observations and Notes

☐ Duplicate sample taken

collected from former warehouse - Bldg. C-37 stained area where drums may have been stored.
- floor sample -

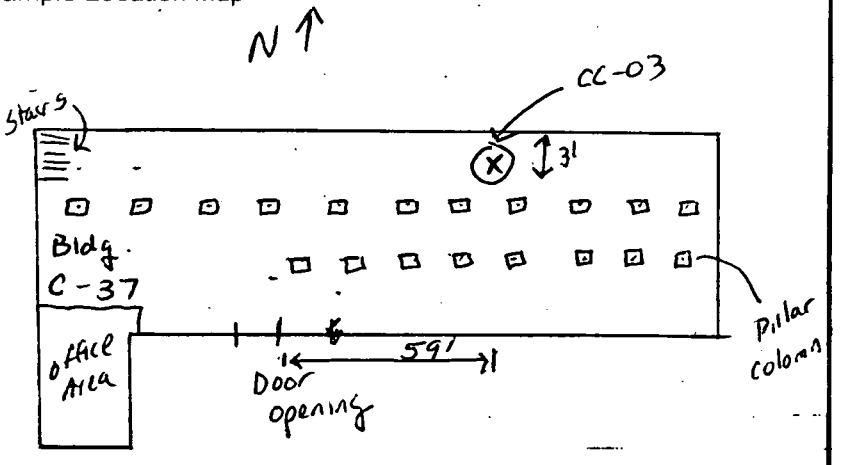
Composite Sample Data

Sample	Time	Color and Description
	N.A.	

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Gray	Concrete - 2" - dia. slug some aggregate.

Sample Location Map



Revised 4/5/96

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Concrete Core

Project Site Name: NWS - EARLE

Project Site Number: 1229 - 1700

Source Number: PMRF-CC-04

Source Location: Prec. Metals Recov. Fac.

Sample Method: Concrete Core Drill (Hollow Bit)

Depth Sampled: 0 - 2" bgs

Sample Date & Time: 4.22.98 @ 1505

Sampled by: P. Davis, S. Patselas

Signature(s): Paul Davis

Composite Sample Data

Sample	Time	Color and Description
	N.A	

Sample Type

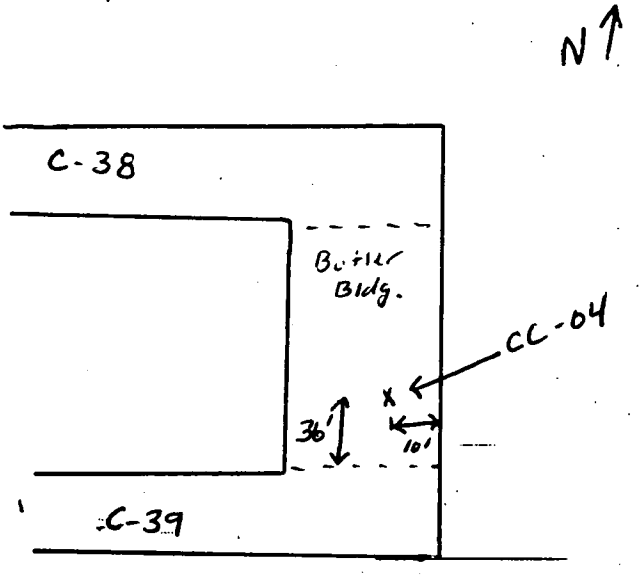
- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Gray	Concrete 2"-dia. slug Some agregate

Sample Location Map



Observations and Notes

☐ Duplicate sample taken

Collected from "Butler Building" concrete floor
Pitted - cracked floor where furnace was.

Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Concrete Core

Project Site Name NWS - EARLE

Project Site Number 1229 - 1700

Source Number PMRF - CC - 05

Source Location Prec. Metals Recov. Fac.

Sample Method: Concrete Core Drill (Hollow Bit)

Depth Sampled: 0 - 2" bgs

Sample Date & Time: 4.22.98 @ 1515

Sampled by: P. Davis, S. Patseles

Signature(s): Paul Davis

Sample Type

- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Observations and Notes

☐ Duplicate sample taken

collected from "Butler Building" - concrete floor pitted area. Near where furnace was.

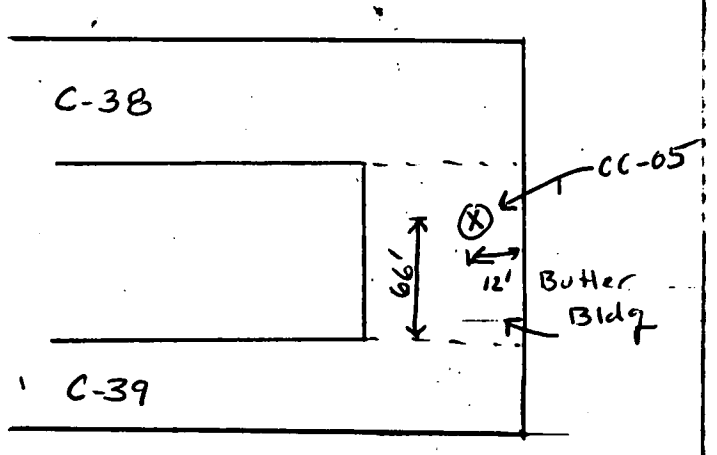
Composite Sample Data

Sample	Time	Color and Description
	N.A.	

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Gray	concrete 2"-dia. slug some agregate.

Sample Location Map



Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Surface wipe

Project Site Name: NWS - EARLE

Project Site Number: 1229-1700

Source Number: PMRF-W1-01

Source Location: Prec. metals Recov. Fac.

Sample Method: (2) 3" x 3" Gauze Pad's

Depth Sampled: Surface wipe

Sample Date & Time: 4-22-98 @ 1420

Sampled by: P. Davis

Signature(s): Paul Davis

Composite Sample Data

Sample	Time	Color and Description
	N.A.	

Sample Type

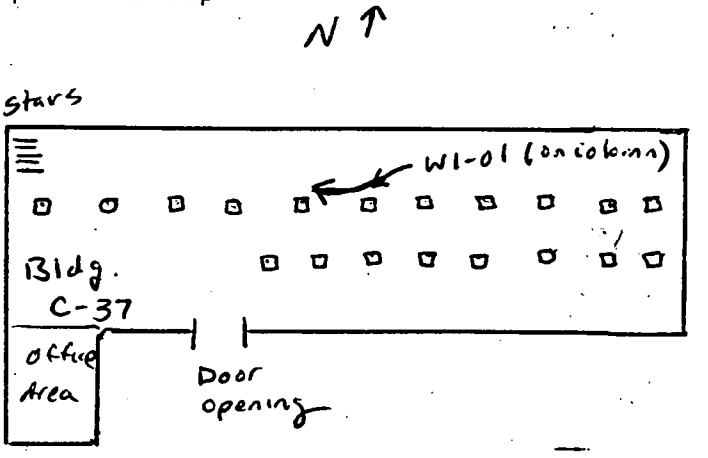
- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Dark brown	Dust - Dirty area.

Sample Location Map



Observations and Notes

☐ Duplicate sample taken

collected from Building C-37; from a Pillar column.

Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Surface wipe

Project Site Name: NWS - EARLE

Project Site Number: 1229 - 1780

Source Number: PMRF - WI-02

Source Location: Prec. metals Recov. Fac.

Sample Method: (2) 3" x 3" Gauze Pad's

Depth Sampled: Surface wipe

Sample Date & Time: 4-22-98 @ 1425

Sampled by: P. Davis

Signature(s): Paul Davis

Composite Sample Data

Sample	Time	Color and Description

N.A.

Sample Type

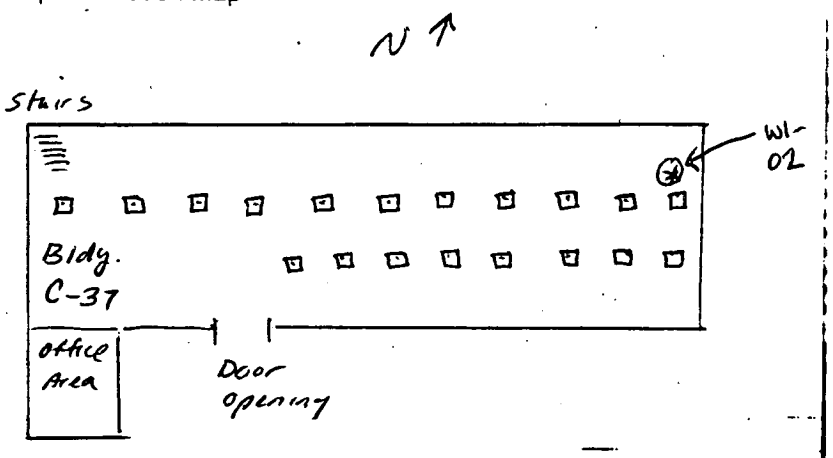
- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Dark brown	Dust - Dirty area

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Sample Location Map



Observations and Notes

☐ Duplicate sample taken

Collected in Bldg. C-37 on floor, next to Column #1

Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Surface wipe

Project Site Name NWS - EARLE

Project Site Number 1229-1700

Source Number PMRF-W1-03

Source Location Prec. metals Recov. Fac.

Sample Method: (2) 3" x 3" Gauze Pad's

Depth Sampled: Surface wipe

Sample Date & Time: 4.22.98 @ 1430

Sampled by: P. Davis

Signature(s): Paul Davis

Composite Sample Data

Sample	Time	Color and Description
	N.A.	

Sample Type

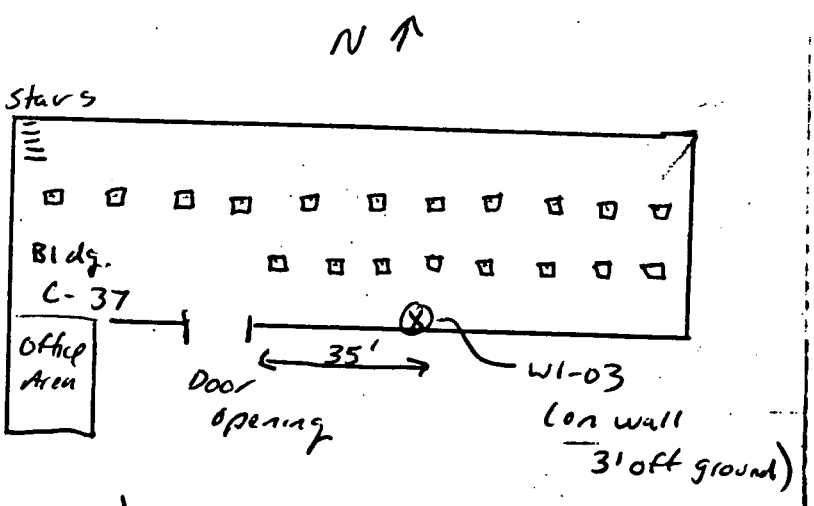
- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Brown	Dust & Dirty area.

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Sample Location Map



Observations and Notes

☐ Duplicate sample taken

Collected from Bldg. C-37 on South-side wall.

Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Surface wipe

Project Site Name NWS - EARLE

Project Site Number 1229-1700

Source Number PMRF - W1-04

Source Location Prec. metals Recov. Fac.

Sample Method: (2) 3" x 3" Gauze Pad's

Depth Sampled: Surface wipe

Sample Date & Time: 4-22-98 @ 1520

Sampled by: P. Davis

Signature(s): Paul Davis

Composite Sample Data

Sample	Time	Color and Description

N/A

Sample Type

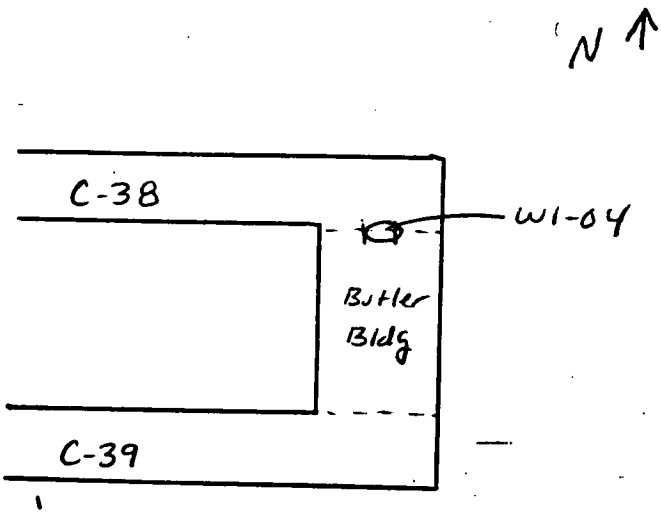
- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Dark Brown	Dust + Dirt

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Sample Location Map



Observations and Notes

☐ Duplicate sample taken

Collected from Garage door roll-up cover between Butler Bldg + C-38.

Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Surface wipe

Project Site Name NWS - EARLE

Project Site Number 1229-1700

Source Number PMRF-W1-05

Source Location Prec. metals Recov. Fac.

Sample Method: (2) 3" x 3" Gauze Pad's

Depth Sampled: Surface wipe

Sample Date & Time: 4.22.98 @ 1535

Sampled by: P. Davis

Signature(s): Paul Davis

Sample Type

- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Composite Sample Data

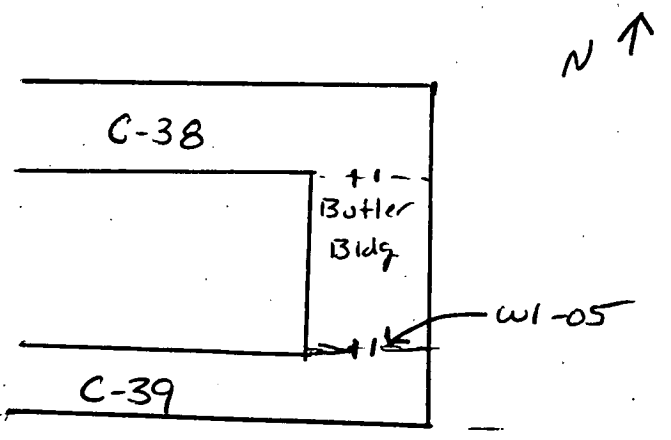
Sample	Time	Color and Description

N.A.

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Brown	Dust & Dirty area

Sample Location Map



Observations and Notes

☐ Duplicate sample taken

Collected from wall (ledge) at south end of butler building, adjacent to Bldg. C-39.

Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Surface wipe

Project Site Name NWS - EARLE

Project Site Number 1229-1780

Source Number PMRF-W1-06

Source Location Prec. metals Recov. Fac.

Sample Method: (2) 3" x 3" Gauze Pad's

Depth Sampled: Surface wipe

Sample Date & Time: 4.22.98 @ 1545

Sampled by: P. Davis

Signature(s): Paul Davis

Composite Sample Data

Sample	Time	Color and Description
	N/A	

Sample Type

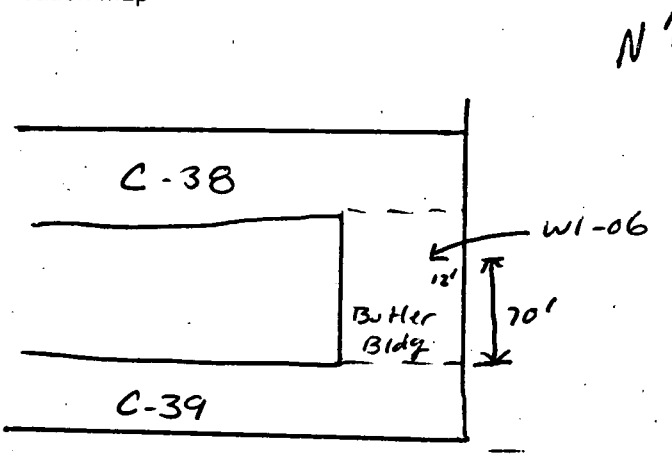
- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, W t. etc.)
Dark Brown	Dust + Dirty area.

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Sample Location Map



Observations and Notes

☐ Duplicate sample taken

Collected from Butler Building Floor.

Near where a furnace was

Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Surface wipe

Project Site Name NWS - EARLE

Project Site Number 1229-1700

Source Number PMRF-WI-07

Source Location Prec. metals Recov. Fac.

Sample Method: (2) 3" x 3" Gauze Pad's

Depth Sampled: Surface wipe

Sample Date & Time: 4-22-98 @ 1555

Sampled by: Paul Davis

Signature(s): Paul Davis

Sample Type

- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Composite Sample Data

Sample	Time	Color and Description
	N.A.	

Sample Data

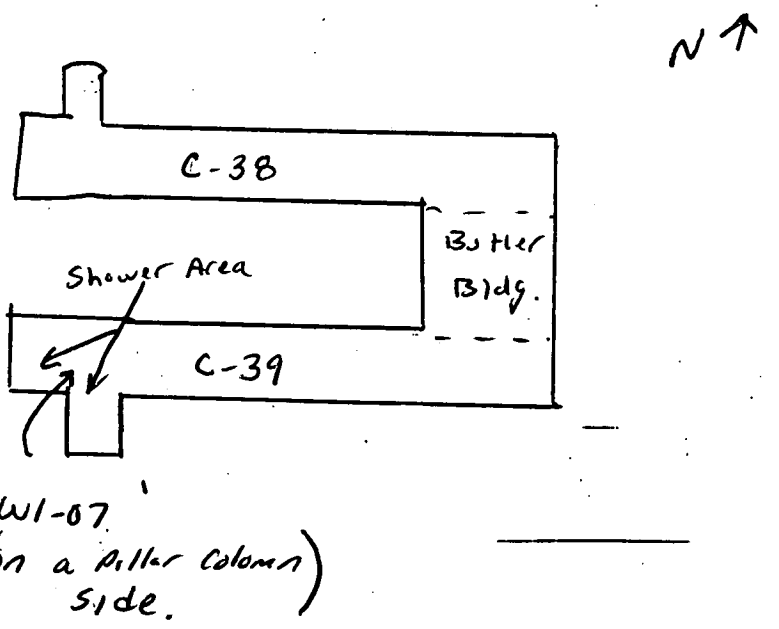
Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
Light brown	slightly dusty / dirty area

Observations and Notes

☐ Duplicate sample taken

collected from bldg C-39 - shower area. from a colomn side.

Sample Location Map



Revised 4/5/96

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Surface wipe

Project Site Name NWS - EARLE

Project Site Number 1229-1780

Source Number PMRF-W1-08

Source Location Prec. metals Recov. Fac.

Sample Method: (2) 3" x 3" Gauze Pad's

Depth Sampled: Surface wipe

Sample Date & Time: 4.22.98 @ 1610

Sampled by: P. Davis

Signature(s): Paul Davis

Sample Type

- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Composite Sample Data

Sample	Time	Color and Description
	N.A.	

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)
N/A	N/A

Sample Location Map

Wipe Blank Sample

Collected in Butler Building. (exposed to Air, only)

Observations and Notes

☐ Duplicate sample taken

Revised 4/5/98

SOLID/SOIL/SEDIMENT SAMPLE LOG SHEET

Brown & Root Environmental

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Lagoon/Pond
- ■ Other Surface wipe

Proj ct Site Name NWS - EARLE

Project Site Number 1229-1700

Source Number PMRF-W1-09

Source Location Prec. metals Recov. Fac.

Sample Method: (2) 3" x 3" Gauze Pad's

Depth Sampled: Surface wipe

Sample Date & Time: 4-22-98 @ 1630

Sampled by: Paul Davis

Signature(s): Paul Davis

Composite Sample Data

Sample	Time	Color and Description
	N.A	

Sample Type

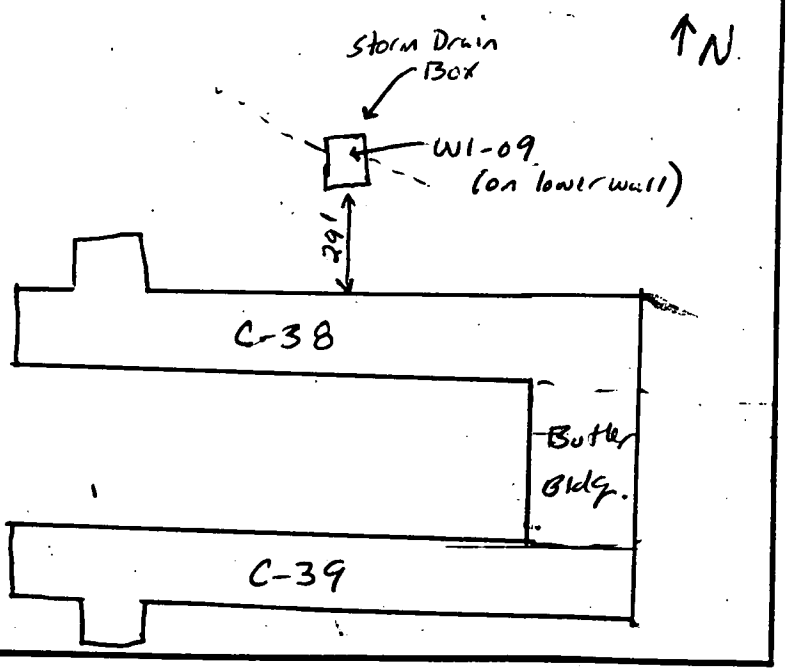
- ■ Low Concentration
- ☐ High Concentration
- ■ Grab
- ☐ Composite
- ☐ Grab - Composite

Sample Data

Color	Description: (Sand, Clay, Dry, Moist, W t, etc.)
Brown	mud stained - dirty area

Analysis	Preservative:
☐ TCL VOAs	dark, 4°C
☐ TCL SVOAs	dark, 4°C
☐ TCL Pest/PCBs	dark, 4°C
■ TAL Metals	4°C
☐ Cyanide	4°C

Sample Location Map



Observations and Notes

☐ Duplicate sample taken

Revised 4/5/98

CHAIN OF CUSTODY RECORD

Tetra Tech NUS / Brown + Root Env.

PROJECT NO.:	SITE NAME:
1221	NWS Earle

SAMPLERS (SIGNATURE): Paul M. [illegible]

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	1 oz Chloride, Sulfate	8 oz TAL metals	1L poly Mercury TAL metals				REMARKS
1X6	4/2/98	1405		✓	1X6-SB-32-03	1	1	–	–				
PMRF	↓	1630	✓	✓	PMRF-SS-01	1	–	1	–				
↓	↓	1153	✓		PMRF-SS-02	1	–	1	–				
↓	↓	1755	✓		PMRF SS-03	1	–	1	–				
↓	↓	1730		✓	PMRF-042198-C	1	–	–	1				Rinsate Blank

RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
Paul M. [illegible]	4/2/98 1100				
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS: Fed Ex # 8013 2026 2930	

Order No. 70440 (0693)

Tetra Tech NUS / B+RE

CHAIN OF CUSTODY RECORD

PROJECT NO.: 1221

SITE NAME: NWIS - Earle

SAMPLERS (SIGNATURE): [illegible]

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	8 oz TAL metals	1L (Hg) TAL metals	8 oz concrete	4 oz. gauze Tal metals	4 oz. gauze TAL metals	4 oz. gauze mercury	REMARKS
PMRF	7/29	[illegible]	✓		PMRF-SS-04	1	1						
		1115	✓		PMRF-SS-05	1	1						
		1040	✓		PMRF-SS-06	1	1						
		1100	✓		PMRF-SD-01	1	1						
		1130	✓		PMRF-SD-02	1	1						
		1145	✓		PMRF-SD-03	1	1						
		1210	AN	✓	PMRF-SW-02	1	–	1					
		1110		✓	PMRF-SW-01	1	–	1					
		1213		✓	PMRF-SD-04	1	1						
		1310		✓	PMRF-CC-01	1			1				
		1335		✓	PMRF-CC-02	1			1				
		1405		✓	PMRF-CC-03	1			1				
		1420		✓	PMRF-W1-01	2				1	1		
		[illegible]		✓	PMRF-W1-02	2				1	1		

RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
[illegible]	4-4-96 1150				
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS: Fed Ex 8013 2066 2740	

Order No. 70440 (0693)

CHAIN OF CUSTODY RECORD

Tetra Tech NUS / BRE

PROJECT NO.: 1227

SITE NAME: NWS Earle

SAMPLERS (SIGNATURE): [signature]

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	4oz gowr & TAL metals	4oz gowr & TAL metals	8oz. (Reactive) TAL metals	1L HNO3 TAL metals	8oz (soil) TAL metals	8oz (soil) TCL SVOC	REMARKS
PMRF	4/22/98	1430		✓	PMRF - W1 - 03	2	1	1					
		1505		✓	PMRF - CC - 04	1 ~~2~~	~~1~~	~~1~~	1				
		1515		✓	PMRF - CC - 05	1 ~~2~~	~~1~~	~~1~~	1				
		1520		✓	PMRF - W1 - 04	2	1	1					
		1535		✓	PMRF - W1 - 05	2	1	1					
		1545		✓	PMRF - W1 - 06	2	1	1					
		[illegible]		✓	PMRF - W1 - 07	2	1	1					
		1610		✓	PMRF - W1 - 08	2	1	1					
		1625		✓	PMRF - Box 01	2	–	–	–	–	1	1	
		1630		✓	PMRF - W1 - 09	2	1	1					
		[illegible]		✓	PMRF - RB - 042298 - A	1	–	–	–	1			insale
↓	↓	1655		✓	PMRF RB - 042298 - B	1	–	–	–	1	–		

RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
[signature]	4/22/98				
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED F R LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS: Fed Ex # 8015 2026 2940	

Order No. 70440 (0693)