Environmental Restoration Program

OPERABLE UNIT 5
NEW PROPERTY PHASE I
FIELD REPORT

MOUND PLANT
MIAMISBURG, OHIO

VOLUME II - APPENDICES A-G

July 1995

Final (Revision 1)

U.S. Department of Energy
Ohio Field Office

EG&G Mound Applied Technologies

DATA QUALIFIERS

The primary data qualifiers to be applied, as described in the CLP Functional Guidelines and in Section 4.0 and 5.0 of Appendix H, of the QAPjP (DOE 1993c).

U	-	The material was analyzed, but was not detected. The associated numerical value is the sample quantitation limit.
J	-	The associated numerical value is an estimated quantity.
R	-	The data are unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.
N	-	Presumptive evidence of presence of material.
NJ	-	Presumptive evidence of the presence of the material at an estimated quantity.
UJ	-	The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

Subqualifiers are used to assist in data assessment by indicating the source of the primary qualifier. These subqualifiers are attached to the primary qualifier, separated by a hyphen. The following is a list of allowable subqualifiers.

SUBQUALIFIERS - ORGANICS

B	-	Qualified due to method blank or a field blank
C	-	Qualified due to calibration
H	-	Holding time exceeded
K	-	Qualified due to surrogate recovery
S	-	Qualified due to matrix spike recovery
I	-	Qualified due to internal recovery
P	-	Pesticide/PCB results have >25% difference on two different columns
(+)	-	Potential positive bias (added after subqualifier with a parentheses)
(-)	-	Potential negative bias (added after subqualifier with a parentheses)

SUBQUALIFIERS - INORGANICS

B	-	Qualified due to method blank of field blank
C	-	Qualified due to calibration
H	-	Holding time exceeded
S	-	Qualified due to matrix spike recovery
I	-	Interference (ICP serial dilution, ICS, or GFAA spike recovery)
D	-	Duplicate (replicate limits exceeded)

L	-	Qualified due to LCS
(+)	-	Potential positive bias (added after subqualifier with a parentheses)
(-)	-	Potential negative bias (added after subqualifier with a parentheses)

Examples of final qualification might be J-C, UJ-S(+), UJ-BC(-), etc.

APPENDIX A

BORING LOGS FOR OU9 MONITORING WELLS IN THE NEW PROPERTY

GEOLOGIC LOG

MOUND PLANT

Project Manager: Grover C. Cox

Drilling Company	Bowser and Morner	Borehole/Well Id	0812
Drilling Method	Auger	STATE PLANE COORDINATES	
Drilling Fluid	None	North (ft)	595711.00
Date Started	9/23/83	East (ft)	1497082.78
Date Completed	9/23/83	Ground Surface Elev. (ft)	795.20
Logged By	Bowser and Morner	Top of Casing Elev. (ft)	798.20
Checked By	Tom Tharp	Total Depth (ft)	10.0
Comments:	Bowser and Morner Well # 12.		

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
0							TS	Topsoil.
	SS	LI GT	1A	BACKFILL: Grout. SEAL: Bentonite.			ML	Brown sandy silt, very stiff, damp, trace clay.
	SS	LI GT	2A	CASING: Schedule 40 PVC, 1.25".			ML	Brown and gray sandy silt, moderately stiff, damp, trace rock fragments, trace clay.
5	SS	LI GT	3A	FILTER PACK: Ottawa sand.			CL-ML	Gray silt and clay, hard, moist, trace rock fragments, trace sand.
▼	SS	LI GT	4A	SCREEN: .02" slot, PVC, 1.25".				
10								Total Depth = 10.0 feet.
15								
20								

GROUNDWATER

	DEPTH	HOUR	DATE
▽			
▼	8.50		09/26/83

WESTON

GEOLOGIC LOG

MOUND PLANT

Project Manager: Grover C. Cox

Drilling Company	Bowser and Morner	Borehole/Well Id	0817
Drilling Method	Auger	STATE PLANE COORDINATES	
Drilling Fluid	None	North (ft)	595459.54
Date Started	9/26/83	East (ft)	1496685.02
Date Completed	9/26/83	Ground Surface Elev. (ft)	761.00
Logged By	Bowser and Morner	Top of Casing Elev. (ft)	762.50
Checked By	Tom Tharp	Total Depth (ft)	15.5
Comments:	Bowser and Morner Well # 17.		

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
0							TS	Topsoil.
	SS	LI GT	1A	SEAL: Bentonite.			CL-ML	Brown silt and clay, very stiff, moist, some sand, trace gravel.
	SS	LI	2A	CASING: Schedule 40 PVC, 1.25".			ML	Brown and gray clayey silt, hard, moist, trace sand, trace rock fragments.
5	SS	LI GT	3A					
	SS	LI GT	4A				SH	Gray shale, moderately weathered, limey.
10				FILTER PACK: Ottawa sand.				
	SS	LI	5A	SCREEN: .02" slot, PVC, 1.25".				
15								Total Depth = 15.5 feet.
20								

GROUNDWATER

DEPTH	HOUR	DATE

WESTON

GEOLOGIC LOG — MOUND PLANT

Project Manager: Grover C. Cox

Drilling Company	Bowser and Morner	Borehole/Well Id	0827
Drilling Method	Auger	STATE PLANE COORDINATES	
Drilling Fluid	None	North (ft)	595056.50
Date Started	9/22/83	East (ft)	1495796.00
Date Completed	9/22/83	Ground Surface Elev. (ft)	713.20
Logged By	Bowser and Morner	Top of Casing Elev. (ft)	716.20
Checked By	Tom Tharp	Total Depth (ft)	20.0
Comments:	Bowser and Morner Well # 27.		

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
0							FL	Fill - brown sandy silt, moist, trace gravel, trace clay tile.
	SS	LI GT	1A	BACKFILL: Grout. SEAL: Bentonite.			ML-GM	Brown sandy gravelly silt, hard, moist, trace clay.
	SS	LI GT	2A					
5							SM	Brown silt and sand, very stiff, moist, trace gravel, trace clay.
	SS	LI GT	3A	CASING: Schedule 40 PVC, 1.25".			GM	Brown sand and gravel, medium dense, moist, some silt, trace cobbles.
	SS	LI GT	4A					
10							SM	Brown silty sand, medium dense, moist, trace gravel.
				FILTER PACK: Ottawa sand.				
15							GM	Brown sand and gravel, dense, moist, some silt.
	SS	LI GT	5A	SCREEN: .02" slot, PVC, 1.25".				Total Depth = 20.0 feet.
20								

GROUNDWATER

DEPTH	HOUR	DATE

WESTON

GEOLOGIC LOG

MOUND PLANT

Project Manager: Grover C. Cox

Drilling Company	Bowser and Morner	Borehole/Well Id	0832
Drilling Method	Auger	STATE PLANE COORDINATES	
Drilling Fluid	None	North (ft)	595113.04
Date Started	9/22/83	East (ft)	1495288.33
Date Completed	9/22/83	Ground Surface Elev. (ft)	704.10
Logged By	Bowser and Morner	Top of Casing Elev. (ft)	707.10
Checked By	Tom Tharp	Total Depth (ft)	20.0
Comments:	Bowser and Morner Well # 32.		

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
0							TS	Topsoil.
	SS	LI GT	1A	SEAL: Bentonite.			ML	Brown sandy, clayey silt, very stiff, moist, trace gravel.
	SS	LI GT	2A	CASING: Schedule 40 PVC, 1.25".			CL	Brown sandy, silty clay, hard, moist, trace gravel.
5	SS	LI GT	3A				CL	Brown sandy clay, very stiff, moist, some silt, trace cobbles.
10	SS	LI GT	4A				GM	Brown sand and gravel, dense, moist, some silt, trace cobbles.
				FILTER PACK: Ottawa sand.				
	SS	LI GT	5A					(Becomes very dense at 14.0 feet.)
15				SCREEN: .02" slot, PVC, 1.25".				
	SS	LI GT	6A					Total Depth = 20.0 feet.
20								

GROUNDWATER

DEPTH	HOUR	DATE

WESTON

GEOLOGIC LOG

MOUND PLANT

Project Manager: John S. Price

Drilling Company	Bowser Morner	Borehole/Well Id	0319
Drilling Method	Cable Tool	STATE PLANE COORDINATES	
Drilling Fluid	None	North (ft)	595512.27
Date Started	8/20/89	East (ft)	1495148.29
Date Completed	8/23/89	Ground Surface Elev. (ft)	701.70
Logged By	Cate Grube	Top of Casing Elev. (ft)	703.48
Checked By	Tom Tharp	Total Depth (ft)	95.0

Comments:

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
0							CL	Dark yellowish brown (10YR 3/4) silty clay, stiff, low plasticity, moist, trace of sand.
				BACKFILL: Cement and bentonite grout.			CL	Dark yellowish brown (10YR 3/4) sandy clay, very stiff, low plasticity, moist, trace fine to coarse gravel.
5	SS	LI	0001					
				CASING: Stainless steel, 4".			CL	Brown (10YR 3/4) sandy, gravelly clay, very stiff, low plasticity, moist.
10	SS	LI	0002					
							SP-SC	Brown (10YR 3/4) clayey, gravelly sand, poorly graded, moderately dense, moist.
15	SS	LI	0003					
							SM	Brown (10YR 5/3) silty sand, well graded, very dense.
20								

GROUNDWATER

	DEPTH	HOUR	DATE
▽			
▼	22.21	08:38	09/20/90

WESTON

GEOLOGIC LOG

MOUND PLANT

Project Manager: John B. Price

Borehole/Well Id: 0319

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
20	SS	LI	0004					
				BACKFILL: Cement and bentonite grout.			SC-SP	Olive brown (2.5Y 5/4) clayey, gravelly sand, dense, wet.
25	SS	LI	0005	CASING: Stainless steel, 4".			SC-SP	Olive brown (2.5Y 5/4) clayey, gravelly sand, poorly graded, dense, wet.
30	SS	LI	0006				CL	Dark gray (5Y 4/1) sandy, gravelly clay, medium stiff, low plasticity, moist.
35	SS	LI	0007				SC-SP	Clayey, gravelly sand, very dense, poorly graded, wet.
40	SS	LI	0008	SEAL: Bentonite pellets.			SC-SP	Light yellowish brown (2.5Y 5/4) clayey, gravelly sand, very dense, wet.
45	SS	LI	0009					

GROUNDWATER

	DEPTH	HOUR	DATE
▽			
▼	22.21	08:38	09/20/90

WESTON

GEOLOGIC LOG

MOUND PLANT

Project Manager: John B. Price

Borehole/Well Id: 0319

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
				SCREEN: Stainless steel, 4", with .01" wire wrap slot.			SM-SP	Light olive brown (2.5Y 5/4) silty, gravelly sand, dense, wet.
50	SS	LI	0010	FILTER PACK: 10-20 quartz sand.				
							SM-SP	Olive brown (2.5Y 4/4) silty, gravelly sand, dense, wet.
55	SS	LI	0011					
							SM	Dark grayish brown (2.5Y 4/2) silty sand, poorly graded, dense, wet.
60	SS	LI	0012	SEAL: Bentonite hole plug.				
							SP-SW	Dark grayish brown (2.5Y 4/2) gravelly sand, poorly to well graded, moderately dense, wet.
65	SS	LI	0013					
	SS	LI	0014				SP-SW	Olive brown (2.5Y 4/4) sand, poorly to well graded, very dense, wet.
70	SS	LI	0015				ML	Olive gray (5Y 4/2) sandy, clayey silt, moist, hard.

GROUNDWATER

	DEPTH	HOUR	DATE
▽			
▼	22.21	08:38	09/20/90

WESTON

GEOLOGIC LOG

MOUND PLANT

Project Manager: John S. Price

Borehole/Well Id: 0319

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
75	SS	LI	0016				GC	Light olive brown (2.5Y 5/4) clayey, sandy gravel, very dense, wet.
80	SS	LI	0017	SEAL: bentonite hole plug.			SC-SW	Light yellowish brown (2.5Y 6/4) to olive brown (2.5Y 4/4) clayey, gravelly sand, well graded, dense, wet.
85	SS	LI	0018				SC-SW	Light yellowish brown (2.5Y 6/4) to olive brown (2.5Y 4/4) clayey, gravelly sand, well graded, dense, wet.
90	SS	LI	0019				SC-SW	Olive brown (2.5Y 4/4) clayey, gravelly sand, well graded, very dense, wet.
95	SS	LI	0020				SC-SW	Olive brown (2.5Y 4/4) clayey, gravelly sand, well graded, very dense, wet.
								Total Depth = 95.0 feet.

GROUNDWATER

	DEPTH	HOUR	DATE
▽			
▼	22.21	08:38	09/20/90

WESTON

GEOLOGIC LOG

MOUND PLANT

Project Manager: John B. Price

Drilling Company	Bowser Morner	Borehole/Well Id	0320
Drilling Method	Cable Tool	STATE PLANE COORDINATES	
Drilling Fluid	None	North (ft)	595023.61
Date Started	8/15/89	East (ft)	1495353.86
Date Completed	8/19/89	Ground Surface Elev. (ft)	704.70
Logged By	Cate Grube	Top of Casing Elev. (ft)	706.44
Checked By	Tom Tharp	Total Depth (ft)	117.0

Comments:

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
0							CL	Dark yellowish brown (10YR 4/4) silty clay, lean, stiff, low plasticity, slightly moist, some sand.
	SS	LI	0001				CL	Dark yellowish brown (10YR 4/6) sandy, silty clay, stiff to very stiff, medium plasticity, moist.
5				CASING: Stainless steel, 4".				
	SS	LI	0002				SC	Dark yellowish brown (10YR 4/4 to 4/6) clayey sand, soft to medium stiff, medium plasticity, very moist, trace fine to medium gravel.
10				BACKFILL: Cement and bentonite grout.				
	SS	LI	0003				SC	Yellowish brown (10YR 5/8) clayey sand, well graded, very dense, moist.
15								
	SS	LI	0004				SC-SM	Light yellowish brown (10YR 6/4) clayey, silty sand, medium dense, moist.
20								

GROUNDWATER

	DEPTH	HOUR	DATE
▽	25.55	08:42	08/19/89
▼	25.26	08:42	09/20/90

WESTON

GEOLOGIC LOG

MOUND PLANT

Project Manager: John B. Price

Borehole/Well Id: 0320

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
20								
	SS	LI	0005	SEAL: Bentonite pellets.			CL	Light olive brown (2.5YR 5/4) gravelly, sandy, silty clay, stiff, low plasticity, moist.
25								
	SS	LI	0006				CL	Grayish brown (2.5Y 5/2) sandy clay, very stiff, low plasticity, moist.
30								
	SS	LI	0007	SCREEN: Stainless steel, 4", with .01" wire wrap slot.			CL	Dark gray (5Y 4/1) sandy clay, very stiff to hard, low plasticity, moist.
35	SS	LI	0008				SW	Brown (10YR 5/3) sand, well graded, dense, wet, trace of silt.
40				FILTER PACK: Coarse silica sand.				
	SS	LI	0009				SP-SW	Light olive brown (2.5YR 5/4) sand, interlayered poorly and well graded, dense, wet, trace of fine to medium gravel.
45				SEAL: Bentonite hole plug.				

GROUNDWATER

	DEPTH	HOUR	DATE
▽	25.55	08:42	08/19/89
▼	25.26	08:42	09/20/90

WESTON

GEOLOGIC LOG

MOUND PLANT

Project Manager: John B. Price

Borehole/Well Id 0320

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
	SS	LI	0010				SC-SM	Olive brown (2.5Y 4/4) sand with silt and clay, interlayered, well and poorly graded, medium dense, wet.
50								
	SS	LI	0011				SM-SP	Dark grayish brown (2.5YR 4/2) silty, gravelly sand, poorly graded, dense, wet.
55				SEAL: Bentonite hole plug.				
	SS	LI	0012				SW	Dark grayish brown (2.5Y 4/2) gravelly sand, well graded, moderately dense, wet, trace of silt.
60								
	SS	LI	0013				SP	Grayish brown (2.5Y 5/2) sand, poorly graded, coarse grained, moderately dense, wet, trace fine gravel.
65								
	SS	LI	0014				SP	Grayish brown (2.5Y 5/2) sand, poorly graded, coarse grained, moderately dense, wet, trace fine gravel.
70								
	SS	LI	0015					

GROUNDWATER

	DEPTH	HOUR	DATE
▽	25.55	08:42	08/19/89
▼	25.26	08:42	09/20/90

WESTON

GEOLOGIC LOG

MOUND PLANT

Project Manager: John B. Price

Borehole/Well Id 0320

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
75							SP	Dark grayish brown (2.5Y 4/2) sand, poorly graded, moderately dense, wet.
	SS	LI	0016				SM	Dark grayish brown (2.5Y 5/2) silty sand, well graded, moderately dense, wet, trace fine to medium gravel.
80				SEAL: Bentonite hole plug.				
	SS	LI	0017				SW	Dark grayish brown (2.5Y 5/2) sand, well graded, coarse grained, moderately dense, wet, trace fine to medium grained gravel.
85								
	SS	LI	0018				SP	Dark grayish brown (2.5Y 4/2) sand, poorly graded, fine grained, moderately dense, wet.
90								
	SS	LI	0019				SW	Dark grayish brown (2.5Y 4/2) gravelly sand, well graded, moderately dense, wet.
95								
	SS	LI	0020				SM	Dark grayish brown (2.5Y 4/2) silty sand, poorly graded, moderately dense, wet.

GROUNDWATER

DEPTH	HOUR	DATE
25.55	08:42	08/19/89
25.26	08:42	09/20/90

WESTON

GEOLOGIC LOG

MOUND PLANT

Project Manager: John B. Price

Borehole/Well Id 0320

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
100								
	SS	LI	0021				SM	Olive brown (2.5Y 4/4) silty sand, interlayered, well and poorly graded, moderately dense, wet.
105				SEAL: Bentonite hole plug.				
	SS	LI	0022				SC-SM	Olive brown (2.5Y 4/4) clayey, silty sand, interlayered, well and poorly graded, dense to very dense, wet.
110								
	SS	LI	0023				SM	Olive brown (2.5Y 4/4) silty sand, poorly graded, moderately dense, wet.
115								
								Total Depth = 117.0 feet.
120								
125								

GROUNDWATER

	DEPTH	HOUR	DATE
▽	25.55	08:42	08/19/89
▼	25.26	08:42	09/20/90

WESTON

GEOLOGIC LOG

MOUND PLANT

Project Manager: John B. Price

Drilling Company	Bowser Morner	Borehole/Well Id	0158
Drilling Method	Cable Tool	STATE PLANE COORDINATES	
Drilling Fluid	None	North (ft)	594037.51
Date Started	11/9/87	East (ft)	1495276.62
Date Completed	11/9/87	Ground Surface Elev. (ft)	702.80
Logged By	Lyn Lawlor	Top of Casing Elev. (ft)	704.46
Checked By	Tom Tharp	Total Depth (ft)	39.2

Comments:

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
0				CASING: Stainless steel, 4". BACKFILL: Cement and bentonite grout.			SP	Brown to light brown gravelly sand, coarse grained, dry, nonstratified, no cement, approximately 40% gravel up to 1 inch in diameter, subrounded, HNU=0
5	SS	LI	0001				CL	Brown silty, sandy clay, dark brown mottling, firm, high plasticity, homogeneous, moist, no cement, nonstratified, approximately 5% gravel up to 1/4 inch in diameter, HNU=0.
10	SS	LI	0002				SM-SP	Light brown to brown silty, gravelly sand, nonstratified, no cement, moist, poorly graded, approximately 40% gravel up to 1 inch in diameter, subrounded, HNU=0.
15	SS	LI	0003				SP	Light brown to gray gravelly sand, coarse grained, poorly graded, weakly cemented, wet, approximately 30% gravel up to 1/2 inch in diameter, subangular, HNU=0.
20								

GROUNDWATER

	DEPTH	HOUR	DATE
▽	27.78	07:20	11/19/87
▼	27.83	10:30	12/11/87

WESTON

GEOLOGIC LOG

MOUND PLANT

Project Manager: John B. Price

Borehole/Well Id: 0158

Depth	Sample T	Sample A	Sample ID	Well Materials	Well Con	Lith	USCS or Rock Type	Lithologic Description
20								
	SS	LI	0004				SP	Light brown silty, gravelly sand, coarse grained, poorly graded, weakly cemented, wet, nonstratified, 40% gravel up to 1 inch in diameter, subrounded, HNU=0.
25				SEAL: Bentonite pellets.				
	SS	LI	0005				SP	Light brown to gray gravelly sand, coarse grained, poorly graded, saturated, nonstratified, no cement, approximately 40% gravel up to 1 inch in diameter, subrounded, HNU=0.
30								
	SS	LI	0006				SM-SP	Light brown silty, gravelly sand, coarse grained, poorly graded, saturated, nonstratified, weakly cemented, approximately 30% gravel up to 1 inch in diameter, subrounded, HNU=0.
				FILTER PACK: #4 quartz sand.				
35								
	SS	LI	0007	SCREEN: Stainless steel, 4".				
40								Total Depth = 39.2 feet.
45								

GROUNDWATER

DEPTH	HOUR	DATE
27.78	07:20	11/19/87
27.83	10:30	12/11/87

WESTON

APPENDIX B

FIELD LOGBOOKS

B.1 SITE MANAGER LOGBOOK
B.2 SOIL GAS LOGBOOK
B.3 FIDLER LOGBOOK
B.4 SEEP LOGBOOK

B.1 SITE MANAGER LOGBOOK

LOG BOOK

PROJECT TITLE: EG&G MOUND OU5 NEW PROPERTY
PHASE I RI/FS FIELD INVESTIGATIONS

WORK SITE: *MOUND PLANT*
Miamisburg, Ohio
OU5 New Property

ACTIVITY: *Mound OU5 New Property Phase 1 RI/FS*
Field Investigations

CONTRACT #:
TASK ORDER: *34896*

PROJECT MANAGER: *Thomas Tank*
COMPANY NAME / ADDRESS: *Science Applications International Corporation*
4031 Colonel Glenn Hwy ,Dayton, Ohio 45431
TELEPHONE NUMBERS: *(513) 429-2699*

SUPERVISORS: *OU5 Manager: Alan Spesard (513)865-3859*
SAIC Proj. Manager: Thomas Tank (513)429-2699

EMERGENCY RESPONCE: *Police / Ambulance / Fire 911 or 865-4040*

PROCEDURES: *SOP 1.1, SOP 1.3 , SOP 1.4, SOP 1.5, SOP 1.6,*
SOP 1.8, SOP 1.15, SOP 2.2, SOP 2.9,
SOP 6.7, SOP for Petrex Environmental Surveys.

START DATE: JANUARY 24 1994
END DATE:

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 1/24/94 TIME: 07 : 00A PAGE 1 OF 1

Task Team Members:

PG 1
SITE MGR

JOHN DAVIS — BOB KUSMER (KUSMER)
PAUL PADNISH — YURI ALLICOCK (KUSMER)
GREG LODER

Narrative (include time and location):

@ Mound Guard Shack 2 @ 700A.
700-745 Attend Mound orientation OU5 New Property.
745-1130 Begin activities. Conduct Tailgate Safety Briefing @ site.
Keith McMahan, Joyce Geisler on site. JG says no work w/ no chaps. I give copies of 1/21 JSAs to KM, also MADS.
0830 Work w/ BK to establish grid points. They start on 0S0 line (E-W) along fence. SAIC crew waiting on chaps.
1030 Kusmer gets ~~045~~ 450 IN; PP & GL start cutting. Still waiting on chaps. Kusmer putting in points working South along road. They need a good line cleared to sight their prism JHD 1-24-94
1130 Get 850 IN. Debbie & Cindy deliver chaps @ 81130. I start 850
1130-1215 Lunch
1215-1630 Continue cutting. PP & GL on 450, me on 850.
1530 GL leaves.
@ 1600 both saws down. Unload gear in trailer
off site @ 1630

Daily Weather Conditions: A.M. v. foggy sl breeze, 15°F
P.M. same, drizzle, colder

Recorded By [signature] 1/24/94 QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 1/25/94 TIME: 08 00 PAGE 1 OF 2

PG. 2

Task Team Members:

JOHN DAVIS — Bob KUSMER

PAUL PARRISH — Yuri Allicock

GREG LODER

Narrative (include time and location):

onsite @ 0800. No delay @ guard shack.

PER RUSS ~~DEFIANCE~~ TUSING w/ CONCURRENCE from J. GEISLER; JTD 1/25/94 badge only necessary when inside fence. TLD required everywhere. To go to trailer - pick up badge, go to trailer, return badge.

GL picking up stakes in Columbus, PP picking up Blazer @ office. JD continues servicing equipment.

0800 J. Geisler @ trailer, discuss misc.

0815 K. McMahon @ trailer, discuss misc.

Heavy rain @ 0820.

0830-1130. Cutting lines. Surveyors are tying into Mound Monuments

Rain continues. Saw handle breaks.

1130-1230 Lunch

1230-1330 Waiting on rain.

1330-1530 Continue cutting. Saw down @ 1530.

@ 1600, J. Geisler tells me that Yuri Allicock is not a U.S.

Contractor orient: 01-0513-01-1794-171

Trailer move: 01-0513-01-1794-727 (8HR)

Daily Weather Conditions: A.M. overcast, drizzle w/ rain, 35°F

P.M. same

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 1/25/94 TIME: NA : PAGE 2 OF 2

PG 3

Task Team Members:

JD	BK
PP	YA
CL	

Narrative (include time and location):

citizen and that he can't work on site. BK and YA being held in guard shack. BK says Paul Mundy will be replacement. Call Sheila Willis @ 1600 who puts PM on access list.

1600-1630 Dry stuff out in trailer.

Off site @ 1630

Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 1/26/94 WED TIME: 08 :30 PAGE 1 OF 1

Task Team Members: PG 4

JOHN DAVIS

PAUL PARRISH

GREG LODUR

Narrative (include time and location):

@ site @ 0830. PP to Nut & Bolt Rental A.M. to exchange saw.

Kusner not on site today - stuck in ice storm in Toledo - they went to Toledo last nite to exchange Yuri.

- Conduct tailgate briefing in trailer

0900 - 1200 Continue cutting on lines 2S and 6S.

1200 - 1300 Lunch

1300 - 1630 Continue cutting on lines 2S and 6S.

1630 - 1700 To trailer, clean up equipment, prep for tomorrow

Offsite @ 1700

Daily Weather Conditions: A.M. cold, sl. breezy, -4°F (windchill)

P.M. Same, overcast, warmed to 20°F

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 1/27/94 THURS TIME: 08 : 00 PAGE 1 OF 1

Task Team Members: PG 5

JOHN DAVIS

PAUL PARRISH

GAEL LORIER

Narrative (include time and location):

ON SITE @ 0800

0800-1100 Move contents of field trailer to office trailer except IDW from CANAL and AREA D Sampling; flammable cabinet, misc. office furniture.

NOTE: No clearing due to inclement weather. No surveyors (I told them to be here MON)

@ 1030 J. Geisler stops by. Set up meeting for 800a MON. to discuss schedule for obtaining excavation permits. She wants to clear "blocks" instead of each point.

1100-1200 Misc. office cleanup and paperwork.

OFF SITE @ 1200

Daily Weather Conditions: A.M. drizzle and heavy RAIN, 40°F

P.M. N/A

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 1/31/94 MON TIME: 0800 PAGE 1 OF 1

Task Team Members: PG 6.

JOHN DAVIS	BOB KUSMER
PAUL PARRISH	GARY ELLIOTT
GREG LODER	

Narrative (include time and location):

onsite @ 0730

0800: J. Geisler @ trailer. Need metal cans w/ spark arrestors.

0815 K. McMahons at trailer. Discuss forms etc. Accident report due monthly (end of month). Discuss intrusive permitting - JG will start checking perimeter of property along roads. As we start, she'll clear quads - 4 quads, center line is powerline.

- Surveyors on site, concentrating in SE quad.

0800 - 1130 PP & GL cut on 65 line. JD stakes.

- NOTE: @ 1454, A 2' diam. hole, deep, nearly vertical, w/ a poorly defined drainage meandering due West.

1130-1230 lunch

1200 JD offsite.

1230-1700 PP & GL continue cuttings. Cut to 6524 and 10510.

offsite @ 1700

Daily Weather Conditions: A.M. cold, overcast, calm, 20°F

P.M. same w/ occas. snow flurries

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/1/94 TIME: 0800 PAGE 1 OF 1

Task Team Members: PG 7

JOHN DAVIS — BOB KUSMER

GREG CODER — GARY ELLIOTT

Narrative (include time and location):

onsite @ 0800

0800-1200 Load gear into truck. Move a few large items from field trailer.
JD & GC cutting and staking on lines 6S and 8S.
- potential springs @ 8S7
1200-1300 LUNCH
1300-1700 Continue cutting & staking. Work on lines 6S, 8S, 10S.
Kusmer assures on finishing tomorrow. Told BK to
put in 20S0, 20S4, 20S8, and 20S12 close
to the fence. The points will not be in line w/ 20S16,
JHD 2/1/94 ~~20S18~~ 20S20.
1700-1730 To trailer, paperwork, prep for tomorrow.
Offsite @ 1730
NOTE: Potential seeps @ 11S12, 14S4

Daily Weather Conditions: A.M. cold 2°F calm sunny

P.M. same, warming to 20°F, some aft. clouds.

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OUS NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/2/94 TIME: 0740 PAGE 1 OF 2

Task Team Members: PG 8

Paul Parrish

Greg Loder

Narrative (include time and location):

Onsite 0730

0740 Keith McMahan at Trailers to check on progress of cutting

0745 Joyce Geisler onsite to pick up Accident Incident Summary Report, Vehicle Inspection Report, and Records for January.

0755 Keith McMahan leaves Trailers

0800 Joyce Geisler leavs Trailers

0810 Have Health and Safety Meeting

0820 Leave Trailers for site

0830 Begin Clearing Lines 8S, 10S, and 12S

1200 Break For Lunch

1300 Return From Lunch

1330 Meet Keith McMahan on Site. He has a photographer with him to get pictures of the work going on in field. He is looking for the surveyors, we haven't seen them all day.

1340 Called John Davis in office to find out about surveyors. He also mentioned to check on intrusive permits with Joyce Geisler.

1345 Keith McMahan onsite with photographer. Taking PR photos for City of Miamisburg.

1350 Keith McMahan and photographer off site. Work Continues.

Daily Weather Conditions: A.M. Cold 12°F, Clear

P.M. Cold 32°F, Pt Cloudy, Some Flurries.

Recorded By Paul Parrish QA Checked By [illegible]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/2/94 TIME: NA: PAGE 2 OF 2

Task Team Members: PG: 9

Paul Parrish

Greg Loder

Narrative (include time and location):

1650 Leave Site For Trailers. Lines 85, 105, and 125 cut completely

1705 Back At Trailers

Clean up Trailers and Work on Chainsaws

1730 Leave For The Day

Last Entry

Daily Weather Conditions: A.M. ——

P.M. Cold 32°F, Pt. Cloudy, Some Flurries

Recorded By Paul Parrish QA Checked By

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/3/94 TIME: 0740 PAGE 1 OF 2

PG 10

Task Team Members:

Paul Parrish

Greg Loder

Narrative (include time and location):

0740 Arrive at Trailers

Work on Chainsaws, Fixing broken pull cord and cleaning them. Also painting stakes so that we can mark line 0S, 8S, and 12S. Majority of Clearing is done. We are going to try and stake as much as possible.

0920 Leave Trailers to Stake Lines

1130 Finish staking Line 12S. Lines 0S through 12S completely cleared and staked.

1145 Leave Site For Lunch

1215 Return From Lunch. Check on Work of Surveyors. They Left site 2/2/94 and completed their task.

1230 Call John Davis in office to find out about 100' stakes. John Davis also asked for total hours charged and OUC's from Loder and Parrish.

Parrish hours $13.50 mileage

Loder 39.40 PP 2/3/94 hours $90.00 mileage $216.00 per diem

100' lines need cleared according to map. Will Finish Staking other lines today.

1350 15' South of 1454 is a seep. It appears to be built up around the hole, not natural, man-made. marked with x on site map.

Daily Weather Conditions: A.M. 14°F Cold, Windy, Clear

P.M. 16°F Clear, Cold, Very Windy

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/3/94 TIME: NA : PAGE 2 OF 2

Task Team Members: P.G. 11

Paul Parrish

Greg Loder

Narrative (include time and location):

1545 Line 18S staked and cleared out to 14. Staking is 80% complete on the 200 footers. Return to trailers

1550 Arrive at Trailers. Painting more stakes for Monday.

1615 Leave Trailers For Day and Week

See You Monday

Last Entry

Daily Weather Conditions: A.M. _____

P.M. 26°F, Clear, Cold, Windy

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/7/94 TIME: 0745 PAGE 1 OF 2

PG 12

Task Team Members:

Paul Parrish PMP

Greg Loder GL

Narrative (include time and location):

0745 Arrive at Trailers. Greg Loder, Teresa Fort, and Joyce Geisler present. Discussed scanning the area for utilities so we can start with the soil gas. Turned in vehicle inspection sheet and projected man-hours for the next two weeks.

0800 Joyce Geisler leaves trailers. Teresa Fort conducting SAIC Health and Safety Audit.

0806 Keith McMahan at Trailers to check on our progress and check on schedule for the next two weeks. Need to check on February 21 to see if it is a Holiday for EG&G and SAIC. Keith McMahan took PMP and GL's social security number and date of birth so we could have access to return the furniture from the other trailer. Need to call John Davis to check on furniture move tomorrow 2/8

0813 Keith McMahan leaves trailers.

0830 Health and Safety Briefing Leave Trailer for site

0840 Continue Staking and Clearing. Teresa Fort still on site

0910 Teresa Fort leaves site continue staking

1115 Finish Staking For Now, Breaking For Lunch

1145 Return From Lunch. Finish staking everything east of telephone line then move on.

Daily Weather Conditions: A.M. 22°F, Clear

P.M. NA

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/7/94 TIME: NA: PAGE 2 OF 2

PG 13

Task Team Members:

Paul Parrish PM

Greg Loder GL

Narrative (include time and location):

13:45 Finish staking everything east of the telephone line. Moving over to line 18S to run it out further

14:05 Line 18S out to 20. Pick up equipment head back to trailer

14:12 Arrive at trailer, store gear for next day. Should be able to finish all 200' stakes tomorrow 2/8

14:35 Leave Trailer for Office

Last Entry

Daily Weather Conditions: A.M. 35°F, Overcast

P.M. 35°F, Overcast

Recorded By Paul Parrish QA Checked By

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/8/93 TIME: 0800 PAGE 1 OF 1

Task Team Members: P-6 14

Paul Parrish

JOHN DAVIS

Narrative (include time and location):

0800 Arrive at Trailers, Roads are icy. Meet John Davis at Trailers to help move furniture from old trailer to our new trailer.

0815 Paperwork was lost for our access to the building to drop off furniture so we are waiting for them to solve problem

0830 Problem solved. Drop off furniture, return to trailer to move Freezer and Flammable Storage Cabinet to new trailer.

1000 Finish Moving and straightening up trailer. Leave trailer to return to Office. Greg Loder couldn't make it from Columbus because of the weather. No Work today

Last Entry

Daily Weather Conditions: A.M. 20°F, Freezing Rain

P.M. NA

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/9/93 TIME: 08:25 PAGE 1 OF 1

Task Team Members: PG 15

Paul Parrish PMP

Greg Loder GL

Narrative (include time and location):

0825 Arrive at Trailer finally. Greg Loder arrived at Trailer at 0800. Spent 45 minutes trying to get into blazer. It was completely frozen in. Traffic was slow with a multitude of accidents along the freeway.

0835 Health and Safety Meeting

0850 Leave Trailer for site. Everything is completely frozen over.

0900 Greg will begin cutting on line 145 and PMP will attempt to stake what he can without cutting

1005 Keith McMahan on site. He wasn't sure if we were working today. He mentioned that Joyce Geisler wasn't going to let us work today because of the footing and temperature. PMP told Keith McMahan that the footing isn't to bad and were bearing the cold. I told him that we covered those issues in our health and safety meeting.

1200 Break For Lunch

1230 Return From Lunch

1700 Leave Site For Trailer, Lines 145, 165 and 185 cleared. 145 and 165 completed staked

1725 Leave Trailer For Office

Last Entry

Daily Weather Conditions: A.M. 10° F, Icy, Slight Wind, Very Cold

P.M. 16° F, Icy, Occasional Light Flurries

Recorded By Paul Parrish QA Checked By

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/10/94 TIME: 07:45 PAGE 1 OF 1

Task Team Members: P6 16

Paul Parrish PMP

Greg Loder GL

Narrative (include time and location):

0745 Arrive at Trailer

0915 Leave Trailer for site

1215 Finish all 200' stakes that could be put in. There were three stakes which could not be put in because they were outside of the boundary fence

1230 Break For Lunch

1300 Return From Lunch. Begin Working On 100' stakes

1430 Return to Trailer To Paint Stakes

1510 Leave Trailer For Site

1525 Blazer slid off road and punctured tire. Can't move truck and road is too slick to get anything down there to pull it out. Lock up truck and return to Trailer.

1600 Back to Trailer. Called John Davis to apprise him of the problem. Also called Joyce Geisler to tell her of the problem. She said she will inform security about the truck and would check with Safety if an accident report needs filled out.

1625 Joyce Geisler returns called and takes information for accident report for safety.

1645 Leave Trailer For Office Last Entry →

Daily Weather Conditions: A.M. 9°F, Very Cold, Icy

P.M. 16°F, Cold, Icy, Partly Sunny

Recorded By Paul Parrish QA Checked By

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/14/94 TIME: 07:35 PAGE 1 OF 1

Task Team Members:

PG 17

Paul Parrish

Greg Loder

John Davis

Narrative (include time and location):

0735 Arrive at Trailer

0745 Forgot Keys To Blazer Return To Office To Get Keys. GL and JD go and check on Blazer

0845 Back From Office. JD left site. unable to get blazer today. Begin putting in 100' stakes

1230 Break For Lunch

1300 Return From Lunch

1615 Finished all 100' stakes except lines 15 and 05. Will finish tomorrow morning.

1615 Returning to Trailer

1630 Leave Trailer For Office

Last Entry

Daily Weather Conditions: A.M. 26°F Sunny Blue Skies

P.M. 44°F Sunny Blue Skies

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/15/94 TIME: 08 : 45 PAGE 1 OF 1

PG 18

Task Team Members:

Paul Parrish

Greg Lodier

Narrative (include time and location):

0845 Arrive at Trailer

0855 Health and Safety Meeting

0905 Leave Trailer for Site. Will finish 100' stakes today.

1145 Break For Lunch

1215 Back From Lunch

1450 All Stakes In! Returning To Office, but Back to Trailer first.

1515 Leave Trailer For Office

Last Entry

Daily Weather Conditions: A.M. 36°F Mostly Cloudy

P.M. 45°F Sunny Blue Skies

Recorded By Paul Parrish QA Checked By Tom

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO.: 34896

Date (mm/dd/yy): 2/21/94 MON TIME: 0645 PAGE 1 OF 1

Task Team Members: PG 19

JOHN DAVIS

JOLETTA MINARD — HENRY ROBINSON (MOUND HP)

PAUL BEDARD (NERI)

Narrative (include time and location):

@ MIAMISBURG @ 0645 to meet Paul Bedard, consultant for Petrex/NERI.

0700 @ Contract. Bldg - PB getting orientation. JD @ TRIR laying out equipment for soil gas placement.

- Joyce Geisler arrives. Per intrusive permits, she divided New Prop into 8 segments; southernmost 4 now cleared.
- Henry Robinson, Mound HP arrives.

0730 Joletta Minard, Keith McMahon, Alan Spessard @ trailer. PB gives short orientation meeting.

0915 - 1200. Put in all 5 sets of time tubes.

1200 - 1300 Lunch. Coffee Towing @ site, pulls Blazer out of hole!

1300 - 1615 Continue installing tubes. Complete line 205. of several. Misc. sites. Pretty good progress, though difficult moving generator.

Note: per P. Bedard suggestion, pull all 5 TI's next Mon (2/28)

1630 Back to trailer. Prep for tomorrows activities

1700 Offsite.

Note: 21 tubes installed + 10 time tubes = 31 tubes

Daily Weather Conditions: A.M. foggy, warm 40°F

P.M. cooler, some drizzle, to 35°F, calm.

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/22/94 TIME: 07 : 20 PAGE 1 OF 1

PG 20

Task Team Members:

Paul Parrish

Joletta Minard

Henry Robinson Mound HP

Narrative (include time and location):

0720 Arrive at trailer

0725 Henry Robinson (HP) on site

0730 Keith McMahan stops in to check on progress.
Joletta Minard at trailer. Joyce Geisler stops in to check on progress and sign burn permit for the day.

0735 Joyce Geisler and Keith McMahan leave trailer. Preparing for day's activities

0800 Leave Trailer for site. See Sample Log for rest of days activities.

1105 Break For Lunch

1135 Return From Lunch. Work on preparing sample tubes for this afternoon.

1200 Henry Robinson at Trailers.

1205 Leave Trailer for site

1545 Back Trailer. 40 tubes put in the ground. Making more tubes for tomorrow 2/23.

1700 Leave Trailer for the end of the day
Last Entry

Daily Weather Conditions: A.M. 32°F Clear Skies

P.M. 33°F Cloudy Windy

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/23/93 TIME: 0700 PAGE 1 OF 1

PG 21

Task Team Members:

JOHN DAVIS

PAUL PARRISH

HENRY ROBINSON (MOUND HP)

Narrative (include time and location):

ONSITE @ 0700. SEE SOIL GAS Logbook for days details. TERRA FORT ONSITE for Health and Safety Surveillance. Conduct tailgate Safety Briefing.

0730 - 1200 WORK ON LINES 12S & 14S

1200 - 1300 LUNCH

1300 - 1630 WORK ON LINES 8S AND 10S.

1630 - 1730 BACK to trailer. WIND up REMAINING tubes.

NOTE: 36 tubes installed today.

Daily Weather Conditions: A.M. foggy, drizzly, 38°F

P.M. SAME

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/24/94 TIME: 07:30 PAGE 1 OF 1

Task Team Members: PG 22

Paul Parrish

Joletta Minard

Henry Robinson (Mound HP)

Narrative (include time and location):

0730 Arrive at Trailer for day's activities

0735 Joyce Geisler at trailer. Needs keys for old SAIC Trailer so electrician can disconnect electricity.

0755 Leave trailer to begin installing soil gas tubes.

1130 Break for Lunch

1200 Back at trailer making soil gas tube assemblies.

1230 Henry Robinson back. Leave trailer to continue putting soil gas tubes in. Joyce Geisler returns keys.

1600 Back at Trailer. All tubes in. unload truck and do some minor house cleaning.

1610 Joletta Minard leaves trailer for office.

1630 Leave Trailer. End of day. For soil gas activities see Soil Gas Logbook.

Last Entry

Daily Weather Conditions: A.M. 30°F Snowing

P.M. 35°F Partly Cloudy

Recorded By Paul Parrish QA Checked By [illegible]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/28/94 TIME: 0700 PAGE 1 OF 2

Task Team Members: PG 23

JOHN DAVIS

PAUL PARRISH

RAY MOSS (MOUND HP)

~~HARRY ROBINSON (MOUND HP)~~ JTD 2/28/94

Narrative (include time and location):

0700 JD & PP onsite. Prep for days activities - prep for retrieval of 1st round of time samplers. Review FIDLER procedures. Conduct Safety Tailgate Briefing.

-0730: Keith McMahan delivers a FIDLER for our use.

0800 Ray Moss onsite.

0800-1130 Collect soil samples for Mound Rad screening lab and FIDLER readings. in Area 1. See Soil Gas Logbook for details and locations. Back to trailer.

1200-1300 lunch

1300-1430 Pull first round of Petrex soil gas time samplers. See Soil Gas Logbook.

1430-1600 Back to trailer. Prep time samples and Petrex tools for fedex shipment.

- Disc. w/ T. Trask & D. Reed re: FIDLER

1) Check battery hourly

2) "Sweep" w/ out channel if comfortable w/ bkgrd. If not, sweep w/ CH2. If find a hotspot, use CH1, CH2

3) Check w/ Mound HP to see what a good walking rate is. FSP says 2-4"/sec.

Daily Weather Conditions: A.M. cold 20°F, hazy, calm

P.M. overcast cold.

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/28/94 TIME: NA PAGE 2 OF 2

Task Team Members: PG 24

JD

PP

Narrative (include time and location):

1600 PP offsite

1600-1730 JD delivers time tubes and drill to FedX for shipment to NERI. Returns generator to Bernencrest rental.

Last Entry.

Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/1/94 TIME: 0700 PAGE 1 OF 1

Task Team Members: PG 25

JOHN DAVIS

PAUL PARRISH

Narrative (include time and location):

0700 At trailer. Conduct Tailgate Safety Briefing.

0730 Keith McMahan at trailer w/ 2nd FIDLER. We have two now. He reports that per Dan Carfagno, snow on the ground is not conducive to FIDLING. Takes us to runoff culvert for Bldg 21 to demonstrate use of FIDLER and readings.

0800 Joyce Geisler on site. Requests Accident report for February and vehicle report.

0815 Tom Tank onsite. Confirms that snow on ground is no-no for FIDLING.

0830 JD fills out misc. paperwork. Decision not to FIDLER today. Delivers paperwork to J. Geisler office, Bldg 22.

0930 OFFSITE. Back to office.

Daily Weather Conditions: A.M. SNOW (Frly heavy) 30°F, calm

P.M. NA

Recorded By [signature] QA Checked By [signature]

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS1011 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 1200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP1 DESCRIPTION: SEEP NUMBER 1

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

JM 3/29/94

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

PG 26

SAMPLE LOG SHEET

SAMPLE ID NUMBER: NS1011

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C				IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C				IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C				IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C				IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C				IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C				IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C				IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C				IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C				IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C				IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C				IT
1 - 2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C				PACE
1 - 250ML	Glass	Tritium	COOL 4°C				PACE

DM 3/29/94

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE ___ OF ___

FACILITY CODE: 005 NP

LOCATION ID: NEW PROP

LOT CONTROL NO: NA

SAMPLE ID: ___

SAMPLE TYPE: K

LOG DATE: ___

ACCEPTANCE CODE: A

ANALYTICAL LAB CODE: ___

LOGGER CODE: SAIC

SAMPLING PERIOD: START ___ COMPLETE ___

SAMPLING METHOD: GRAB

DATE SENT: ___

COMMENTS: ___

JM 3/24/94

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	___
SPECIFIC CONDUCTANCE	Ec	umhos/cm	___
REDOX POTENTIAL	Eh	mvolts	___
TEMPERATURE	TMP	°C	___
ALKALINITY ($CaCO_3$)	ALK	mg/l	___
DISSOLVED OXYGEN	DO	mg/l	___

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F — FIELD R — REPLICATE
K — KNOWN A — ACID BLANK

SAMPLING METHODS:

G — GRAB SP — SUBMERSIBLE P
PP — PERISTALIC PUMP O — OTHER (SPECIFY

COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WQD—007 (1/88)

FORM COMPLETED BY/DATE ___

TECHNICAL REVIEWER/DATE ___

TAILGATE SAFETY MEETING LOG FORM

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

PG 129

DATE: 1/24/94 TIME: 08 : 00A

WEATHER: Foggy, overcast, sl. drizzle, 15°F, sl breeze fm S.

WORKING CONDITIONS:

Discuss Mound safety requirements. especially details of JSAs. Discuss use of fire extinguishers when using chainsaw + weedwackers. Discuss buddy system when cutting. Windchill discussed - Mound says -21°F w/ windchill is shut off.

REQUIRED PPE: head protect. system vest, chaps, steel boots, safety glasses

The following individuals attended the daily "tailgate" safety meeting: (Signatures)

Paul Parrish, SAIC
[illegible] SAIC
Robert Bynner
[illegible]
[illegible]

Site Health & Safety Officer

TAILGATE SAFETY MEETING LOG FORM

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO.: 34896

DATE: 1/26/94 TIME: 08 : 30

WEATHER: cold, overcast, breezy, -4°F w/ windchill

WORKING CONDITIONS:

TOPICS of DISCUSSION:

- Slip, trip, and fall - icy slopes
- frostbite/windchill. Safety breaks as necessary.
- cuts from equip. - handle carefully. Machetes now sharp.

REQUIRED PPE: head protection, safety glasses, vest, chaps, steel toe gloves.

The following individuals attended the daily "tailgate" safety meeting: (Signatures)

Site Health & Safety Officer

TAILGATE SAFETY MEETING LOG FORM

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34895

DATE: 1/31/94 TIME: 08 00

WEATHER: calm, overcast, cold to 20° F

WORKING CONDITIONS:

Topics of discussion:

- use of safety features on saws = kickback brake, idle adjust.
- anticipated weather this week = cold. Dress warm. Drink lots of water.

REQUIRED PPE: head protection, safety glasses, vest, chaps, steel toe boots, gloves.

The following individuals attended the daily "tailgate" safety meeting: (Signatures)

Site Health & Safety Officer

TAILGATE SAFETY MEETING LOG FORM

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34

DATE: 2/2/94 TIME: 08 : 10

WEATHER: Cold 15°F Clear Hi of 35°F

WORKING CONDITIONS:

Topics of Discussion:
- Slip, Trip and Fall
- New Chainsaws, frequent chain tightenings
- Cold, Breaks to Warm Up
- Watch out for old fences when using chainsaws

REQUIRED PPE: Hard Hats Safety Glasses, Face Shield, Ear Protection, Chaps and Vests, Steel-toed Boots, Coveralls, and Gloves

The following individuals attended the daily "tailgate" safety meeting: (Signatures)

Site Health & Safety Officer

TAILGATE SAFETY MEETING LOG FORM

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

DATE: 2/7/94 TIME: 08 : 30

WEATHER: Clear 22°F

WORKING CONDITIONS:

Topics of Discussion:
- Line of Sight and Communication
- Cold Breaks
- Watch out for thorns and Briars.

REQUIRED PPE: Hard Hats, Safety Glasses, Face Shield, Ear Protection, Chaps and Vests, Steel-toed Boots, Coveralls, and Gloves

The following individuals attended the daily "tailgate" safety meeting: (Signatures)

Site Health & Safety Officer

TAILGATE SAFETY MEETING LOG FORM

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34895

DATE: 2/9/94 TIME: 08 : 35

WEATHER: 10° F, Icy, Very Cold, Slight Wind

WORKING CONDITIONS:

Topics of Discussion:
Slip, Trip and Fall - everything is really icy and slick.
Be extra careful using machete and chainsaw.
Cold Breaks - watch yourself and others

REQUIRED PPE: Head Protection, Coveralls, Safety Glasses, Face Shield, Hearing Prote
Chaps and Vest, Steeled-toed Boots, and Gloves.

The following individuals attended the daily "tailgate" safety meeting: (Signatures)

Site Health & Safety Officer

TAILGATE SAFETY MEETING LOG FORM

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34895

DATE: 2/10/94 TIME: ____ : ____

WEATHER: 9° F, Very Cold, Icy, Partly Cloudy

WORKING CONDITIONS:

Topics of Discussion:
Slip, Trip and Fall - everything still iced over, watch your step on slopes
Cold - watch yourself → hands and feet → Take breaks to heat up.
Communication - Buddy System

REQUIRED PPE: Hard Hats, Safety Glasses, Face Shield, Hearing Protection, Gloves, Coveralls, Chaps and Vest, Steel-toed Boots

The following individuals attended the daily "tailgate" safety meeting: (Signatures)

Site Health & Safety Officer

TAILGATE SAFETY MEETING LOG FORM

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 3489

DATE: 2/15/94 TIME: 08 : 55

WEATHER: 36° F Mostly Cloudy

WORKING CONDITIONS:

Topics of Discussion:
Slip, Trip and Fall Watch Ice and Mud
Beware of Safety Conditions
Continue Wearing Seat Belts.
Watch Driving Conditions

REQUIRED PPE: Hard Hat, Safety Glasses, Steel-toed Boots, Face Shield, Hearing Protection, Chaps and Vest, Gloves

The following individuals attended the daily "tailgate" safety meeting: (Signatures)

Site Health & Safety Officer

TAILGATE SAFETY MEETING LOG FORM

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34895

DATE: 2/22/94 TIME: 07 : 50

WEATHER: 32°F Clear Skies

WORKING CONDITIONS:

Topics of Discussion:
Slip, Trip and Fall
Instructions on use of power drill
Watch your back moving the generator and drill (Heavy)

REQUIRED PPE: Safety Glasses, Steel-toed Boots, Gloves

The following individuals attended the daily "tailgate" safety meeting: (Signatures)

Juletta Menard

Site Health & Safety Officer

TAILGATE SAFETY MEETING LOG FORM

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34P

DATE: 2/23/94 TIME: 07:45

WEATHER: overcast, cloudy, drizzly, 38°F

WORKING CONDITIONS: wet, muddy terrain

Topics of discussion:

- thunderstorms: will evacuate sites
- NO vehicles in site, too muddy, possibility of rolling and getting stuck
- hammer drill can spin around - hold tightly
- slip, trip, and fall. Muddy, wet conditions.

REQUIRED PPE: Safety glasses, hardhats, steel boots.

The following individuals attended the daily "tailgate" safety meeting: (Signatures)

Paul [illegible]
[illegible]
Lorene C. Fort

Site Health & Safety Officer

TAILGATE SAFETY MEETING LOG FORM

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34895

DATE: 2/28/94 TIME: 0700

WEATHER: cold to 20°F, hazy, calm

WORKING CONDITIONS:

Topics discussed:

- cold weather
- icy roads
- muddy - possibility of stuck truck
- poison ivy in bloom

REQUIRED PPE: steel boots, glasses.

The following individuals attended the daily "tailgate" safety meeting: (Signatures)

Site Health & Safety Officer

TAILGATE SAFETY MEETING LOG FORM

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34895

DATE: 3/1/94 TIME: 0700

WEATHER: light snow flurries, 1-2" on ground, calm, 35°F

WORKING CONDITIONS:

TOPICS DISCUSSED
- snowy - slip trip fall
- no vehicles onsite - chance of sticking

REQUIRED PPE:
boots, glasses.

The following individuals attended the daily "tailgate" safety meeting: (Signatures)

Site Health & Safety Officer

B.2 SOIL GAS LOGBOOK

LOG BOOK

PROJECT TITLE: EG&G MOUND OU5 NEW PROPERTY
PHASE I RI/FS FIELD INVESTIGATIONS

WORK SITE: *MOUND PLANT*
Miamisburg, Ohio
OU5 New Property

ACTIVITY: *Mound OU5 New Property Phase 1 RI/FS*
Field Investigations

CONTRACT #:
TASK ORDER: *34896*

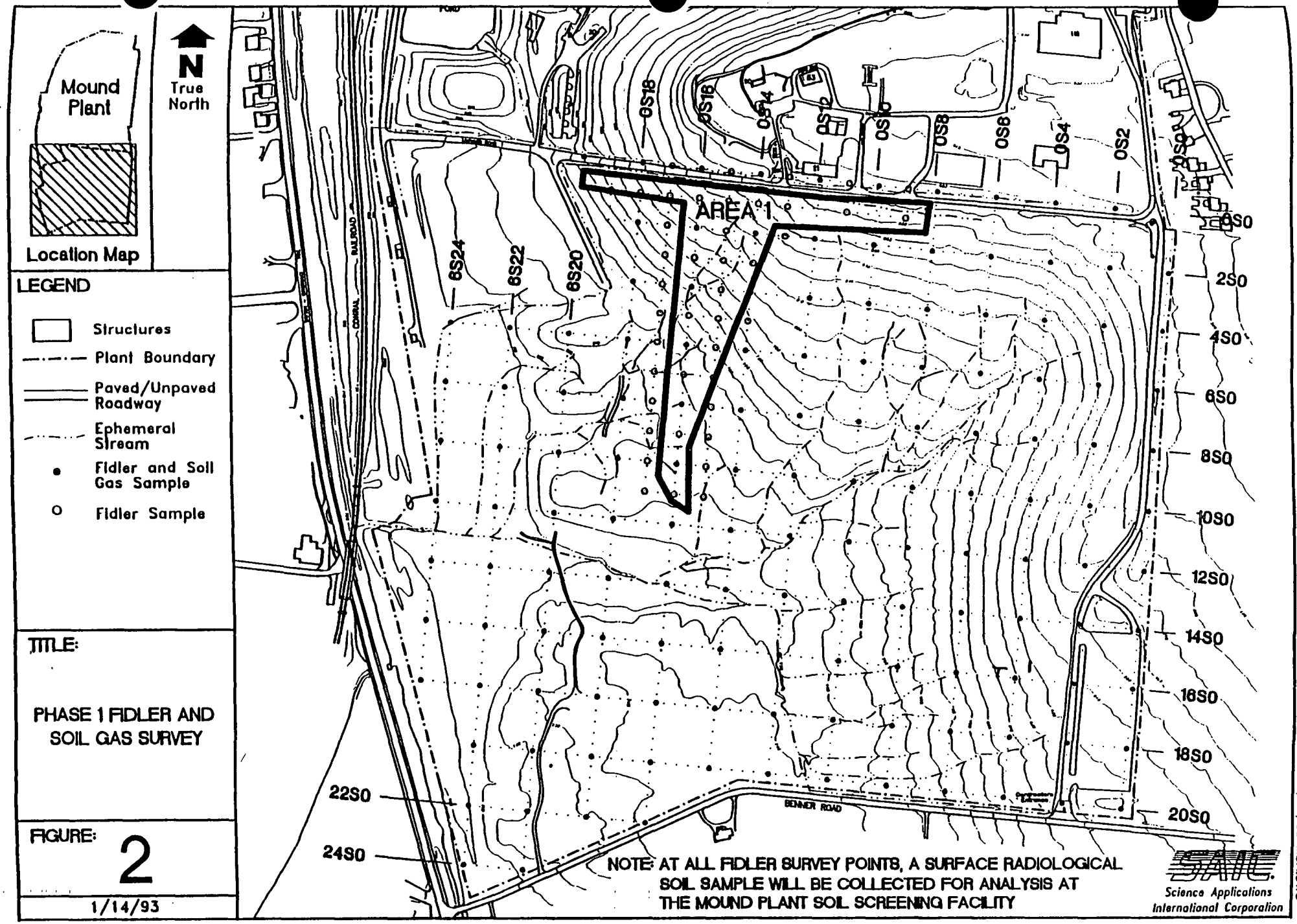
PROJECT MANAGER: *Thomas Tank*
COMPANY NAME / ADDRESS: *Science Applications International Corporation*
4031 Colonel Glenn Hwy ,Dayton, Ohio 45431
TELEPHONE NUMBERS: *(513) 429-2699*

SUPERVISORS: *OU5 Manager: Alan Spesard (513)865-3859*
SAIC Proj. Manager: Thomas Tank (513)429-2699

EMERGENCY RESPONCE: *Police / Ambulance / Fire 911 or 865-4040*

PROCEDURES: *SOP 1.1, SOP 1.3 , SOP 1.4, SOP 1.5, SOP 1.6,*
SOP 1.8, SOP 1.15, SOP 2.2, SOP 2.9,
SOP 6.7, SOP for Petrex Environmental Surveys,

START DATE:
END DATE:


Mound Plant
Location Map
N
True North
LEGEND
Structures
Plant Boundary
Paved/Unpaved Roadway
Ephemeral Stream
Fidler and Soil Gas Sample
Fidler Sample
TITLE:
PHASE 1 FIDLER AND SOIL GAS SURVEY
FIGURE: 2
1/14/93
AREA 1
0S0
2S0
4S0
6S0
8S0
10S0
12S0
14S0
16S0
18S0
20S0
22S0
24S0
6S24
6S22
6S20
0S18
0S16
0S14
0S12
0S10
0S8
0S6
0S4
0S2
BENNER ROAD
RAILROAD
NOTE: AT ALL FIDLER SURVEY POINTS, A SURFACE RADIOLOGICAL SOIL SAMPLE WILL BE COLLECTED FOR ANALYSIS AT THE MOUND PLANT SOIL SCREENING FACILITY
SAIC
Science Applications International Corporation
REVISED BY SAIC 11/17/93 M5A.DWG

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26		56	Soil Gas Sampling (Soil Screening) Line 4S
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TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

(mm/dd/yy): 2/21/94 TIME: 0730 : _____ PAGE 1 OF 3

Task Team Members:

JOHN DAVIS — PAUL BEDARD (NERI)

JOLETTA MINARD — HENRY Robinson (MOUND HP)

Narrative (include time and location):

NOTE: NEED 2000 W GENERATOR & 50' CORD

0730 - 0930 ORIENTATION w/ PAUL Bedard. SEE site MANAGERS LOG BOOK

0930 - 1000 SETTING time samplers. 1st ONE IS 1654

SET up IS:

X

stake → ⊙ N↑ HOLES APPROX

(TIME) X X (TIME) 1' APART.

TS1 TS2

DIG surface hole (S) w/ hand trowel. WATER IS v. NEARLY at surface. Cut 2' 18 GA. galvanized wire for retrieval. PREPPING tubes. NERI Job 2043; IN MEADOW

1000 - 1030 TIME SAMPLE #2 @ 22520. CONSTRUCTION debris when digging surf holes; brick, wood. TRIPAGE moved 4' E of stake to avoid ROOTS. Hit some CONCRETE also. Make sure btm of bit is clearly in dirt. Don't stop in middle of brick, root, etc.

1030 - 1100 @ TIME spl #3 @ 10512. Some ROOTS IN surf. hole.; IN WOODS

1100 - 1115 @ TIME spl # 4 @ 10522 (NOT orig location); IN MEADOW

Daily Weather Conditions: A.M. cool 40°F cloudy, some drizzle

P.M. NA

Recorded By [signature] QA Checked By [signature]

2

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/21/94 TIME: 11:30 PAGE 2 OF 3

Task Team Members:

JD (SAIC) HR (Mound HP)
JM (SAIC)
PB (NERI)

Narrative (include time and location):

1130-1200 Last time SPIR #5 at 450. (Not orig location) in grass by Contractor road. Hand drilling, lots of rocks

Note: in all time arrangements TS1 in SW corner of triangle - TS2 in SE corner.

1200-1300 LUNCH
1300-1400 PB demonstrates tube retrieval w/ dummy spls.
1400-1410 Start line 205 at 205Ø
Install sampler north of pole - grassy area.
1411-1420 Onsite @ 2052 - Note: Alot of asphalt debris at sampling site. Difficulty auger to depth due to what appears to be concrete. Moved over approx. 1 foot to N; successful drilling here.
1423-1426 Onsite @ 2054 - mainly grassy area
1430-1433 Onsite @ 2056 - hole drilled 3 feet north of stake to avoid swampy area - mainly grassy area - saturated
1436-1439 Onsite @ 2058 - grassy area
1441-1447 Onsite @ 20510 - grassy area
1448-1453 Onsite @ 20512 - grassy area

Daily Weather Conditions: A.M. N/A
P.M. Cold, @ 40° F, Wind from W @ 5mph

Recorded By Joletta Minard QA Checked By [illegible]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

(mm/dd/yy): 2/21/94 TIME: 14:55 PAGE 3 OF 3

Task Team Members:

JD (SAIC) PB (NERI)
JM (SAIC) HR (Mound HP)

Narrative (include time and location):

1455 Onsite @ 20S14; grassy (long) area
1500 Onsite @ 20S16; grassy prarie area
1508 Onsite @ 20S18; grassy prarie area
1515 Onsite @ 20S20; grasy area Note: Some trash onsite, including an oil can, tire, glass
1522 Onsite @ 20S22; wooded area, some shrubbery; alot of roots
1530 Onsite @ 20S24. note: this sample location is approx. 120 feet from 20S22 and is located adjacent to the fenceline.
1535 Onsite @ 22S22; wooded area 100' JTD 2/25/94
1550 Onsite @ 24S22; located approx. ~~200~~ ft and 90° angle from 23S line.
1558 Onsite @ 23S20; located approx. 21 ft N from fenceline.
1615 Finished sampling for the day. Offsite @ 1620. Returned to trailer. Finished logbook. Offsite @ 1645

Daily Weather Conditions: A.M. NA
P.M. Same

Recorded By Joletta Musaid QA Checked By [illegible]

4

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/22/94 TIME: 0730 : 1700 PAGE 1 OF 1

Task Team Members:

Paul Parrish (SAIC)
Joletta Minard (SAIC)
Henry Robinson (Mound HP)

Narrative (include time and location):

Onsite @ trailer @ 0730. Collected sampling equipment.
Discussed day's events with K. Macmahan and J. Geisler.
J. Geisler signed burn permit for 2/22/94. Met. H. Robinson
(HP Mound) and headed out to site
0820-1008 Installed samplers from 18SØ - 18S24.
Triplicate installed at 18S14.
1023-1253 Installed samplers from 16S24 - 16S12.
1100 Broke for lunch
1205 Headed out to site.
1228 - 1353 Installed samplers 14S10, 14S8, 16S8, 16S6,
14S6, 14S4, 16S2, 16SØ, 14SØ, 14S2.
Triplicates installed at 16S24, 16S2
1413-1423 Installed samplers 12SØ and 12S2
1434-1440 Installed samplers 1ØS2 and 1ØSØ
Triplicate installed @ 1ØS2
1450-1536 Installed samplers 8SØ, 6SØ, 2SØ, ØSØ, ØS2
Screened by H. Robinson; hands and feet.
1545-1650 Wired samplers for next day's use
1700 Offsite
Last Entry

Daily Weather Conditions: A.M. Cloudy, @ 35°F, wind from W @ 5 mph
P.M. Cloudy, @ 31°F, wind from W @ 10 mph

Recorded By [signature] QA Checked By [signature]

5

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/23/94 TIME: 0700 : _____ PAGE 1 OF 1

Task Team Members:

JOHN DAVIS

PAUL PARRISH

HENRY ROBINSON (MOUND HP)

Narrative (include time and location):

@ trailer @ 0700. Gather up equipment for days sampling
Teresa Fort onsite for Health and Safety Surveillance.
Henry Robinson on site @ 0745
0800-1200 Completed lines 14S, 12S, and a portion of line 10S
1200-1300 Lunch
1300-1400 Call office, prep tubes etc. Elysa T. delivers core shovel & auger stem.
1400-~~1445~~ 1645 Finish line 10S and begin line 8S.
NOTE: SEEP @: 858.5 by big tree sawed down. Limestone rock piled up. -
Last Point sampled: 858, ~~#96~~ #97 JHD 2/23/94
1645: @ trailer. Twist up more tubes, prep for tomorrow.
Offsite @ 1645

Daily Weather Conditions: A.M. foggy, drizzly, overcast, 40°F
P.M. clearing, breezy, sunny 50°F

Recorded By [signature] QA Checked By [signature]

6

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/24/94 TIME: 0715 : PAGE 1 OF 2

Task Team Members:

Joletta Minard (SAIC)
Paul Parrish (SAIC)
Henry Robinson (HP-Mound)

Narrative (include time and location):

0715 Onsite @ Trailer; Gathering equipment. Using hand auger. K. MacMahan stopped in. Set up time to meet at 6S12 to take photographs. Joyce Geisler stopped in.
0800 Started at 8S6 and finished 8 line
0833 Started 6S line at 6S2 - working east to west.
0915 At 6S12 Waiting for K MacMahan's photographer. H.R. ran out of lids for soil screening containers Went back to truck to get more.
0930 Started at 6S14; H.R back with us with more lids. K.M. a no show.
1013 Started 4S line at 4S18
1030 Keith M arrived with photographer. Returned to 6S12 to take pictures of soil gas tube installation
1045 Back at line 4S at 4S12.
1120 Completed 4S up to 4S4. Break for lunch
1230 Started at 22S18. 22S1705 also installed.
1300 Moved to finish line 4S; 4S2.
1320 Moved to line 2.
1448 Started line ØS at ØS20.
1600 Completed ØS line. H.R. said we could get the

Daily Weather Conditions: A.M. Cold, @ 32°F, Snow, Wind @ 5-10 mph from S
P.M. Same

Recorded By Joletta Minard QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO. 34896

(mm/dd/yy): 2/24/94 TIME: NA : PAGE 2 OF 2

Task Team Members:

JM (SAIC)
PP (SAIC)
H.R. (HP-Mound)

Narrative (include time and location):

Soil screening results by Monday afternoon. He will give the results to K. MacMahan.
Cleaned out truck and unloaded equipment.

All soil gas tubes installed. 141 data tubes + 10 time tubes (5 time sites @ 2 time tubes per site)

Daily Weather Conditions: A.M. NA

P.M. same

Recorded By Joletta Minard QA Checked By

8

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 2/28/94 TIME: 08:00 PAGE 1 OF 1

Task Team Members:

John Davis

Paul Parrish

Ray Moss (Mound HP)

Narrative (include time and location):

0800 on site preparing to take first rad sample.

1130 Finished taking all. 100' sample points in area 1. returning to trailer.

1135 Back @ trailer. Ray Moss said he will get the results to us as soon as they are available.

1140 Break For Lunch

1210 Back from lunch

1300 Back on site to pull first time tube.

1315 Pull 1TS1 @ 1654.

1325 Pull 2TS1 @ 22520

1340 Pull 4TS1 @ 10522

1353 Pull 3TS1 @ 10512

1410 Pull 5 TS1 @ 450

1413 Heading back to trailer to package samples

1600 JD delivers spls to FedX w Micmishows. AIRBILL 8938222945

NOTE: Method for collecting soil samples in Area 1: Remove topsoil and/or root thatch to a depth of 4-6" Then chop up and composite soil from depth. Used a spade shovel.

Daily Weather Conditions: A.M. 30°F Partly Cloudy and Warming Up.

P.M. 37°F Mostly Cloudy

Recorded By [signature] QA Checked By [signature]

15

SOIL GAS SAMPLING (PETREX)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE II

PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	PETREX SAMPLE NUMBER	DATE / TIME		COC NUMBER	COMMENTS
			PLACE	RETRIEVE		
0S0	MND16-0000-0018	59	2/22/94 1525			Bag #3
0S2	MND16-0002-0018	60	2/22/94 1536			Bag #3
0S4	MND16-0004-0018	141	2/24/94 1550			~~DUPLICATE~~ Bag 5 perimeter fence
0S6	MND16-0006-0018	140	2/24/94 1542			Bag 5; perimeter fence
0S8	MND16-0008-0018	139	2/24/94 1537			Bag 5; perimeter fence
0S10	MND16-0010-0018	138	2/24/94 1530			Bag 5; perimeter fence
0S12	MND16-0012-0018	137	2/24/94 1525			Bag 5; perimeter fence
0S14	MND16-0014-0018	136	2/24/94 1510			Bag 5; perimeter fence
0S16	MND16-0016-0018	135	2/24/94 1505			Bag 5; perimeter fence
0S18	MND16-0018-0018	134	2/24/94 1510 ~~1454~~			Bag 5; along N perimeter fence
0S20	MND16-0020-0018	133	2/24/94 1448			Bag #5; along perimeter fence
0S22	MND16-0022-0018	NA	→	→	→	
0S24	MND16-0024-0018	NA	→	→	→	

SOIL GAS SAMPL[illegible] SOIL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	CH2		
0S0	MND16-0000-0006	2/22/94 / 1525	Ø	Ø		
0S2	MND16-0002-0006	2/22/94 / 1536	Ø	Ø		
0S4	MND16-0004-0006	2/24/94 1550	Ø	Ø		
0S6	MND16-0006-0006	2/24/94 1542	Ø	Ø		
0S8	MND16-0008-0006	2/24/94 1537	Ø	Ø		
0S10	MND16-0010-0006	2/24/94 1530	Ø	Ø		
0S12	MND16-0012-0006	2/24/94 1525	Ø	Ø		
0S14	MND16-0014-0006	2/24/94 1510	Ø	Ø		
0S16	MND16-0016-0006	2/24/94 1505	Ø	Ø		
0S18	MND16-0018-0006	2/24/94 1464	Ø	Ø		
0S20	MND16-0020-0006	2/24/94 1448	Ø	Ø		
0S22	MND16-0022-0006	NA	→	→		
0S24	MND16-0024-0006	NA	→	→		

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SOIL GAS SAMPLING (PETREX)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	PETREX SAMPLE NUMBER	DATE / TIME PLACE	DATE / TIME RETRIEVE	COC NUMBER	COMMENTS
2S0	MND16-0200-0018	58	2/22/94 / 1518			Bag #3
2S2	MND16-0202-0018	124	2/24/94 1330			Bag 5; hole @ 1' deep - lots of rocks in woods; TRIPLICATE
2S4	MND16-0204-0018	125	2/24/94 1343			Bag 5; in woods; hole 1' deep due to rocky ground
2S6	MND16-0206-0018	126	2/24/94 1350			Bag 5; in woods
2S8	MND16-0208-0018	127	2/24/94 1356			Bag 5; in woods
2S10	MND16-0210-0018	128	2/24/94 1413			Bag 5; in woods
2S12	MND16-0212-0018	129	2/24/94 1416			Bag 5; In woods; 3' NE of stake
2S14	MND16-0214-0018	130	2/24/94 1425			Bag 5; in woods;
2S16	MND16-0216-0018	131	2/24/94 1430			TRIPLICATE; Bag 5; hole @ 3' W of stake in woods;
2S18	MND16-0218-0018	132	2/24/94 1437			~~TIME~~ Bag 5; in woods
~~2S18~~	~~MND16-0218-0001~~		~~PM 2/24/94~~			~~TIME 1 @ 2S18~~
~~2S18~~	~~MND16-0218-0002~~		~~PM 2/24/94~~			~~TIME 2 @ 2S18~~
2S20	MND16-0220-0018	NA				
2S22	MND16-0222-0018					
2S24	MND16-0224-0018					

SOIL GAS SAMPL[illegible] (SOIL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	CH2		
2S0	MND16-0200-0006	2/22/94 / 1518	Ø	Ø		
2S2	MND16-0202-0006	2/24/94 1330	Ø	Ø		
2S4	MND16-0204-0006	2/24/94 1343	Ø	Ø		
2S6	MND16-0206-0006	2/24/94 1350	Ø	Ø		
2S8	MND16-0208-0006	2/24/94 1356	Ø	Ø		
2S10	MND16-0210-0006	2/24/94 1413	Ø	Ø		
2S12	MND16-0212-0006	2/24/94 1416	Ø	Ø		
2S14	MND16-0214-0006	2/24/94 1425	Ø	Ø		
2S16	MND16-0216-0006	2/24/94 1430	Ø	Ø		
2S18	MND16-0218-0006	2/24/94 1437	Ø	Ø		
2S20	MND16-0220-0006	NA				
2S22	MND16-0222-0006					
2S24	MND16-0224-0006					

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SOIL GAS SAMPLING (PETREX)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	PETREX SAMPLE NUMBER	DATE / TIME PLACE	DATE / TIME RETRIEVE	COC NUMBER	COMMENTS
4S0	MND16-0400-0018	5	2/21/94 1145			BAG #5 TIME
4S2	MND16-0402-0018	123	2/24/94 1315			Bag 5; in woods
4S4	MND16-0404-0018	120	2/24/94 1110			~~TIME~~ Bag 5; in woods
~~4S4~~	~~MND16-0404-0001~~	—	—	—	—	TIME 1 @ 4S4
~~4S4~~	~~MND16-0404-0002~~	—	—	—	—	TIME 2 @ 4S4
4S6	MND16-0406-0018	119	2/24/94 1105			Bag 5; in woods; TRIPLICATE
4S8	MND16-0408-0018	118	2/24/94 1059			Bag 5; lightly wooded area Hole NE of stake
4S10	MND16-0410-0018	117	2/24/94 1053			Bag 5; in woods
4S12	MND16-0412-0018	116	2/24/94 1047			Bag 5; in wood; Hole placed South of stake
4S14	MND16-0414-0018	115	2/24/94 1030			Bag 5; in woods
4S16	MND16-0416-0018	114	2/24/94 1020			Bag 5; in woods
4S18	MND16-0418-0018	113	2/24/94 1013			Bag 4 ~~5~~; edge of woods
4S20	MND16-0420-0018	NA				
4S22	MND16-0422-0018	↓				
4S24	MND16-0424-0018					
4S0	MND16-0400-0001	5TS1	2/21/94 1147	2/28/94 1410	N16-1	TIME 1 @ 4S0 SW
4S0	MND16-0400-0001	5TS2	2/21/94 1135			TIME 2 @ 4S0 SE
						CENTER of triangle 2' SE of stake

SOIL GAS SAMPLING [illegible] IL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34[illegible]6

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	~~CH2~~ out		
4S0	MND16-0400-0006	2/21/94 1135	Ø	Ø		
4S2	MND16-0402-0006	2/24/94 1315	Ø	Ø		
4S4	MND16-0404-0006	2/24/94 1110	Ø	Ø		
4S6	MND16-0406-0006	2/24/94 1105	Ø	Ø		
4S8	MND16-0408-0006	2/24/94 1059	Ø	Ø		
4S10	MND16-0410-0006	2/24/94 1053	Ø	Ø		
4S12	MND16-0412-0006	2/24/94 1047	Ø	Ø		
4S14	MND16-0414-0006	2/24/94 1030	Ø	Ø		
4S16	MND16-0416-0006	2/24/94 1020	Ø	Ø		
4S18	MND16-0418-0006	2/24/94 1013	Ø	Ø		
4S20	MND16-0420-0006	NA	—	—		
4S22	MND16-0422-0006	↓				
4S24	MND16-0424-0006					

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SOIL GAS SAMPLING (PETREX)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	PETREX SAMPLE NUMBER	DATE / TIME		COC NUMBER	COMMENTS
			PLACE	RETRIEVE		
6S0	MND16-0600-0018	57	2/22/94/1508			Bag #3 ≈1' to bedrock
6S2	MND16-0602-0018	101	2/24/94 ~~0833~~ 0833			Bag #4; in woods
6S4	MND16-0604-0018	102	2/24/94 0843			Bag 4; in clearing, 1' deep hole - v. rocky next to woods
6S6	MND16-0606-0018	103	2/24/94 0855			Bag #4; in heavy woods; lots of roots
6S8	MND16-0608-0018	104	2/24/94 0902			TRIPLICATE; Bag 4; in woods 2/24/94
6S10	MND16-0610-0018	105	2/24/94 0910			Bag 4; in woods
6S12	MND16-0612-0018	106	2/24/94 1038			Bag 5; edge of woods; TRIPLICATE
6S14	MND16-0614-0018	107	2/24/94 0930			Bag 4; in woods
6S16	MND16-0616-0018	108	2/24/94 0937			Bag 4; in woods
6S18	MND16-0618-0018	109	2/24/94 0943			Bag #4; in woods
6S20	MND16-0620-0018	110	2/24/94 0950			TRIPLICATE; in woods 2/24/94
6S22	MND16-0622-0018	111	2/24/94 0958			Bag 4; edge of woods; triplicate
6S24	MND16-0624-0018	112	2/24/94 1005			

SOIL GAS SAMPLING (FIELD SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34[illegible]

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	CH2 out		
6S0	MND16-0600-0006	2/22/94/1508	D	D		
6S2	MND16-0602-0006	2/24/94 0833	Ø	Ø		
6S4	MND16-0604-0006	2/24/94 0843	Ø	Ø		
6S6	MND16-0606-0006	2/24/94 0855	Ø	Ø		
6S8	MND16-0608-0006	2/24/94 0902	Ø	Ø		
6S10	MND16-0610-0006	2/24/94 0910	Ø	Ø		
6S12	MND16-0612-0006	2/24/94 1038	Ø	Ø		
6S14	MND16-0614-0006	2/24/94 0930	Ø	Ø		
6S16	MND16-0616-0006	2/24/94 0937	Ø	Ø		
6S18	MND16-0618-0006	2/24/94 0943	Ø	Ø		
6S20	MND16-0620-0006	2/24/94 0950	Ø	Ø		
6S22	MND16-0622-0006	2/24/94 0958	Ø	Ø		
6S24	MND16-0624-0006	2/24/94 1005	Ø	Ø		

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SOIL GAS SAMPLING (PETREX)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	PETREX SAMPLE NUMBER	DATE / TIME PLACE	DATE / TIME RETRIEVE	COC NUMBER	COMMENTS
8S0	MND16-0800-0018	56	2/22/94 1450			Hit Bedrock @ 1' depth. Bag #3; Hole approx 1' deep 5' east of stake grassy
8S2	MND16-0802-0018	100	2/24/94 0824			TRIPLICATE; in woods
8S4	MND16-0804-0018	99	2/24/94 0812			Bag 4; grassy field; hole approx. 1' deep - bedrock
8S6	MND16-0806-0018	98	2/24/94 0803			Bag 4; in woods; bedrock @ 1' deep
8S8	MND16-0808-0018	96	2/23/94 1616			BAG 4; IN woods; BEDROCK @ 1' BGS
8S10	MND16-0810-0018	95	2/23/94 1608			BAG 4; IN WOODS
8S12	MND16-0812-0018	94	2/23/94 1600			BAG 4; IN woods
8S14	MND16-0814-0018	93	2/23/94 1552			~~TRIPLICATE~~ BAG 4; 2' S of STAKE
8S16	MND16-0816-0018	92	2/23/94 1546			BAG 4; IN WOODS
8S18	MND16-0818-0018	91	2/23/94 1536			BAG 4; IN woods; WTR IN HOLE
8S20	MND16-0820-0018	90	2/23/94 1530			BAG 4; IN WOODS
8S22	MND16-0822-0018	89	2/23/94 1525			BAG #4; GRASSY
8S24	MND16-0824-0018	88	2/23/94 1505			BAG #4; GRASSY; WTR IN HOLE

SOIL GAS SAMPLING (FIELD SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34[illegible]

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	CH2		
8S0	MND16-0800-0006	2/22/94 1450	Ø	Ø		
8S2	MND16-0802-0006	2/24/94 0824	Ø	Ø		
8S4	MND16-0804-0006	2/24/94 0812	Ø	Ø		
8S6	MND16-0806-0006	2/24/94 0803	Ø	Ø		
8S8	MND16-0808-0006	2/23/94 1616	0	0		
8S10	MND16-0810-0006	2/23/94 1608	0	0		
8S12	MND16-0812-0006	2/23/94 1600	0	0		
8S14	MND16-0814-0006	2/23/94 1552	0	0		
8S16	MND16-0816-0006	2/23/94 1546	0	0		
8S18	MND16-0818-0006	2/23/94 1536	0	0		
8S20	MND16-0820-0006	2/23/94 1530	0	0		
8S22	MND16-0822-0006	2/23/94 1525	0	0		
8S24	MND16-0824-0006	2/23/94 1505	0	0		

SOIL GAS SAMPLING (PETREX)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	PETREX SAMPLE NUMBER	DATE / TIME PLACE	DATE / TIME RETRIEVE	COC NUMBER	COMMENTS
10S0	MND16-1000-0018	55	2/22/94 1440			Bag #3; bare ground
10S2	MND16-1002-0018	54	2/22/94 1434			Bag #3; TRIPLICATE wooded area; some trash, mailbox
10S4	MND16-1004-0018	81	2/23/94 1152			Bag #2; Bedrock 1' BLS
10S6	MND16-1006-0018	80	2/23/94 1143			Bag #2; Bedrock 1' BLS
10S8	MND16-1008-0018	79	2/23/94 1128			Bag #2; wooded
10S10	MND16-1010-0018	82	2/23/94 1420			BAG #2; wooded; 2' E. of STAKE
10S12	MND16-1012-0018	3	2/21/94 1049		2/21/94 JMD	TIME B#6
10S12	MND16-1012-0001	3TS1	2/21/94 1046	2/28/94 1353	N16-1	TIME 1 @ 10S12 SW
10S12	MND16-1012-0002	3TS2	2/21/94 1042			TIME 2 @ 10S12 SE
10S14	MND16-1014-0018	83	2/23/94 1430			BAG #2; GRASSY
10S16	MND16-1016-0018	84	2/23/94 1436		CENTER of	TRIANGLE 3' S. of) BAG #2 GRASSY
10S18	MND16-1018-0018	85	2/23/94 1444			stake) BAG #2, GRASSY
10S20	MND16-1020-0018	86	2/23/94 1447			BAG #2; GRASSY
10S22	MND16-1022-0018	4	2/21/94 1109			TIME BAG #6
10S24	MND16-1024-0018	87	2/23/94 1500			BAG #2; 15' S of stake, GRASSY
10S22	MND16-1022-0001	4TS1	2/21/94 1110	2/28/94 1340	N16-1 SW	TIME 1 @ 10S22
10S22	MND16-1022-0002	4TS2	2/21/94 1111		SE	TIME 2 @ 10S22
					TRIANGE	CENTERED AROUND stake

SOIL GAS SAMPL SOIL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	~~CH2~~ OUT		
10S0	MND16-1000-0006	2/22/94 1440	Ø	Ø		
10S2	MND16-1002-0006	2/22/94 1434	Ø	Ø		
10S4	MND16-1004-0006	2/23/94 1152	0	0		
10S6	MND16-1006-0006	2/23/94 1143	0	0		
10S8	MND16-1008-0006	2/23/94 1128	0	0		
10S10	MND16-1010-0006	2/23/94 1420	0	0		
10S12	MND16-1012-0006	2/21/94 1049	0	0		
10S14	MND16-1014-0006	2/23/94 ~~1040~~ 1430	0	0		
10S16	MND16-1016-0006	2/23/94 1436	0	0		
10S18	MND16-1018-0006	2/23/94 1444	0	0		
10S20	MND16-1020-0006	2/23/94 1447	0	0		
10S22	MND16-1022-0006	2/21/94 1110	0	0		
10S24	MND16-1024-0006	2/23/94 1500	0	0		

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SOIL GAS SAMPLING (PETREX)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	PETREX SAMPLE NUMBER	DATE / TIME		COC NUMBER	COMMENTS
			PLACE	RETRIEVE		
12S0	MND16-1200-0018	52	2/22/94 1413			Bag #3; grassy
12S2	MND16-1202-0018	53	2/22/94 1423			Bag #3; grassy
12S4	MND16-1204-0018	61	2/23/94 0821			Bag #3; grassy
12S6	MND16-1206-0018	62	2/23/94 0831			Bag #3; water in hole
12S8	MND16-1208-0018	63	2/23/94 0840			TRIPLICATE Bag #3; trees
12S10	MND16-1210-0018	64	2/23/94 0851			Bag #2; grassy
12S12	MND16-1212-0018	65	2/23/94 0903			Bag #2; grassy
12S14	MND16-1214-0018	~~2/22/94 66~~ 78	2/23/94 1114			Bag #2; 23' N. of stake to avoid H_2O in hole
12S16	MND16-1216-0018	66	2/23/94 0928			Bag #2; grassy
12S18	MND16-1218-0018	67	2/23/94 0937			Bag #2; grassy
12S20	MND16-1220-0018	68	2/23/94 0944			~~TRIPLICATE~~ Bag #2; grassy
12S22	MND16-1222-0018	69	2/23/94 0951			Bag #2; grassy
12S24	MND16-1224-0018	70	2/23/94 0957			Bag #2; dark organic soil; small piles of debris with charcoalike material

SOIL GAS SAMPLIN[illegible] OIL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	CH2		
12S0	MND16-1200-0006	2/22/94 1413	Ø	Ø		
12S2	MND16-1202-0006	2/22/94 1423	Ø	Ø		
12S4	MND16-1204-0006	2/23/94 0821	0	0		
12S6	MND16-1206-0006	2/23/94 0831	0	0		
12S8	MND16-1208-0006	2/23/94 0840	0	0		
12S10	MND16-1210-0006	2/23/94 0851	0	0		
12S12	MND16-1212-0006	2/23/94 0903	0	0		
12S14	MND16-1214-0006	2/23/94 1114	0	0		
12S16	MND16-1216-0006	2/23/94 0928	0	0		
12S18	MND16-1218-0006	2/23/94 0937	0	0		
12S20	MND16-1220-0006	2/23/94 0944	0	0		
12S22	MND16-1222-0006	2/23/94 0951	0	0		
12S24	MND16-1224-0006	2/23/94 0957	0	0		

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SOIL GAS SAMPLING (PETREX)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	PETREX SAMPLE NUMBER	DATE / TIME PLACE	DATE / TIME RETRIEVE	COC NUMBER	COMMENTS
14S0	MND16-1400-0018	50	2/22/94 1353			Bag #3; Alot of gravel / Hole approx 1.25' deep
14S2	MND16-1402-0018	51	2/22/94 1403			Bag #3; asphalt hole 3' west of site.
14S4	MND16-1404-0018	47	2/22/94 1308			Bag #3; grassy; possibly hit bedrock when drilling
14S6	MND16-1406-0018	46	2/22/94 1303			Bag #3; alot of tree roots, grass
14S8	MND16-1408-0018	43	2/22/94 1235			Bag #3; grassy, alot of roots
14S10	MND16-1410-0018	42	2/22/94 1228			Bag #3; grassy, wet
14S12	MND16-1412-0018	77	2/23/94 1106			Bag # 2; wooded
14S14	MND16-1414-0018	76	2/23/94 1056			TRIPLICATE Bag # 2; 6' N. avoid running stream
14S16	MND16-1416-0018	75	2/23/94 1044			Bag # 2; wooded; nearby debris
14S18	MND16-1418-0018	74	2/23/94 1035			Bag # 2; grassy
14S20	MND16-1420-0018	73	2/23/94 1027			Bag # 2; wooded; 2' N.; debris
14S22	MND16-1422-0018	72	2/23/94 1021			Bag # 2; grassy
14S24	MND16-1424-0018	71	2/23/94 1006			Triplicate; Bag # 2; wooded

SOIL GAS SAMPLING (SOIL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	CH2		
14S0	MND16-1400-0006	2/22/94 1353	Ø	Ø		
14S2	MND16-1402-0006	2/22/94 1403	Ø	Ø		
14S4	MND16-1404-0006	2/22/94 1308	Ø	Ø		
14S6	MND16-1406-0006	2/22/94 1303	Ø	Ø		
14S8	MND16-1408-0006	2/22/94 1235	Ø	Ø		
14S10	MND16-1410-0006	2/22/94 1228	Ø	Ø		
14S12	MND16-1412-0006	2/23/94 1106	0	0		
14S14	MND16-1414-0006	2/23/94 1056	0	0		
14S16	MND16-1416-0006	2/23/94 1044	0	0		
14S18	MND16-1418-0006	2/23/94 1035	0	0		
14S20	MND16-1420-0006	2/23/94 1027	0	0		
14S22	MND16-1422-0006	2/23/94 1021	0	0		
14S24	MND16-1424-0006	2/23/94 1006	0	0		

SOIL GAS SAMPLING (PETREX)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	PETREX SAMPLE NUMBER	DATE / TIME PLACE	DATE / TIME RETRIEVE	COC NUMBER	COMMENTS
16S0	MND16-1600-0018	49	2/22/94 1338			Bag #3; gravel; drilled Approx. 2' to N of site; 1' deep due to gravel
16S2	MND16-1602-0018	48	2/22/94 1323			Bag #3; TRIPLICATE next to asphalt
16S4	MND16-1604-0018	1	2/21/94 0952			TIME BAG #6
16S4	MND16-1604-0001	1T51	2/21/94 0942	2/28/94 1315	N16 SW-SE of	TIME 1 @ 16S4 NO BAG #
16S4	MND16-1604-0002	1T52	11 0947		SE SW	TIME 2 @ 16S4 NO BAG #
16S6	MND16-1606-0018	45	2/22/94 1253			Bag #3; grass, tree roots
16S8	MND16-1608-0018	44	2/22/94 1241			Bag #3; grassy
16S10	MND16-1610-0018	41	2/22/94 1222			Bag #3; grassy
16S12	MND16-1612-0018	40	2/22/94 1058			BAG #3; grassy, near creek
16S14	MND16-1614-0018	39	2/22/94 1050			BAG #3; grassy; saturated
16S16	MND16-1616-0018	38	2/22/94 1046			BAG #1; grassy
16S18	MND16-1618-0018	37	2/22/94 1040			BAG #1; grassy
16S20	MND16-1620-0018	36	2/22/94 1035			gm 2/22/94 TRIPLICATE BAG #1; grassy
16S22	MND16-1622-0018	34	2/22/94 1018			Bag #1; grassy
16S24	MND16-1624-0018	35	2/22/94 1023			Bag #1; grassy; TRIPLICATE
~~22S1705~~	~~MND16-2217 0018~~ gm 2/24/94	~~122~~	~~2/24/94 1300~~ JAD 2/25/94			~~Bag 5; grass~~

SOIL GAS SAMPLING (OIL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	~~CH2~~ out		
16S0	MND16-1600-0006	2/22/94 1338	Ø	Ø		
16S2	MND16-1602-0006	2/22/94 1323	Ø	Ø		
16S4	MND16-1604-0006	2/22/94 0952	Ø	Ø		
16S6	MND16-1606-0006	2/22/94 1253	Ø	Ø		
16S8	MND16-1608-0006	2/22/94 1241	Ø	Ø		
16S10	MND16-1610-0006	2/22/94 1222	Ø	Ø		
16S12	MND16-1612-0006	2/22/94 1058	Ø	Ø		
16S14	MND16-1614-0006	2/22/94 1050	Ø	Ø		
16S16	MND16-1616-0006	2/22/94 1046	Ø	Ø		
16S18	MND16-1618-0006	2/22/94 1040	Ø	Ø		
16S20	MND16-1620-0006	2/22/94 1035	Ø	Ø		
16S22	MND16-1622-0006	2/22/94 1018	Ø	Ø		
16S24	MND16-1624-0006	2/22/94 1023	Ø	Ø		
~~17S170~~	~~MND16-2217-0006~~	~~2/24/94 1300~~	~~Ø~~	~~Ø~~		
		TTD 2/24/94				

SOIL GAS SAMPLING (PETREX)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	PETREX SAMPLE NUMBER	DATE / TIME PLACE	DATE / TIME RETRIEVE	COC NUMBER	COMMENTS
18S0	MND16-1800-0018	21	2/22/94 0820			Bag #1
18S2	MND16-1802-0018	22	2/22/94 0835			~~TRIPLICATE~~ 2/22/94 Bag #1
18S4	MND16-1804-0018	23	2/22/94 0843			Bag #1
18S6	MND16-1806-0018	24	2/22/94 0854			Bag #1
18S8	MND16-1808-0018	25	2/22/94 0900			~~TRIPLICATE~~ 2/22/94 Bag #1
18S10	MND16-1810-0018	26	2/22/94 0908			Bag #1
18S12	MND16-1812-0018	27	2/22/94 0918			Bag #1
18S14	MND16-1814-0018	28	2/22/94 0926			Bag #1; Triplicate
18S16	MND16-1816-0018	29	2/22/94 0934			Bag #1
18S18	MND16-1818-0018	30	2/22/94 0939			Bag #1
18S20	MND16-1820-0018	31	2/22/94 0948			Bag #1
18S22	MND16-1822-0018	32	2/22/94 1003			Bag #1; alot of roots
18S24	MND16-1824-0018	33	2/22/94 1008			Bag #1; grass

SOIL GAS SAMPLING (SOIL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34u96

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	~~CH2~~ OUT		
18S0	MND16-1800-0006	2/22/94 0820	Ø	Ø		
18S2	MND16-1802-0006	2/22/94 0835	Ø	Ø		
18S4	MND16-1804-0006	2/22/94 0843	Ø	Ø		
18S6	MND16-1806-0006	2/22/94 0854	Ø	Ø		
18S8	MND16-1808-0006	2/22/94 0900	Ø	Ø		
18S10	MND16-1810-0006	2/22/94 0908	Ø	Ø		
18S12	MND16-1812-0006	2/22/94 0918	Ø	Ø		
18S14	MND16-1814-0006	2/22/94 0926	Ø	Ø		
18S16	MND16-1816-0006	2/22/94 0934	Ø	Ø		
18S18	MND16-1818-0006	2/22/94 0939	Ø	Ø		
18S20	MND16-1820-0006	2/22/94 0948	Ø	Ø		
18S22	MND16-1822-0006	2/22/94 1003	Ø	Ø		
18S24	MND16-1824-0006	2/22/94 1008	Ø	Ø		

SOIL GAS SAMPLING (PETREX)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	PETREX SAMPLE NUMBER	DATE / TIME		COC NUMBER	COMMENTS
			PLACE	RETRIEVE		
20S0	MND16-2000-0018	6	2/21/94 / 1410			BAG #6
20S2	MND16-2002-0018	7	2/21/94 / 1420			"
20S4	MND16-2004-0018	8	2/21/94 1426			"
20S6	MND16-2006-0018	9	2/21/94 ~~1432~~ 1432			"
20S8	MND16-2008-0018	10	2/21/94 1438			"
20S10	MND16-2010-0018	11 ~~12~~ 9m 2/21/94	2/21/94 1446			"
20S12	MND16-2012-0018	12	2/21/94 1451			" ; TRIPLICATE
20S14	MND16-2014-0018	13	2/21/94 1456			"
20S16	MND16-2016-0018	14	2/21/94 1500			9m 2/21/94 ~~TRIPLICATE~~ BAG #6
20S18	MND16-2018-0018	15	2/21/94 1512			BAG #1
20S20	MND16-2020-0018	16	2/21/94 1516			"
20S22	MND16-2022-0018	17	2/21/94 1525			"
20S24	MND16-2024-0018	18	2/21/94 1531			

SOIL GAS SAMPLIN(,OIL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	CH2 -OUT		
20S0	MND16-2000-0006	2/21/94 / 1410	Ø	Ø		
20S2	MND16-2002-0006	2/21/94 1420	Ø	Ø		
20S4	MND16-2004-0006	2/21/94 1426	Ø	Ø		
20S6	MND16-2006-0006	2/21/94 1432	Ø	Ø		
20S8	MND16-2008-0006	2/21/94 1438	Ø	Ø		
20S10	MND16-2010-0006	2/21/94 1446	Ø	Ø		
20S12	MND16-2012-0006	2/21/94 1451	Ø	Ø		
20S14	MND16-2014-0006	2/21/94 1456	Ø	Ø		
20S16	MND16-2016-0006	2/21/94 1501	Ø	Ø		
20S18	MND16-2018-0006	2/21/94 1512	Ø	Ø		
20S20	MND16-2020-0006	2/21/94 1516	Ø	Ø		
20S22	MND16-2022-0006	2/21/94 1525	Ø	Ø		
20S24	MND16-2024-0006	2/21/94 1531	Ø	Ø		

SOIL GAS SAMPLING (PETREX)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	PETREX SAMPLE NUMBER	DATE / TIME PLACE	DATE / TIME RETRIEVE	COC NUMBER	COMMENTS
22S0	MND16-2200-0018	NA				
22S2	MND16-2202-0018					
22S4	MND16-2204-0018					
22S6	MND16-2206-0018					
22S8	MND16-2208-0018					
22S10	MND16-2210-0018					
22S12	MND16-2212-0018					
22S14	MND16-2214-0018					
22S16	MND16-2216-0018					
22S18	MND16-2218-0018	121	2/24/94 1255			Bag 5; grassy
22S20	MND16-2220-0018	2	2/21/94 1021			TIME BAG # 6
22S20	MND16-2220-0001	2TS1	2/21/94 1012	2/28/94 1325	N161 SW	TIME 1 @ 22S20
22S20	MND16-2220-0002	2TS2	2/21/94 1015		SE	TIME 2 @ 22S20
22S22	MND16-2222-0018	19	2/21/94 1540			2/21/94 ~~TIME/DATE~~
22S24	MND16-2224-0018	NA				
					CENTER	of TIME triangle 4'
					E of	stake
22S17	MND16-2217-0018	122	2/24/94 1300			BAG # 5 grass

SOIL GAS SAMPLING (SOIL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	~~CH2~~ OUT		
22S0	MND16-2200-0006	NA				
22S2	MND16-2202-0006					
22S4	MND16-2204-0006					
22S6	MND16-2206-0006					
22S8	MND16-2208-0006					
22S10	MND16-2210-0006					
22S12	MND16-2212-0006					
22S14	MND16-2214-0006					
22S16	MND16-2216-0006					
22S18	MND16-2218-0006	2/24/94 1255	Ø	Ø		
22S20	MND16-2220-0006	2/21/94 1015	0	0		
22S22	MND16-2222-0006	2/21/94 1540	0	0		
22S24	MND16-2224-0006					
22S17	MND16-2217-0006	2/24/94 1300	0	0		

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SOIL GAS SAMPLING (PETREX)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	PETREX SAMPLE NUMBER	DATE / TIME		COC NUMBER	COMMENTS
			PLACE	RETRIEVE		
24S0	MND16-2400-0018					
24S2	MND16-2402-0018					
24S4	MND16-2404-0018					
24S6	MND16-2406-0018					
24S8	MND16-2408-0018					
24S10	MND16-2410-0018					
24S12	MND16-2412-0018					
24S14	MND16-2414-0018					
24S16	MND16-2416-0018					
24S18	MND16-2418-0018					
23S20 ~~24S20~~ (JM 2/23/94)	MND16-2420-0018	2/23/94 JTD 2197	2/21/94 1610			BAG #1
24S22	MND16-2422-0018	20	2/21/94 1555			BAG #1; TRIPLICATE
24S24	MND16-2424-0018					
9999	MND16-9999-2001					TRAVEL #1
9999	MND16-9999-2002					TRAVEL #2

SOIL GAS SAMPL[illegible] (SOIL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	CH2		
24S0	MND16-2400-0006					
24S2	MND16-2402-0006					
24S4	MND16-2404-0006					
24S6	MND16-2406-0006					
24S8	MND16-2408-0006					
24S10	MND16-2410-0006					
24S12	MND16-2412-0006					
24S14	MND16-2414-0006					
24S16	MND16-2416-0006					
24S18	MND16-2418-0006					
23S20 ~~24S20~~	MND16-2420-0006	2/21/94 1610	Ø	Ø		
24S22	MND16-2422-0006	2/21/94 ~~1555~~ 1555	Ø	Ø		
24S24	MND16-2424-0006					

SOIL GAS SAMPLING (SOIL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	PMP 2/28/94 ~~CH2~~ OUT		
0S9	MND16-0009-0006	2·28·94/0830	0	0		Samples taken 4"-6" BLS
0S11	MND16-0011-0006	2·28·94/0832	0	0		
0S13	MND16-0013-0006	2·28·94/0837	0	0		
0S15	MND16-0015-0006	2·28·94/0839	0	0		
0S17	MND16-0017-0006	2·28·94/0842	0	0		
1S10	MND16-0110-0006	2·28·94/0852	0	0		
1S12	MND16-0112-0006	2·28·94/0900	0	0		
1S9	MND16-0109-0006	2·28·94/0850	0	0		
1S11	MND16-0111-0006	2·28·94/0857	0	0		sample is in dry stream bed
1S13	MND16-0113-0006	2·28·94/0903	0	0		
1S14	MND16-0114-0006	2·28·94/0906	0	0		
1S15	MND16-0115-0006	2·28·94/0910	0	0		
1S16	MND16-0116-0006	2·28·94/0913	0	0		
1S17	MND16-0117-0006	2·28·94/0916	0	0		
1S18	MND16-0118-0006	2·28·94/0920	0	0		
1S19	~~MND16-0119-0006~~ PMP 2/28/94	No				
2S13	MND16-0213-0006	2·28·94/0925	0	0		
2S15	MND16-0215-0006	2·28·94/0930	0	0		
2S17	MND16-0217-0006	2·28·94/0934	0	0		

SOIL GAS SAMPLING (SOIL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	~~CH2~~ DUT		
3S14	MND16-0314-0006	2/28/94 / 0941	0	0		
3S15	MND16-0315-0006	2·28·94 / 0943	0	0		
3S16	MND16-0316-0006	2·28·94 / 0947	0	0		
3S17	MND16-0317-0006	2·28·94 / 0949	0	0		
4S15	MND16-0415-0006	2·28·94 / 0957	0	0		
4S17	MND16-0417-0006	2·28·94 / 0953	0	0		
5S14	MND16-0514-0006	2·28·94 / 1001	0	0		
5S15	MND16-0515-0006	2·28·94 / 1003	0	0		
5S16	MND16-0516-0006	2·28·94 / 1006	0	0		
5S17	MND16-0517-0006	2·28·94 / 1008	0	0		
6S15	MND16-0615-0006	2.28·94 / 1017	0	0		
6S17	MND16-0617-0006	2·28·94 / 1013	0	0		

SOIL GAS SAMPLING (SOIL SCREENING)

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	MOUND SAMPLE NUMBER	DATE / TIME COLLECTED	FIDLER READING (CPM)		COC NUMBER	COMMENTS
			CH1	PMD 212014 ~~CH2~~ OUT		
7S15	MND16-0715-0006	2·28·94 / 1025	0	0		clayey soil
7S16	MND16-0716-0006	2·28·94 / 1027	0	0		
7S17	MND16-0717-0006	2·28·94 / 1030	0	0		
8S15	MND16-0815-0006	2·28·94 / 1034	0	0		
8S17	MND16-0817-0006	2·28·94 / 1037	0	0		
9S15	MND16-0915-0006	2·28·94 / 1045	0	0		in meadow
9S16	MND16-0916-0006	2·28·94 / 1043	0	0		in meadow
9S17	MND16-0917-0006	2·28·94 / 1040	0	0		in meadow
10S15	MND16-1015-0006	2·28·94 / 1106	0	0		in meadow
10S17	MND16-1017-0006	2·28·94 / 1108	0	0		in meadow
11S15	MND16-1115-0006	2·28·94 / 1117	0	0		in meadow
11S16	MND16-1116-0006	2·28·94 / 1114	0	0		in meadow
11S17	MND16-1117-0006	2·28·94 / 1112	0	0		in meadow

B.3 FIDLER LOGBOOK

TABLE OF CONTENTS

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

PAGE	FIELD LOG	PAGE	FIELD LOG
1	TASK TEAM ACTIV. LOG; 3/2/94	31	FIDLER SURVEY DATA SHEET; LINE 23
2	" ; "	32	" ; LINE 24
3	" ; "	33	NO ENTRY
4	" ; 3/3/94	34	"
5	" ; "	35	
6	" ; 3/4/94	36	
7	NO ENTRY	37	
8		38	
9		39	
10		40	
11		41	
12		42	
13	FIDLER SURVEY DATA SHEET; LINE 0	43	
14	" ; LINE 1	44	
15	" ; LINE 2	45	
16	" ; LINE 3	46	
17	" ; LINE 4	47	
18	" ; LINE 5	48	
19	" ; LINE 6	49	
20	" ; LINE 7	50	
21	" ; LINE 8	51	
22	" ; LINE 9	52	
23	" ; LINE 10	53	
24	" ; LINE 11	54	
25	" ; LINE 12	55	
26	" ; LINE 14	56	
27	" ; LINE 16	57	
28	" ; LINE 18	58	
29	" ; LINE 20	59	
30	" ; LINE 22	60	

FIDLER

LOG BOOK

PROJECT TITLE: EG&G MOUND OU5 NEW PROPERTY
PHASE I RI/FS FIELD INVESTIGATIONS

WORK SITE: *MOUND PLANT*
Miamisburg, Ohio
OU5 New Property

ACTIVITY: *Mound OU5 New Property Phase 1 RI/FS*
Field Investigations

CONTRACT #:
TASK ORDER: *34896*

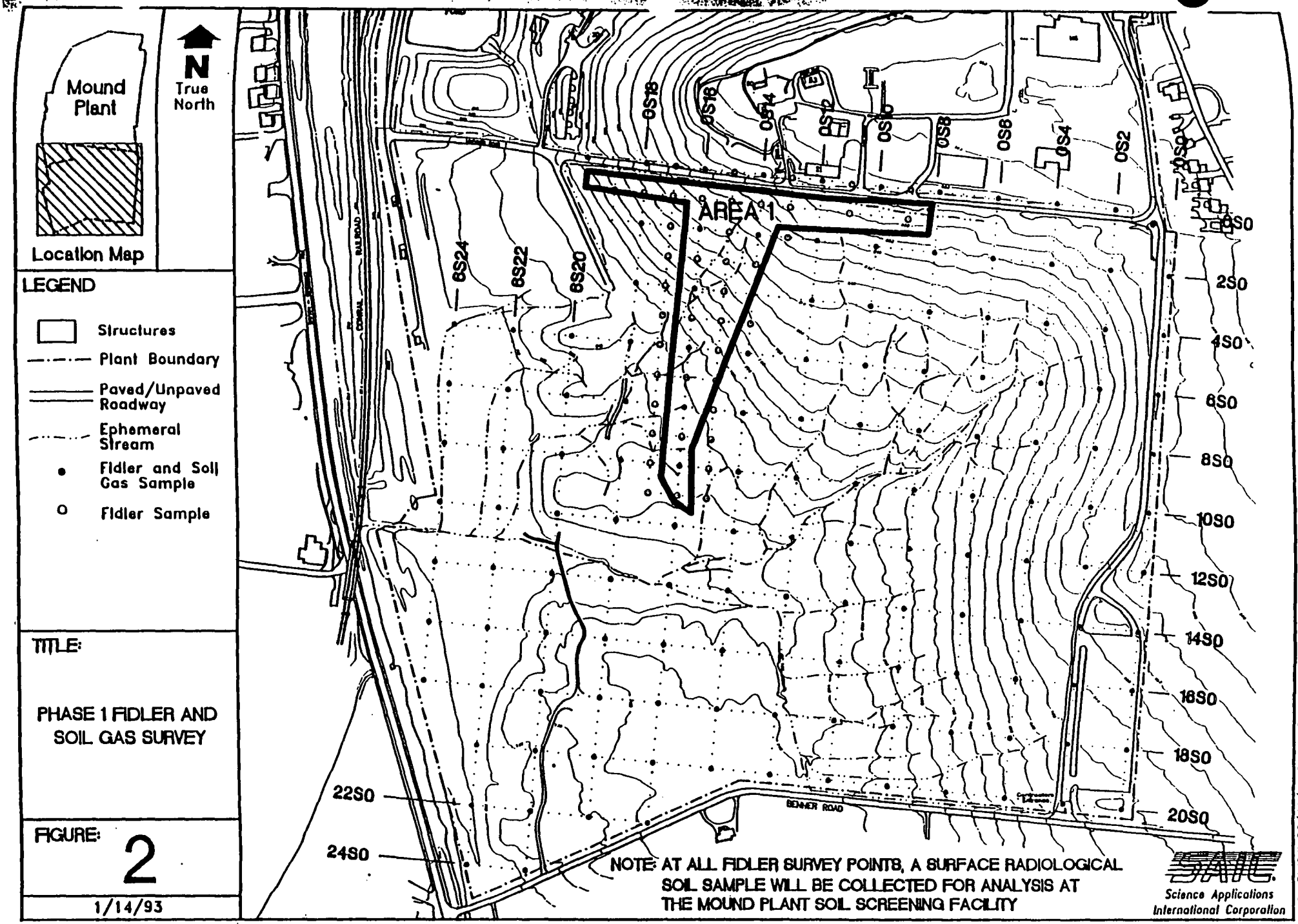
PROJECT MANAGER: *Thomas Tank*
COMPANY NAME / ADDRESS: *Science Applications International Corporation*
4031 Colonel Glenn Hwy ,Dayton, Ohio 45431
TELEPHONE NUMBERS: *(513) 429-2699*

SUPERVISORS: *OU5 Manager: Alan Spesard (513)865-3859*
SAIC Proj. Manager: Thomas Tank (513)429-2699

EMERGENCY RESPONCE: *Police / Ambulance / Fire 911 or 865-4040*

PROCEDURES: *SOP 1.1, SOP 6.7*

START DATE: 3/2/94
END DATE:


Mound Plant
Location Map
N
True North
LEGEND
Structures
Plant Boundary
Paved/Unpaved Roadway
Ephemeral Stream
Fidler and Soil Gas Sample
Fidler Sample
TITLE:
PHASE 1 FIDLER AND SOIL GAS SURVEY
FIGURE: 2
1/14/93
AREA 1
OS18
OS16
OS14
OS12
OS10
OS8
OS6
OS4
OS2
OS0
8S24
8S22
8S20
2S0
4S0
6S0
8S0
10S0
12S0
14S0
16S0
18S0
20S0
22S0
24S0
BENNER ROAD
NOTE: AT ALL FIDLER SURVEY POINTS, A SURFACE RADIOLOGICAL SOIL SAMPLE WILL BE COLLECTED FOR ANALYSIS AT THE MOUND PLANT SOIL SCREENING FACILITY
SAIC
Science Applications International Corporation
REVISED BY SAIC 11/17/93 M5A.DWG

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/2/94 TUES TIME: 0700 PAGE 1 OF 3

Task Team Members: PG 1 FIDLER

JOHN DAVIS

PAUL PARRISH

Narrative (include time and location):

0700 @ field trailer. Gather equipment and prep. for first day of Fidler survey.

- Designate Fidlers:

FIDLER #1: INSTRUMENT # 3677, PROBE # 3679

FIDLER #2: INSTRUMENT # 3175, PROBE # 3613

NOTE: FIDLER #2 has a KV of 1.44. JD calls Henry Robinson - Mound Health Physics who says 1.44 is within working range of instrument. FID #1 OK @ 1.2 mKV JMD 3/2/94

0730 @ Background station to perform pre-work background checks. Station is located near junction of Benner Road & Contractor Rd, W. side of Road near point 2052.

- Perform Pu, Th, standard checks. Record info on Fidler cards on machines.

- Calculate Contamination Criteria for Out Channel background

MEAN = X = $X_1 + X_2 + \cdots X_5/5$

STANDARD DEVIATION = SDX = $(X/5)^{(1/2)}$ = $\sqrt{X/5}$ LMM 4.17.95

CONTAMINATION CRITERIA = CC = X + 3SDX

Daily Weather Conditions: A.M. cold 20°F, overcast, windy

P.M. NA

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/2/94 TIME : NA : _____ PAGE 2 OF 3

Task Team Members: PG 2 FIDLER

JD

PP

Narrative (include time and location):

OUT CHANNEL BKG READINGS (CPM) @ 1 MIN. INTERVALS (X1000)

FIDLER #1 : 11.0, 11.5, 10.5, 12.0, 11.5

FIDLER #2 : 12.0, 12.0, 13.0, 13.0, 13.0

	MEAN	SDX	CC
FID #1	11.3	~~1.13~~ 0.106 LMM 7/17/95	~~14.7~~ 11.6 LMM 7/17/95
FID #2	12.6	~~1.26~~ 0.112 LMM 7/17/95	~~16.4~~ 12.9 LMM 7/17/95

FIDLER SURVEY field methods:
At every grid location (050, 052, etc), CH1 and CH2 readings will be recorded - 1 MIN. each for stabilization. Then walk to next grid point at rate of ~~10/m~~ ~~THD~~ 3/2/94 10 MIN/200 ft. During the walk, FIDLER will be on OUT CHANNEL. If contam. criteria is exceeded (14.7 for FID#1, 16.4 for FID#2), identify that spot as a "HOTSPOT" and record CH1 and CH2 then FIDLER around until out of hotspot.

0830 Begin FIDLER survey. JD w/ FID#1, PP w/ FID#2
Complete lines 24, 23, 22, 20, 18.

Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/2/94 TIME: NA : PAGE 3 OF 3

Task Team Members: PG 3 FIDLER

JD

PP

Narrative (include time and location):

1200 BREAK FOR LUNCH

1300 CONTINUE FIDLER SURVEY. COMPLETE LINES 16, 14, 12

1600 PERFORM POST WORK BACKGROUND CHECKS.

	FID #1	FID #2
CH1 (CPM)	160, 160, 150, 170, 170	180, 210, 200, 190, 200
CH2 (CPM x 1000)	6, 6, 6, 6, 6	8, 8, 8, 8, 8
OUT (CPM x 1000)	7, 6.5, 6.5, 6.5, 7	9, 9, 9, 9, 9

OUT CHANNEL :	X	SDX	CC		kV
FID #1	6.70	~~1.67~~ 0.082	~~8.40~~ 6.9	LMM 7/17/95	1.2
FID #2	9.0	~~0.90~~ 0.095	~~11.70~~ 9.3	LMM 7/17/95	1.52

NOTE: OUT CHANNEL post-work CC IS lower THAN calculated for pre-work. However, all of days data very consistent w/ pre-work calibration checks. Post-work background readings seem anomolously low. May be due to cold weather.

1630 BACK to trailer. Prep. for tomorrows activities.

1700 Offsite.

Daily Weather Conditions: A.M. NA

P.M. colder to 10°F, windy.

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/3/94 WED TIME: 0700 PAGE 1 OF 2

Task Team Members:

JOHN DAVIS

PAUL PARRISH

PG 4 FIDLER

Narrative (include time and location):

0700 At field trailer. Prep for days activities.

0815 At Background station. Change station location to grid point 2054 due to anomolous low BKG @ previous station. Perform background checks.

FID #1 BATT OK KV = 1.2

FID #2 BATT OK KV = 1.52

FID #1 CH1 BKG = 220 Pu std = 22K Th = 3K

FID #2 CH1 BKG = 270 Pu std = 24K Th = 6K

FID #1 CH2 BKG = 11.5 Pu std = 6.5K Th = 22K

FID #2 CH2 BKG = 11.0 Pu std = 8K Th = 30K

Calculate Contam. Criterion

out channel BKG @ 1 min intervals (CPM x 1000)

FID #1 11.0, 11.5, 11.0, 12.0, 11.5

FID #2 12.0, 12.0, 12.5, 13.0, 13.0

Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/3/94 TIME: NA PAGE 2 OF 2

Task Team Members:

JD PC 5 FIDLER

PP

Narrative (include time and location):

CC CALCULATIONS CONT.

	X	SDX	CC	
FID #1	11.4	~~1.14~~ Ø.107	~~14.8~~ 11.7	Comm 7/12/95
FID #2	12.5	~~1.25~~ Ø.112	~~16.25~~ 12.8	Comm 7/12/95

0845 Begin FIDLER. JD w/ FID #1, PP w/ FID #2. Complete lines 11, 10, 9, 8

1130 Break for lunch

1230 Resume FIDLER. Complete lines 7, 6, 5, 4, 3, 2, 1, 0. FIDLER completed.

NOTE: not many hotspots found during survey. Several w about 1100 west from 0 line to about 45 line. See data sheets.

1700 Return to trailer. Complete EOD activities

1730 Offsite

Daily Weather Conditions: A.M. cold 30°F clear, breezy

P.M. remain clear, warming to 45°F

Recorded By [signature] QA Checked By [signature]

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/4/94 TIME: 0830 PAGE 1 OF 1

Task Team Members:

JOHN DAVIS

PL 6 FIDLER

Narrative (include time and location):

@ Dayton office, calculate contam. criteria for CH1 and CH2 to determine "hotspots" @ grid points.
Select first 5 points on line 20 for FID #2 and first 5 points on line 18 for FID #1

	CH1 X	CH2 X	CH1 SDX	CH2 SDX	CH1 CC	CH2 CC
FID #1	218	~~10.8~~ OK LMM 7/17/95	~~21.8~~ LMM 7/17/95	0.01 ~~1.08~~ LMM 7/17/95	0.10 ~~283.4~~ LMM 7/17/95	262 ~~14.04~~ LMM 7/17/95
FID #2	228	10.8	~~22.8~~ LMM 7/17/95	0.02 ~~1.08~~ LMM 7/17/95	0.10 ~~296.4~~ LMM 7/17/95	273 ~~14.04~~ LMM 7/17/95

Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By [signature] QA Checked By [signature]

FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT. CH1	CONTAM. CRIT. CH2	FIDLER READING (CPM) CH1	FIDLER READING (CPM) CH2 x (1000)	FIDLER NUMBER	COMMENTS
0S0	3/3/94	273 ~~296~~	~~14.0~~ 12.1	180	11.0	2	PERIM. ROAD
0S2	"	296	14.0	190	11.0	2	PERIM. ROAD
0S4	"	296	14.0	200	11.0	2	PERIM. ROAD
0S6	"	296	14.0	200	10.0	2	PERIM. ROAD
0S8	"	296	14.0	190	12.0	2	PERIM. ROAD
0S9	"	262 ~~283~~	14.0	~~220~~ 190	10.5	1	PERIM. ROAD
0S10	"	262 283	14.0	220	11.0	1	PERIM. ROAD
0S11	"	283	14.0	200	11.5	1	PERIM ROAD
0S12	"	283	14.0	220	9.0	1	PERIM ROAD
0S13	"	283	14.0	180	6.5	1	PERIM. ROAD 25' E of culvert
0S14	"	283	14.0	170	8.5	1	PERIM. ROAD
0S15	"	283	14.0	180	10.0	1	PERIM. ROAD
0S16	"	283	14.0	210	10.0	1	PERIM. ROAD
0S17	"	283	14.0	180	10.0	1	PERIM. ROAD
0S18	"	283	14.0	180	9.5	1	PERIM ROAD
0S20	"	283	14.0	180	9.5	1	PERIM ROAD
3/21/94 ~~0S22~~							
3/21/94 ~~0S24~~							
0S 11.2	3/3/94	~~283~~ 262	~~14.0~~ 11.1	210	14.5	1	HOT; PERIM. ROAD; high ridgs continue s. into hvy veget.

FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT. CH1	CONTAM. CRIT. CH2	FIDLER READING (CPM) CH1	FIDLER READING (CPM) CH2 x (1000)	FIDLER NUMBER	COMMENTS
1S9	3/3/94	~~283~~ 262	~~14.0~~ 11.1	180	11.0	1	wooded
1S10	"	283	14.0	170	10.0	1	wooded
1S11	"	283	14.0	200	15.0	1	HOT; wooded, NEAR drainage, *
1S12	"	283	14.0	170	10.5	1	wooded
1S13	"	283	14.0	160	10.0	1	~~wooded~~ JHD 3/3/94 POWERLINE CLRG.
1S14	"	283	14.0	180	10.0	1	wooded
1S15	"	283	14.0	190	10.5	1	wooded
1S16	"	283	14.0	195	10.5	1	wooded
1S17	"	283	14.0	150	9.0	1	wooded
1S18	"	283	14.0	190	10.0	1	wooded
							~~* hot readings @ approx 15.0 CH2~~ JHD 3/3/94
							~~continue to 75W of 1S11~~

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FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT. CH1	CONTAM. CRIT. CH2	FIDLER READING (CPM) CH1	FIDLER READING (CPM) CH2 x (1000)	FIDLER NUMBER	COMMENTS
2S0	3/3/94	~~296~~ 27.3	~~14.0~~ 11.1	210	10.0	2	IN GRASS; West to East, LAST
2S2				210	11.0	2	IN WOODS
2S4				210	10.0	2	IN WOODS
2S6				230	11.0	2	IN GRASS NEAR TREES
2S8 3/3/94 JMD				230	12.0	2	IN GRASS AND TREES
~~2210~~ 2S10				190	11.0	2	IN GRASS AND TREES
2S12				220	12.0	2	IN WOODS
2S13				210	12.0	2	IN GRASS
2S14				200	12.0	2	IN WOODS
2S15				190	11.0	2	IN WOODS
2S16				210	12.0	2	IN WOODS
2S17				210	12.0	2	IN WOODS
2S18				180	11.0	2	IN WOODS; First
PMP 3/21/94 ~~2S20~~							
PMP 3/21/94 ~~2S22~~							
PMP 3/21/94 ~~2S24~~							
2S11.55				220	14.0	2	HOT; OUT = 17.0K; IN WOODS

FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT. CH1	CONTAM. CRIT. CH2	FIDLER READING (CPM) CH1	FIDLER READING (CPM) CH2 x (1000)	FIDLER NUMBER	COMMENTS
3S14	3/3/94	~~292~~ 273	~~14.0~~ 11.1	200	12.0	2	IN woods; East to West; 1st
3S15	↓	↓	↓	210	12.0	2	IN woods
3S16	↓	↓	↓	190	12.0	2	IN woods
3S17	↓	↓	↓	220	12.0	2	IN woods Last
				POSSIBLE SEEP @ 3S17 AND 2S 6.3			

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FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT.		FIDLER READING (CPM)		FIDLER NUMBER	COMMENTS
		CH1	CH2	CH1	CH2 x (1000)		
4S0	3/3/94	~~296~~ 273	~~14.0~~ 11.1	170	10.0	2	IN GRASS; East to West; 1st
4S2				220	10.0		IN woods
4S4				180	11.0		IN woods
4S6				220	12.0		IN GRASS & TREES
4S8				210	11.0		IN GRASS & TREES
4S10				220	12.0		IN TREES
4S12				200	12.0		IN TREES
4S14				210	12.0		IN woods
4S15				200	12.0		IN woods
4S16				190	11.0		IN woods
4S17				190	12.0		IN woods
4S18				190	13.0		IN GRASS NEAR WOODS; LAST
PMP 3/21/94 ~~4S20~~							
PMP 3/21/94 ~~4S22~~							
PMP 3/21/94 ~~4S24~~							

FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1

PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT.		FIDLER READING (CPM)		FIDLER NUMBER	COMMENTS
		CH1	CH2	CH1	CH2 x (1000)		
5S14	3/3/94	~~296~~ 273	~~14.0~~ 11.1	180	12.0	2	IN TREES; West to East; 1Mt
5S15	↓	↓	↓	220	13.0	2	IN TREES
5S16				200	12.0	2	IN TREES
5S17				190	10.0	2	IN WOODS

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FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT. CH1	CONTAM. CRIT. CH2	FIDLER READING (CPM) CH1	FIDLER READING (CPM) CH2 x (1000)	FIDLER NUMBER	COMMENTS
6S0	3/3/94	~~283~~	~~14.0~~	160	8.0	1	IN GRASS E. of Road
6S2		262	11:1	190	10.0		wooded
6S4				150	7.5		IN MEADOW @ E. edge of WOODS
6S6				200	11.0		wooded
6S8				220	11.0		wooded
6210				150	10.0		wooded
6S12				200	11.5		IN GRASS, edge of WOODS NEAR PWR LINE
6S14				200	10.0		wooded
6S15				180	11.5		wooded
6S16				200	11.5		GRASSY W/ SPARSE WOODS
6S17				200	10.5		wooded
6S18				200	12.0		wooded
6S20				190	10.0		wooded
6S22				190	8.5		IN MEADOW @ E. edge of WOODS
6S24				190	11.0		IN MEADOW.
		L.M.M. 7/17/05					
6S11.1	3/3/94	~~283~~	~~14.0~~	210	13.0	1	HOT?; out = 15.0; IN GRASS, SMALL,
		262	11.1				SEV ft. diam.

FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT.		FIDLER READING (CPM)		FIDLER NUMBER	COMMENTS
		CH1	CH2	CH1	CH2 x (1000)		
7S15	3/3/94	~~283~~ 242	~~14.0~~ 11.1	190	9.5	1	wooded
7S16	↓	↓	↓	220	11.0	1	wooded
7S17				185	10.0	1	wooded

FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT.		FIDLER READING (CPM)		FIDLER NUMBER	COMMENTS
		CH1	CH2	CH1	CH2 x (1000)		
8S0	3/3/94	~~283~~ 262	~~14.0~~ 11.1	240	9.5	1	IN GRASS E. edge of Road
8S2				210	12.0		IN woods
8S4				210	10.0		IN SMALL meadow
8S6				200	11.5		IN woods
8S8				260	11.0		IN woods
8S10				190	10.5		IN woods
8S12				250	10.0		wooded
8S14				230	12.0		wooded
8S15				225	11.5		wooded
8S16				240	12.0		wooded
8S17				245	10.5		wooded
8S18				225	11.0		wooded
8S20				190	9.0		wooded
8S22				270	11.5		meadow @ E. edge of woods
8S24				240	11.5		MEADOW

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FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT.		FIDLER READING (CPM)		FIDLER NUMBER	COMMENTS
		CH1	CH2	CH1	CH2 x (1000)		
9S15	3/3/94	~~283~~ 263	~~14.0~~ 11.1	210	11.0	1	meadow
9S16	3/3/94	283	14.0	190	11.0	1	meadow
9S17	3/3/94	283	14.0	230	10.5	1	meadow

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FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT. CH1	CONTAM. CRIT. CH2	FIDLER READING (CPM) CH1	FIDLER READING (CPM) CH2 x (1000)	FIDLER NUMBER	COMMENTS
10S0	3/3/94	~~296~~	~~14.0~~	150	10.0	2	IN dirt; 1st; East to West
10S2		273	11.1	200	10.0		IN woods
10S4				240	12.0		IN meadow
10S6				230	12.0		IN woods
10S8				220	13.0		IN woods
10S10				260	12.0		IN woods
10S12				210	11.0		IN trees
10S14				220	12.0 JMD 3/3/94		IN meadow
10S15				220 3/3/94	~~12.0~~ 11.0		IN meadow
10S16				250 JMD	12.0		IN meadow
10S17				~~230~~ 220	12.0		IN meadow
10S18				210	11.0		IN meadow
10S20				230	12.0		IN meadow
10S22				220	12.0		IN grass
10S24				150	7.0		IN gravel

FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT.		FIDLER READING (CPM)		FIDLER NUMBER	COMMENTS
		CH1	CH2	CH1	CH2 x (1000)		
11S15	3/3/94	273 ~~284~~	19.7 ~~19.0~~	220	12.0	2	WEST to EAST ; IN MEADOW
11S16	3/3/94	296	14.0	230	11.0	2	IN MEADOW
11S17	3/3/94	296	14.0	230	12.0	2	IN MEADOW

FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT. CH1	CONTAM. CRIT. CH2	FIDLER READING (CPM) CH1	FIDLER READING (CPM) CH2 x (1000)	FIDLER NUMBER	COMMENTS
12S0	3/2/94	~~283~~ 262	~~14.0~~ 11.1 (WMR 9/11/95)	190	9.0	1	IN MEADOW
12S2				160	9.0	1	IN MEADOW 25' W. of ROAD
12S4				250	11.0	1	IN MEADOW
12S6				240	11.0	1	IN MEADOW W/ SPARSE WOODS
12S8				245	11.5	1	IN WOODS @ EDGE OF SM. CLRG
12S10				235	12.0	1	IN MEADOW SURROUNDED by WOODS
12S12				270	11.0	1	IN MEADOW 20' S. of DRAINAGE
12S14		~~296~~ 273	~~14.0~~ 11.1 (WMR 9/11/95)	210	12.0	2	IN MEADOW
12S16				270	12.0	2	IN MEADOW
12S18				230	12.0	2	IN MEADOW
12S20				220	11.0	2	IN GRASS NEAR TREES
12S22				280	12.0	2	IN MEADOW
12S24				250	10.0	2	IN WOODS

FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT. CH1	CONTAM. CRIT. CH2	FIDLER READING (CPM) CH1	FIDLER READING (CPM) CH2 x (1000)	FIDLER NUMBER	COMMENTS
14S0	3/2/94	~~276~~ 273	~~14.0~~ 11.1	150	8.0	2	IN parking lot gravel
14S2				160	7.0		on Road
14S4				260	12.0		IN meadow
14S6				230	12.0		IN grass & trees
14S8				230	12.0		IN grass - near trees
14S10				260	11.0		IN meadow
14S12				190	12.0		IN woods
14S14				190	10.0		IN streambed RUNNING WATER
14S16				260	10.0		IN woods
14S18				220	12.0		IN grass near trees
14S20				190	11.0		IN woods
14S22				280	12.0		IN meadow
14S24				200	9.0		IN woods

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FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT.		FIDLER READING (CPM)		FIDLER NUMBER	COMMENTS
		CH1	CH2	CH1	CH2 x (1000)		
16S0	3/2/94	~~283~~ 262	~~14.0~~ 11.1	110	5.0	1	IN GRAVEL PARKING LOT
16S2				170	9.0		W. EDGE OF ROAD
16S4				210	11.0		IN GRASS
16S6				220	11.0		IN GRASS W/ SPARSE WOODS
16S8				220	11.5		IN GRASS @ W. EDGE OF WOODS
16S10				220	11.5		IN MEADOW
16S12				230	9.5		W. EDGE OF WOODS IN N-S DRAINAGE
16S14				220	10.0		IN MEADOW
16S16				210	10.0		IN MEADOW
16S18				225	10.5		IN MEADOW
16S20				210	10.5		IN MEADOW
16S22				230	9.5		IN MEADOW
16S24				240	12.0		IN MEADOW

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FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT.		FIDLER READING (CPM)		FIDLER NUMBER	COMMENTS
		CH1	CH2	CH1	CH2 x (1000)		
18S0	3/2/94	~~283~~ 262	~~14.0~~ 11.1	200	10.5	1	IN GRAVEL PARKING lot
18S2				190	10.0		W. EDGE of ROAD IN GRASS
18S4				220	11.5		IN MEADOW
18S6				260	11.5		GRASS
18S8				220	10.5		GRASS
18S10				200	11.0		IN MEADOW
18S12				250	11.0		IN MEADOW
18S14				230	10.0		IN MEADOW
18S16				210	9.5		IN MEADOW
18S18				220	10.0		IN MEADOW
18S20				140	7.5		IN MEADOW
18S22				200	10.0		IN MEADOW
18S24				250	10.0		IN WOODS

PG 28

FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT. CH1	CONTAM. CRIT. CH2	FIDLER READING (CPM) CH1	FIDLER READING (CPM) CH2 x (1000)	FIDLER NUMBER	COMMENTS
20S0	3/2/94	~~296~~ 273	~~14.0~~ 11.1	220	11.0	2	IN GRASS
20S2				150	7.0		IN GRASS NEAR ROAD
20S4				270	11.0		IN GRASS
20S6				260	14.0		HOT ?; IN GRASS
20S8				240	11.0		IN GRASS
20S10				220	11.0		IN GRASS
20S12				240	11.0		IN GRASS
20S14				210	11.0		IN MEADOW
20S16				260	11.0		IN MEADOW
20S18				200	10.0		IN MEADOW
20S20				230	10.0		IN WOODS
20S22				290	11.0		IN WOODS
~~20S24~~	3/21/94						

FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT.		FIDLER READING (CPM)		FIDLER NUMBER	COMMENTS
		CH1	CH2	CH1	CH2 x (1000)		
PMR 3/21/94 ~~22S0~~							
PMR 3/21/94 ~~22S2~~							
PMR 3/21/94 ~~22S4~~							
PMR 3/21/94 ~~22S6~~							
PMR 3/21/94 ~~22S8~~							
PMR 3/21/94 ~~22S10~~							
PMR 3/21/94 ~~22S12~~							
PMR 3/21/94 ~~22S14~~	JHD 3/2/94						
22S~~16~~ 17	3/2/94	~~296~~	~~14.0~~ 7/17/95 LMM	220	11.0	2	IN GRASS
22S18	↓	273	11.1	250	11.0	2	IN MEADOW
22S20	↓	↓	↓	220	11.0	2	IN WOODS
22S22	↓	↓	↓	250	11.0	2	IN GRASS
PMR 3/21/94 ~~22S24~~	↓	↓	↓			~~2~~ JHD 3/2/94	

PG 30

FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1

PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT.		FIDLER READING (CPM)		FIDLER NUMBER	COMMENTS
		CH1	CH2	CH1	CH2 x (1000)		
23S20	3/2/94	~~262~~ ~~383~~	~~11.1~~ ~~14.0~~	220	9.0	1	IN MEADOW
23S22	3/2/94	~~289~~	~~14.0~~	230	9.5	1	IN MEADOW
PMP 3/21/94 ~~23S24~~		262	11.1				

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FIDLER SURVEY

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT.		FIDLER READING (CPM)		FIDLER NUMBER	COMMENTS
		CH1	CH2	CH1	CH2 x (1000)		
PMP 3/21/94 ~~24S0~~							
PMP 3/21/94 ~~24S2~~							
PMP 3/21/94 ~~24S4~~							
PMP 3/21/94 ~~24S6~~							
PMP 3/21/94 ~~24S8~~							
PMP 3/21/94 ~~24S10~~							
PMP 3/21/94 ~~24S12~~							
PMP 3/21/94 ~~24S14~~							
PMP 3/21/94 ~~24S16~~							
PMP 3/21/94 ~~24S18~~							
PMP 3/21/94 ~~24S20~~					JHD 3/21/94		
24S22	3/2/94	~~296~~ ~~14.0~~	11/11/94 220		HH 11.0	2	MEADOW
PMP 3/21/94 ~~24S24~~		273	11.1				

PG 32

FIDLER SURVEY

PROJECT NAME: EG&G MOUND 915 NEW PROPERTY PHASE 1 — PROJECT NO: 34896

LOCATION GRID ID	DATE OF SURVEY	CONTAM. CRIT.		FIDLER READING (CPM)		FIDLER NUMBER	COMMENTS
		CH1	CH2	CH1	CH2 x (1000)		
PMR 3/21/94 24S0							
PMR 3/21/94 24S2							
PMR 3/21/94 24S4							
PMR 3/21/94 24S6							
PMR 3/21/94 24S8							
PMR 3/21/94 24S10							
PMR 3/21/94 24S12							
PMR 3/21/94 24S14							
PMR 3/21/94 24S16							
PMR 3/21/94 24S18							
PMR 3/21/94 24S20					JHD 3/2/94		
24S22	3/2/94	296	14.0	220	HH 11.0	2	MUNDOW
PMR 3/21/94 24S24							

PG 32

B.4 SEEP LOGBOOK

EG : G MOUND
OUS NEW PROP.

SEEP
LOGBOOK

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PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

PAGE	FIELD LOG	PAGE	FIELD LOG
1	TASK TEAM Activity LOG; 3/22/94	31	SAMPLE LOG SHEET; NS 2001
2	" ; "	32	SAMPLE PARAMETERS; NS 2001
3	" ; "	33	NO ENTRY
4	" ; "	34	SAMPLE LOG SHEET; NS 2011
5	" ; "	35	" ; NS 2011
6	" ; "	36	SAMPLE PARAMETERS; NS 2011
7	" ; 3/24/94	37	pH/ALK GRAPH; NS 3001 JHD 4/4/94
8	" ; 3/29/94	38	SAMPLE LOG SHEET; NS ~~20~~ 3001
9	" ; "	39	" ; NS 3001
10	" ; 3/30/94	40	SAMPLE PARAMETERS; NS 3001
11	" ; 3/30/94	41	NO ENTRY
12	" ; 4/1/94	42	
13	" ; "	43	
14	" ; "	44	
15	NO ENTRY	45	pH/ALK GRAPH; NS 4001
16		46	SAMPLE LOG SHEET; NS 4001
17		47	" ; NS 4001
18		48	SAMPLE PARAMETERS; NS 4001
19		49	NO ENTRY
20		50	
21	pH/ALK GRAPH; NS 1001	51	
22	SAMPLE LOG SHEET; NS 1001	52	
23	" ; NS 1001	53	pH/ALK GRAPH; NS 5001
24	SAMPLE PARAMETERS; NS 1001	54	SAMPLE LOG SHEET; NS 5001
25	NO ENTRY	55	" ; NS 5001
26		56	SAMPLE PARAMETERS; NS 5001
27		57	NO ENTRY
28		58	
29	pH/ALK GRAPH; NS 2001	59	
30	SAMPLE LOG SHEET; NS 2001	60	

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PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

PAGE	FIELD LOG	PAGE	FIELD LOG
61	pH/ALK GRAPH; NS 6001	91	NO ENTRY
62	SAMPLE LOG SHEET; NS 6001	92	
63	" ; NS 6001	93	
64	SAMPLE PARAMETERS; NS 6001	94	
65	-NO ENTRY	95	
66		96	
67		97	
68		98	
69	pH/ALK GRAPH; NS 7001	99	
70	SAMPLE LOG SHEET; NS 7001	100	
71	" ; NS 7001	101	STANDARD ALKALINITY TEST RECORD
72	SAMPLE PARAMETERS; NS 7001	102	NO ENTRY
73	NO ENTRY	103	
74		104	
75		105	pH/ALKALINITY VALUES
76		106	NO ENTRY
77	pH/ALK GRAPH; NS 8001	107	STANDARD ELECT. CONDUCTIVITY DATA SHEET
78	SAMPLE LOG SHEET; NS 8001	108	NO ENTRY
79	" ; NS 8001	109	EQUIPMENT/CALIBRATION SHEET
80	SAMPLE PARAMETERS; NS 8001	110	NO ENTRY
81	NO ENTRY	111	
82		112	
83		113	
84		114	
85		115	M&TE INVENTORY
86		116	NO ENTRY
87		117	M&TE EQUIPMENT CALIBRATION LOG
88		118	NO ENTRY
89		119	
90		120	

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PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

PAGE	FIELD LOG	PAGE	FIELD LOG
121	NO ENTRY	151	NO ENTRY /NA
122	NO ENTRY	152	
123	QC SAMPLE COC SHEET; AMBIENT; NS0101	153	
124	" ; "	154	
125	NO ENTRY	155	
126	NO ENTRY	156	
127	QC SAMPLE COC SHEET; BANK; NS0201	157	
128	" ; "	158	
129	NO ENTRY	159	
130	NO ENTRY	160	
131	QC SAMPLE COC SHEET; TRIP; NS0301	161	
132	" ; "	162	
133	" ; NS0302	163	
134	" ; "	164	
135	NO ENTRY	165	
136		166	
137		167	
138		168	
139		169	
140		170	
141		171	
142		172	
143		173	
144	DECONTAMINATION LOG	174	
145	NO ENTRY	175	
146	CONTACT REPORTS	176	
147	END OF LOGBOOK - NO ENTRIES	177	
148		178	
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PROJECT NAME: EG&G MOUND OU6, AREA D PROJECT NO: 11256

PAGE	FIELD LOG	PAGE	FIELD LOG
181	NA	211	NA
182		212	
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185		215	
186		216	
187		217	
188		218	
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190		220	
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192		222	
193		223	
194		224	
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203		233	
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210		240	

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/22/94 TIME: 07 : 00 PAGE 1 OF 6

Task Team Members: SEEP Pg 1

JOHN DAVIS

RON SMITH

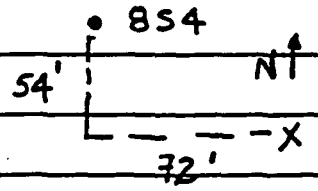
Narrative (include time and location):

0700 @ SAIC office @ 0700. Load coolers & misc. equip. Get ice at gas station.

0830 @ Mound field trailer. Prep to locate and stake seeps. Conduct H&S Tailgate Briefing (see Sgt. JHD 3/22/94 Task Manager Logbook.

0900 @ New Property to stake seeps.

0900 @ SEEP #1; 8.54 S 3.28
Good flow est. @ 3L/MIN.
Undisturbed head. Drainage flows westerly. and peters out @ W. edge of meadow. Seep in meadow @ E. edge. Elev 830'
Dig catchment basin.



0930 @ SEEP #2 (prob. previously identified as #609); 8.24 S 3.28
Well developed cairn @ head but NO flow. 30' N of SEEP #1
NOTE: @ about 14S 4, theres a hole in ground, lined w/

Daily Weather Conditions: A.M. cool to 35-40°F, calm, clear, bright.

P.M. NA

Recorded By [signature] QA Checked By Juletta Minard

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/22/94 TIME: NA : _____ PAGE 2 OF 6

Task Team Members: SEEP PG 2

JD

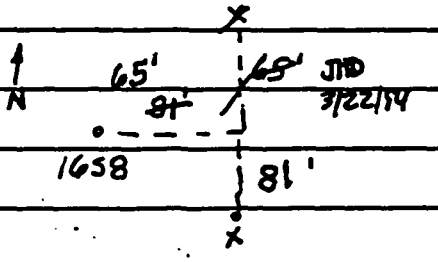
RS

Narrative (include time and location):

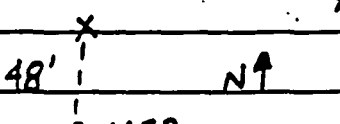
Rocks. 2' diam, 2' deep. Probably old hand-dug well. A little standing water in btm. of hole but NO FLOW. Didn't stake.

1035 @ SEEP #3; 16S 7.05. NO FLOW but CAIRN built A head w/ debris - small steel trough + misc. lumber. DRAINAGE flows to South.

1110 @ SEEP #4; 16.8S 7.35 NO FLOW, well developed CAIRN. DRAINAGE to SW.



1130 @ SEEP #5; 15.5S 8 Small seep w/ undeveloped head. IN MEADOW @ E. edge. Dig CATCHMENT BASIN. Flow est. @ 0.5 LPM. Short DRAINAGE due west goes about 25' disappears into limestone slabs on surface. No visible DRAINAGE past that point.



Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By [signature] QA Checked By Jetta Minard

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO. 34896

Date (mm/dd/yy): 3/22/94 TIME: NA : _____ PAGE 3 OF 6

SEEP PG 3

Task Team Members:

JD

RS

Narrative (include time and location):

1200 @ SEEP #6; 12.95S 7.55
in woods about 50' E. of meadow edge.
Poor but visible flow estimated @ 0.5 LPM.
Dig catchment basin. Drainage to west.

45' X
105'
1458
N↑

1200 Break for lunch
1300 Return from lunch.

1315 @ SEEP #7; 19.8S 4.3
well developed seep in meadow. Straight
drainage to west along Benner Road fence.
Flow estimated @ 1.5 LPM. Abundant organic material (algae
and moss) at head and along drainage. Dig catchment basin.

X 30' 20' N↑
2054

1330 @ SEEP #8 2S 6.35 a few ft N. of 2S line.
Small seep in woods. Drainage due south. Flow est @ 0.5 LPM.
Dig catchment basin.; shallow-bedrock est. @ approx 1' BLS.

1340 @ SEEP #9 directly @ 3S17 stake. V. small seep w/ minimal

Daily Weather Conditions: A.M. NA

P.M. warming to 45°F, remains clear & calm.

Recorded By: [signature] QA Checked By: Jolotta Meiard

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/22/94 TIME: NA : PAGE 4 OF 6

Task Team Members: SEEP PC 4

JD

RS

Narrative (include time and location):

flow. est @ 0.5 LPM. DRAINAGE About due S. Dis catchment basin.

1350 @ SEEP #10; 85 8.9 directly on 85 line.
V. good seep @ head. Steep sides of limestone float or bedrock. Water coming from rocks. Fairly well developed drainage above seep; below seep drainage due South. Est. flow @ 2.0 LPM. NOTE: drainage above is dry for 10-15' but then is flowing again intermittently upstream. Flow @ seep probably partially due to seep and partially due to upstream flow.

1410 @ SEEP #11; 65 10.55 directly on 65 line.
Poorly developed seep on flat topography; resembles more of a bog than a seep. Flow to the South. Flow est. @ < 0.5 LPM. Dis catchment basin.

1440 @ SEEP #12; 4.25 S 8
in meadow. Flow est @ 0.5 LPM. DRAINAGE to South. NOTE: this seep directly upstream from Seep #10 and probably represents the head better than Seep #10. Topography above Seep #12 smooths out some - no visible drainage above.

Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By [signature] QA Checked By Joletta Minard

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/22/94 TIME: NA : _____ PAGE 5 OF 6

Task Team Members: SEEP PG 5

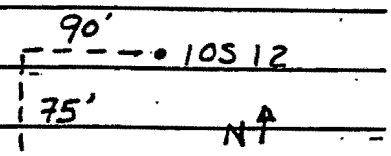
DD

RS

Narrative (include time and location):

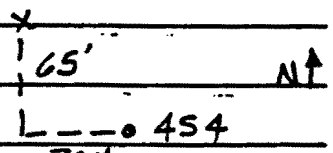
1500 @ SEEP #13; 10.75S 12.9

IN MEADOW UNDER POWERLINE. RELATIVELY FLAT TOPOGRAPHY; DRAINAGE HEADS due SOUTH AND EMPTIES PERPINDICULAR INTO LARGE E-W DRAINAGE. FLOW est. @ 1.0 LPM. DIS CATCHMENT BASIN.



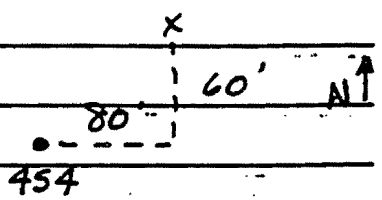
1525 @ SEEP #14; 3.35S 4.2

SMALL SEEP IN WOODS. DRY DRAINAGE ABOVE about 50' THEN PETERS OUT. DRAINAGE below HEADS due SOUTH. ENLARGE A NATURAL SMALL CATCHMENT BASIN. FLOW est. @ < 0.5 LPM. Bedrock? @ 1' BLS.



1600 @ SEEP #15; 3.4S 3.2

FAIRLY WELL developed SEEP IN WOODS. FLOW est. @ 1.0 LPM. DRAINAGE due SOUTH. About 20' down DRAINAGE FROM SEEP IS A LARGE CONCRETE TROUGH W/ A SECTION of old WATER PIPE. DIS CATCHMENT BASIN



Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By [signature] QA Checked By Jolotta Minard

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/22/94 TIME : NA : _____ PAGE 6 OF 6

Task Team Members: SEEP PG 6

JD.

RS.

Narrative (include time and location):

1615.. Back to trailer. Misc EOD chores

1645 Offsite.

Last Entry

Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By [signature] QA Checked By Joletta Minard

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/24/94 TIME: 0800: PAGE 1 OF 1

Task Team Members: SEEP PG 7

JOHN DAVIS

Narrative (include time and location):

Activities @ SAIC office.

Rcvd letter from A. Spesmd to T. Tank; no seeps from Benner Road to a line 500 N will be sampled.

Write up seep sampling recommendations. And T. Tank transmits to A. Spesmd. Recommend: ~~JMD~~ 3/24/94

- Sample seeps # 1, 6, 8, 9, 11, 12, ~~15~~, 13, 15.

- Documents in Project files.

- Will attempt to sample 3/29-3/31

Last Entry

Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By: [signature] QA Checked By: Joletta Minard

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/29/94 TIME: 08 : 30 PAGE 1 OF 2

Task Team Members: SEEP PG 8

JOHN DAVIS

RON SMITH

JOLETTA MINARD

Narrative (include time and location):

0830 @ MOUND fld trailer. Prep for SEEP spls.

1055 @ SEEP # 8, NS1001 Begin spls @ 1055.
Flow est. @ 1.5-2.0 LPM

1130 Complete spl. collection. JM collects spls. JD & RS complete field measurements. NOTE: Sample bottles dipped directly in catchment basin - no decon of transfer device required. Water from seep is clear

1235 Complete Alkalinity titration. Error @ 0.17% between runs.

1300 Return to trailer w/ spl NS1001. Conduct conductiv. check w/ 2 solutions; YSI 3167 1,000 µmhos/cm +/- 1% @ 25°C and YSI 3168 10,000 µmhos/cm +/+- 1% @ 25°C
Then perform cond. temp check, heating from 0-25°C, 1000 µmho/cm solution.

1515 @ SEEP # 1 NS2001 w/ dupe NS 2011
Flow est. @ 8 LPM. Bottles dipped directly in basin. This will be routine on all samples. RS takes Alkalinity spl back to trailer due to complexity & difficulty of titration. JM & JD finish collection of spls & other field

Daily Weather Conditions: A.M. cold overcast 30-35°F, some light snow

P.M. Same

Recorded By [signature] QA Checked By Joletta Minard

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/29/94 TIME: NA PAGE 2 OF 2

Task Team Members:

SEEP PG 9

JD

RS

JM

Narrative (include time and location):

MEMORANDUM.

1610 Complete sampling NS 2001 and NS 2011. Load equip

1630 T. Fort on site. Gives R. Smith H&S briefing. at trailer

Cont Entry.

Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By [signature] QA Checked By Joletta Minard

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 3/30/94 TIME: 08:30 PAGE 1 OF 2

Task Team Members: SEEP PG 10

Ron Smith

John Davis

Joletta Minard.

Narrative (include time and location):

0800 @ Mound Hqr. Prep for sampling.

0900 @ SEEP #9 NS 3001. Water sl. murky. Flow est. @ 1.0 LPM. Start sampling @ 0900

0947 Complete sampling @ NS 3001

1004 @ SEEP #12 NS 4001. Water quite murky in catchment basin when we arrive. Flow est. @ 1.0LPM

1035 Complete sampling ~~NS3001~~ JMD 3/30/94 NS4001

1049 @ SEEP # 11 NS5001. Water in catchment basin sl. murky. Flow Est. @ 1.5LPM

1114 Complete sampling @ NS5001

1125 @ SEEP # 13 NS6001. Water clear in catchment basin. Flow est. @ 2.0 LPM.

1202 Complete sampling @ NS6001. Collect MS/MSD splits here.

1215 @ transition for lunch

1230 Complete lunch. JD to Fedx to pickup pH buffer solns & ice. JM packages samples. RS begins Alkalinity titration on todays samples.

1420 Back to NS6001 (seep 13) to collect xtra MS/MSDS spls.

Daily Weather Conditions: A.M. cool 35°F, calm, clear, bright

P.M. same but breezier and overcast; 45°F

Recorded By [signature] QA Checked By Joletta Minard

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO. 34896

Date (mm/dd/yy): 3/30/94 TIME: NA : _____ PAGE 2 OF 2

Task Team Members: SEEP PG 11

JD

JM

RS

Narrative (include time and location):

1432 JD & JM @ SEEP #6 NS7001. Water sl. murky before sampling. Flow est. @ 1.0 LPM

1505 Complete sampling @ NS7001.

1535 @ SEEP #15 NS8001. Water clear Flow est. @ 4.0 LPM; JD & JM

1600 Complete sampling @ NS8001. Last sample!

NOTE: RS stays in trailer after lunch to run alkalinity titration

1630 JD & JM return to trailer. Prep samples for shipment; 9 coolers to IT, 4 coolers to Pace.

2130 @ FedX @ Miamisburg to drop off coolers.

Last Entry

Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By [signature] QA Checked By Joletta Miard

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 4/1/94 TIME: 08 00 PAGE 1 OF 3

SEEP PL 12

Task Team Members:

JOHN DAVIS

RON SMITH

Narrative (include time and location):

@ SAIC Dayton Ofc.

RON SMITH performs Alkalinity titration accuracy check w/ HACH Digital titrator, per instruction manual.

- METHOD: after titrating a tap water sample to pH 4.5, the sample was spiked with 1 ml sodium carbonate (0.500N) - prepared by Hach. This sample was then titrated to 4.5 pH. The resulting alkalinity was then compared to that of the spike (250 mg/l). This accuracy check verified the methodology used by RON S. as well as the accuracy of the Hach titrator and the pH meter.

NOTE: No standard alkalinity solns, lab-prepared, were available so accuracy was not confirmed as described in SOP 2.2.

- The titrated samples alkalinity was 241 mg/l @ pH 4.5
The spike alkalinity was 250 mg/l @ pH 4.5

Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By: Tom T QA Checked By: Jolette Minard

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 4/1/94 TIME: NA : _____ PAGE 2 OF 3

Task Team Members: SEEP PG 13

JD

RS

Narrative (include time and location):

ACCURACY = $\frac{241}{250}$ = 96.4 %

CALCULATIONS: MATRIX spike was

25,000 mg/l $CaCO_3$ w 0.5 N (1 ml)

1 ml x 25,000 mg/l = 25,000 (ml)(mg)/l

$\frac{25,000 \text{ (ml)(mg)/l}}{100 \text{ ml}}$ = 250 mg/l.

Spike manufactured by Hach; Hach Volvette Analytical standard Alkalinity 0.5 N 25,000 mg/l as $CaCO_3$.

IMPROVEMENTS to OVERALL SAMPLING:

1) get a magnetic stirrer for titrator
2) try a different pH meter; DO meter worked good.
3) Use a small camp stool for sample collector
4) Better method for hauling sample bottles
5) 1 person full time w/ spl mgt.

Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By [signature] QA Checked By Juletta Minard

TASK TEAM ACTIVITY LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 TASK NO: 34896

Date (mm/dd/yy): 4/1/94 TIME : NA : _____ PAGE 3 OF 3

Task Team Members: SEEP PG 14

JD

RS

Narrative (include time and location):

6). different alkalinity. Auto machine w/ a probe on pillows

Last Survey

Daily Weather Conditions: A.M. NA

P.M. NA

Recorded By [signature] QA Checked By Jolette Minard

SEEP P621

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE 3/29/94

ERROR AT 4.50: $\left|\frac{X1 - X2}{XS}\right| \times 100 = .71\%$

$\left(\frac{283-281}{281}\right)(100) = .71\%$

1st = .71%

2nd = NA %

JHD 3/21/94

pH CHECK AFTER TITRATION

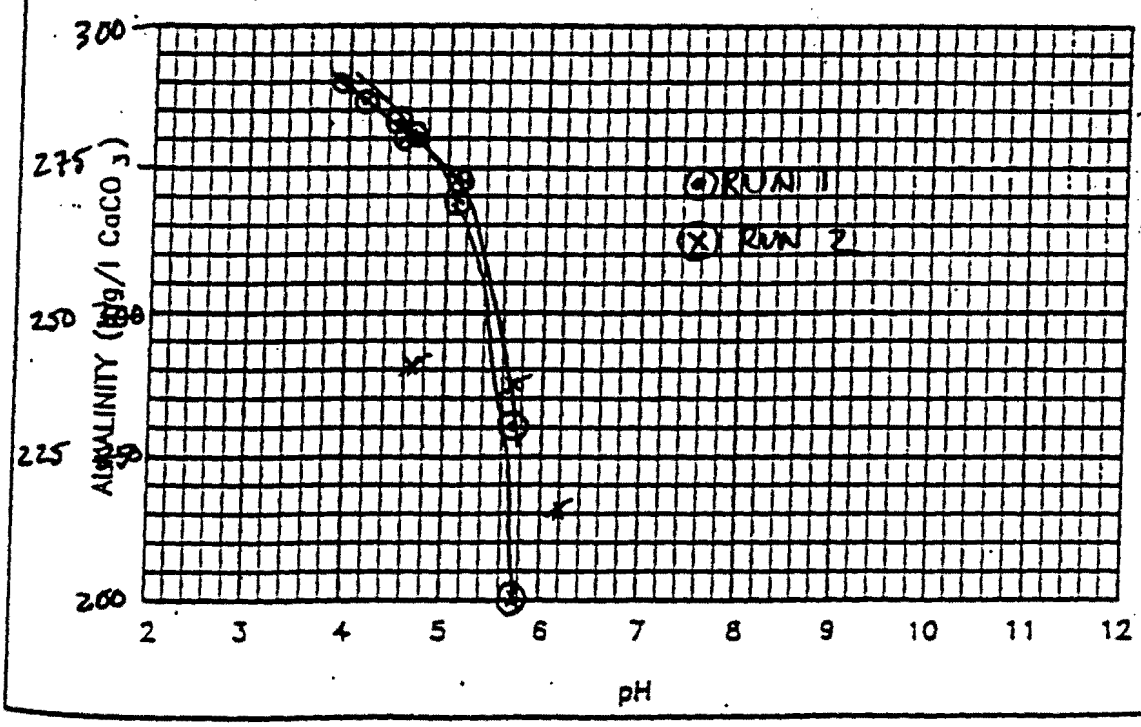
7.00 = 7.06

4.00 = 4.00

SAMPLE ID NS1001

1.6 N H_2S USED. Digit multiplier = 1.0

pH RN2	pH RN1	pH	ALKALINITY (mg/l Ca CO_3) Digits 1st	2nd	3rd
		8.90			
		8.60			
		8.30			
		8.05			
		7.80			
		7.50			
6.32	6.4				
~~6.4~~	~~6.22~~	~~6.50~~	0		
5.66	5.70	5.70	230	2001	
5.10	5.10	5.10	273	2701	
4.59	4.45	~~4.80~~	280	2801	
4.50	4.50	4.50	283	2811	
3.81	4.17	~~4.25~~	286	285	
	3.99	~~4.00~~	289		



COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQD-007 (3/88)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 134896

SAMPLE ID NUMBER: NS1001 DATE COLLECTED (MM/DD/YY): 3/29/94 TIME: (HH:MM) ~~1055~~ 1100

MND 3/29/94

MOUND SAMPLE NUMBER: MND16-0206-0200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP1 DESCRIPTION: SEEP NUMBER ~~8~~ 1

MND 3/30/94

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH SURF TO NA

WEATHER: cool overcast 35°F

FIELD OBSERVATIONS: water flowing & clear; flow est. @ 1.5-2.0 LPM

SAMPLE TYPE:

- [X] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY)
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS
NA		

SAMPLE COLLECTED: (YES) NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? (YES) NO FIELD CHANGE ORDER REFERENCE NO:

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY:

RECORDED By: Joletta Minard (SIGNATURE) QA CHECKED BY: (SIGNATURE)

SEEP PG 22

SAMPLE LOG SHEET

SAMPLE ID NUMBER: NS1001

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C	I16-1	9169201090	3267Ø43	IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C		9169201112 9169201123	3258172	IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C		9169201101	3258172	IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C			3214Ø52	IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C			3321Ø22	IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C			4Ø14Ø92	IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C			4Ø14Ø92	IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C			4Ø14Ø92	IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C			3214Ø52	IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C			3321Ø22	IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C			4Ø14Ø92	IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C			4Ø14Ø92	IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C			4Ø14Ø92	IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C			3214Ø52	IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C		9169201031 9169201053	3267Ø43	IT
2x - 1/2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C	P16-1		NA	PACE
1 - 250ML	Glass	Tritium	COOL 4°C			NA	PACE

SAMPLE ID'S RINSATE: NA TRIP BLANK: NSØ3Ø1 Ambient FIELD BLANK: NSØ1Ø1 FIELD DUPLICATE: NA

RECORDED BY: Juliette Minard CHECKED BY: JCP

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE 1 OF 1

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOT CONTROL NO NA

SAMPLE ID NS1001

SAMPLE TYPE K

LOG DATE 3/29/94

ACCEPTANCE CODE A

ANALYTICAL LAB CODE NA

LOGGER CODE SAIC

SAMPLING PERIOD: START 1055 COMPLETE 1130

SAMPLING METHOD GRAB

DATE SENT 3/29/94

COMMENTS pH standard 7.0 = 7.00; pH standard 4.0 = 4.01; slope = 96.4

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	6.95
SPECIFIC CONDUCTANCE	Ec	umhos/cm	3,630
REDOX POTENTIAL	Eh	mvolts	AB = 242.2
TEMPERATURE	TMP	°C	9.1 °C
ALKALINITY ($CaCO_3$)	ALK	mg/l	283
DISSOLVED OXYGEN	DO	mg/l	3.1

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F – FIELD R – REPLICATE
K – KNOWN A – ACID BLANK

SAMPLING METHODS:

G – GRAB SP – SUBMERSIBLE PUMP
PP – PERISTALIC PUMP O – OTHER (SPECIFY)

COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQD—007 (1/88)

3/29/94
FORM COMPLETED BY/DATE

Juliette Menard 3/4/94
TECHNICAL REVIEWER/DATE

SEEP 12 24

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE ____ OF ____

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE _____

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 =$ ____%

1st = ____%

2nd = ____%

pH CHECK AFTER TITRATION

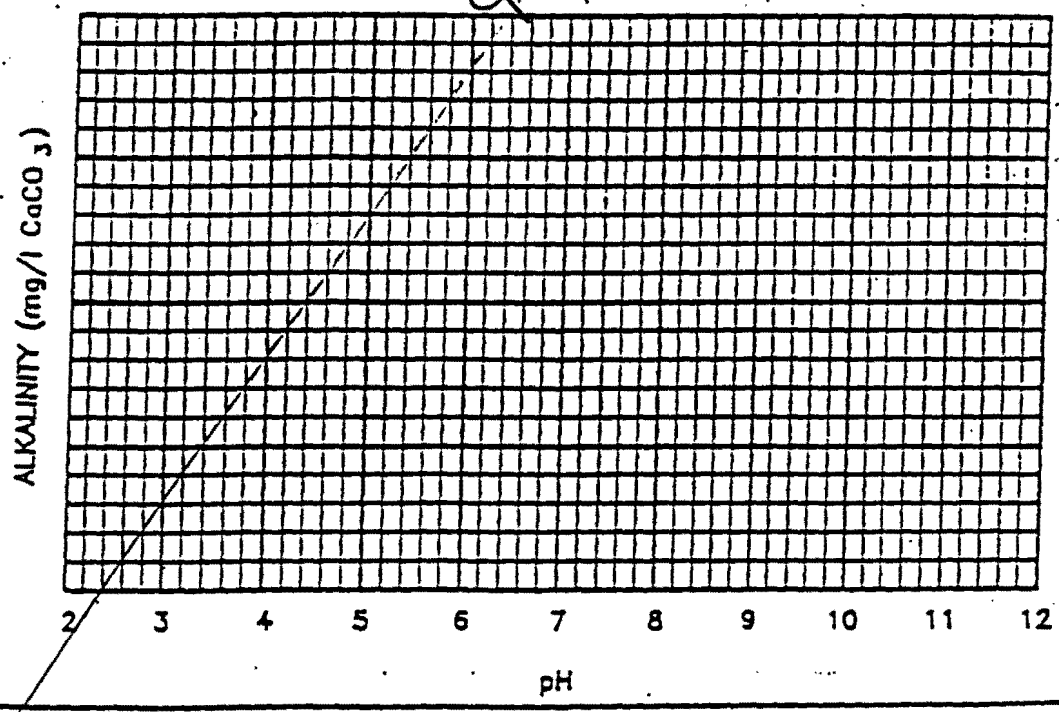
7.00 = _____

4.00 = _____

SAMPLE ID _____

pH	ALKALINITY (mg/l Ca CO_3)		
	1st	2nd	3rd
8.90			
8.60			
8.30			
8.05			
7.80			
7.50			
6.50			
5.70			
5.10			
4.80			
4.50			
4.25			
4.00			

PM 3/29/94



COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WQ0-007 (2/88)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE I PROJECT NO: 34896

SAMPLE ID NUMBER: NS1011 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 1200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP1 DESCRIPTION: SEEP NUMBER 1

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

JM 3/29/94

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

PG 26

SAMPLE LOG SHEET

SAMPLE ID NUMBER: NS1011

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C				IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C				IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C				IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C				IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C				IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C				IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C				IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C				IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C				IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C				IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C				IT
1 - 2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C				PACE
1 - 250ML	Glass	Tritium	COOL 4°C				PACE

JM 3/29/94

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE ____ OF ____

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOT CONTROL NO NA

SAMPLE ID

SAMPLE TYPE K

LOG DATE

ACCEPTANCE CODE A

ANALYTICAL LAB CODE

LOGGER CODE SAIC

SAMPLING PERIOD: START

COMPLETE

SAMPLING METHOD GRAB

DATE SENT

COMMENTS

3/24/94

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	
SPECIFIC CONDUCTANCE	Ec	umhos/cm	
REDOX POTENTIAL	Eh	mvolts	
TEMPERATURE	TMP	°C	
ALKALINITY ($CaCO_3$)	ALK	mg/l	
DISSOLVED OXYGEN	DO	mg/l	

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F – FIELD R – REPLICATE
K – KNOWN A – ACID BLANK

SAMPLING METHODS:

G – GRAB SP – SUBMERSIBLE P
PP – PERISTALIC PUMP O – OTHER (SPECIFY

COMPLETE BOLDED DATA FOR DIRTY INTO TIME
WQD—027 (1/88)

FORM COMPLETED BY/DATE

TECHNICAL REVIEWER/DATE

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE 1 OF 1

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE 3/29/94

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 =$ 1.05%

1st = 1.05 %

2nd = N/A %

pH CHECK AFTER TITRATION

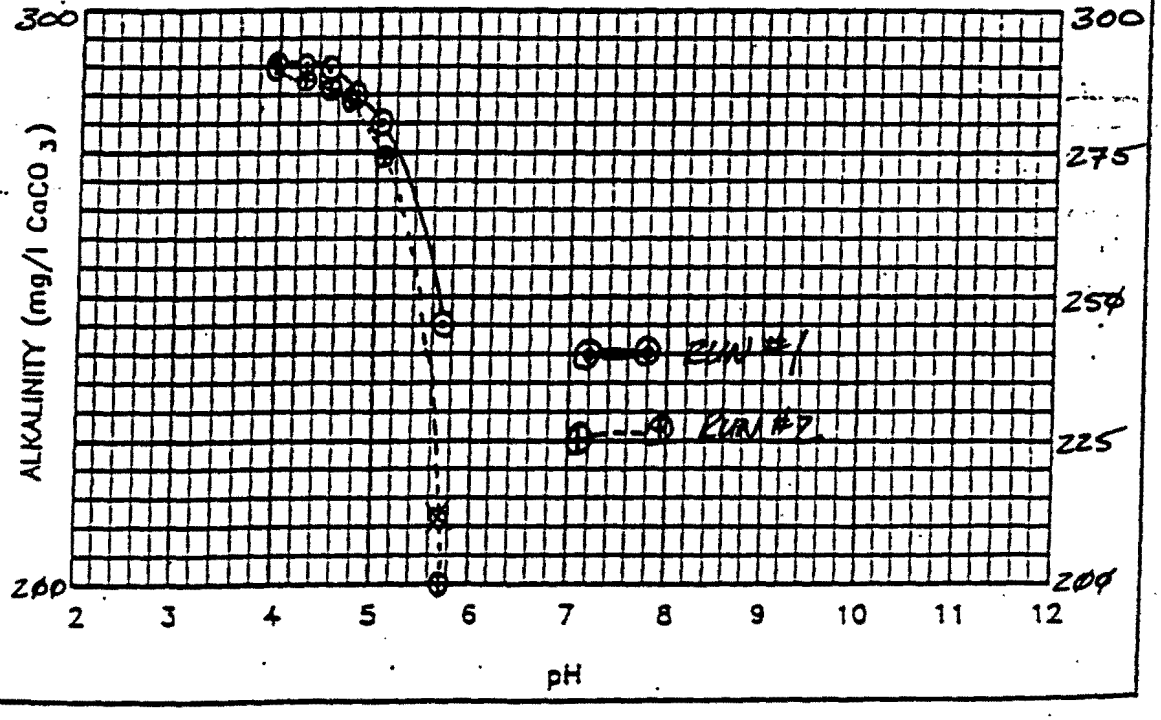
7.00 = 6.75

4.00 = 3.80

SAMPLE ID NS2001

pH	ALKALINITY (mg/l Ca CO_3) 1st	2nd	3rd
8.90	N/A		NR
8.60			
8.30			
8.05			
7.80			
7.50	0 (6.64)	0 (6.52)	
6.50	—	—	
5.70	245	200	
5.10	280 (5.01)	274 (5.09)	
4.80	285	284 (4.73)	
4.50	289	286 (4.51)	
4.25	290 (4.18)	288 (4.26)	
4.00	292 (3.97)	290 (3.97)	

VALUES IN ( ) ARE pH WHEN TARGET pH WAS NOT ACCOMPLISHED



COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQ-017 (3/88)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS2001 DATE COLLECTED (MM/DD/YY): 3/29/94 TIME: (HH:MM) 1515

MOUND SAMPLE NUMBER: MND16-0903-0200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP2 DESCRIPTION: SEEP NUMBER ~~1~~ 2 gm 3/29/94 2 JHD 3/30/94

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH Surface TO NA

WEATHER: Cold, overcast, @ 32°F

FIELD OBSERVATIONS: Seep ~~following~~ gm 3/29/94 flowing well; wtr clear; flow @ 8 L/min.

SAMPLE TYPE:

- [x] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY)
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS
NA		

SAMPLE COLLECTED: (YES) NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? (YES) NO FIELD CHANGE ORDER REFERENCE NO:

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY:

RECORDED By: Joletta Minard (SIGNATURE) QA CHECKED BY: [signature] (SIGNATURE)

SEEP PG 30

SAMPLE SHEET

SAMPLE ID NUMBER: NS2001

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C	I16-1	9169201123	3267Ø43	IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C		9169201112	3258172	IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C		9169201090	318ØØ92 / 3263Ø42	IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C		9169201101	3214Ø52	IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C			3214Ø52	IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C			3321Ø22	IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C			4Ø14Ø92	IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C			4Ø14Ø92	IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C			4Ø14Ø92	IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C			3214Ø52	IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C			3321Ø22	IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C			4Ø14Ø92	IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C			3214Ø52	IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C			3267Ø43	IT
gm 3/29/94 2x - ~~1~~ GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C	P16-1	9169201031 9169201053	NA	PACE
1 - 250ML	Glass	Tritium	COOL 4°C			NA	PACE

SAMPLE ID'S RINSATE: NA TRIP BLANK: NSØ3Ø1 ~~FIELD~~ Ambient BLANK: NSØ1Ø1 FIELD DUPLICATE: NS2Ø11

RECORDED BY: Joletta Minard (SIGNATURE) QA CHECKED BY: Joletta gm 3/31/94 (SIGNATURE)

SEE P. 21

SEEP PG 32

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE 1 OF 1

FACILITY CODE 005 NP

LOCATION ID NEW PROP. LOT CONTROL NO NA

SAMPLE ID NS2001 SAMPLE TYPE K

LOG DATE 3/29/94 ACCEPTANCE CODE A

ANALYTICAL LAB CODE NA LOGGER CODE SAIC

SAMPLING PERIOD: START 1525 COMPLETE 1610

SAMPLING METHOD GRAB DATE SENT 3/29/94

COMMENTS Seep flowing @ approx. 8 l/min.
pH w pH standard 4 = 7.0 = 7.01; couldnt calib. to pH 4 soln - soln poss contaminated. pH w pH standard 10.0 = 10.01 SIO/DE = 116.6

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	7.46
SPECIFIC CONDUCTANCE	Ec	umhos/cm	916
REDOX POTENTIAL	Eh	mvolts	264.0
TEMPERATURE	TMP	°C	9.7
ALKALINITY ($CaCO_3$)	ALK	mg/l	289 mg/L
DISSOLVED OXYGEN	DO	mg/l	12.2

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F – FIELD R – REPLICATE
K – KNOWN A – ACID BLANK

SAMPLING METHODS:

G – GRAB SP – SUBMERSIBLE PU
PP – PERISTALIC PUMP O – OTHER (SPECIFY)

COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WQD-007 (1/88)

3/29/94
FORM COMPLETED BY/DATE

Jolette Minard
TECHNICAL REVIEWER/DATE

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE ____ OF ____

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE _____

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 =$ ____%

1st = ____%

2nd = ____%

pH CHECK AFTER TITRATION

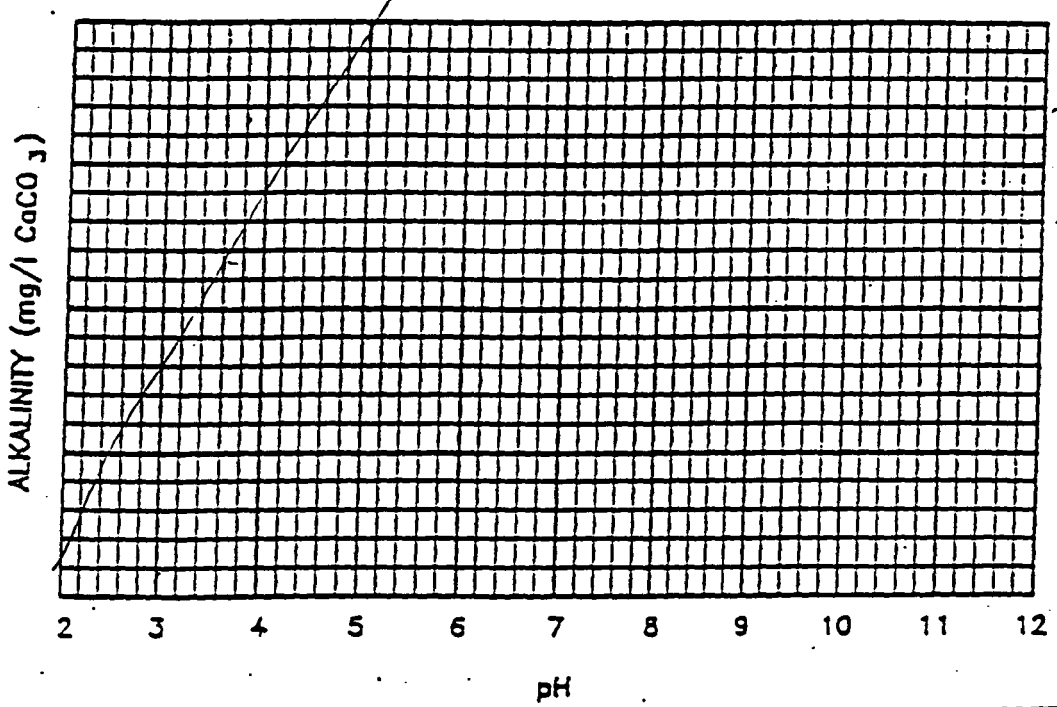
7.00 = _____

4.00 = _____

SAMPLE ID _____

pH	ALKALINITY (mg/l Ca CO_3)		
	1st	2nd	3rd
8.90			
8.60			
8.30			
8.05			
7.80			
7.50			
6.50			
5.70			
5.10			
4.80			
4.50			
4.25			
4.00			

JHD



COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQD-007 (1/88)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS2011 DATE COLLECTED (MM/DD/YY): 3/29/94 TIME: (HH:MM) 1515

MOUND SAMPLE NUMBER: MND16-0903 - 1200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP2 DESCRIPTION: SEEP NUMBER ~~2~~ 1 gm 3/29/94
2 THD 3/30/94

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH Surface TO NA

WEATHER: Cold, overcast, @ 32°F

FIELD OBSERVATIONS: WATER CLEAR BEFORE SAMPLING. Flow est. @ 8.0 LPM

SAMPLE TYPE:

- [x] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS
NA		

SAMPLE COLLECTED: (YES) NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? (YES) NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: Joletta Menard (SIGNATURE) QA CHECKED BY: [signature] (SIGNATURE)

SEEP PG 34

SAMPLE LOG SHEET

SAMPLE ID NUMBER: NS2011

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C	I16-1	9169201090	3267043	IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C		9169201112 9169201123	3263042	IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C		9169201101	3263042	IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C			4014092 ~~3214052~~ SM 3/29/94	IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C			3214052	IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C			3321022	IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C			3214052	IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C			3321022	IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C			4014092	IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C			3214052	IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C			3214052	IT
~~1 - 40ML~~	~~Plastic~~	~~Rad Screen~~	~~COOL 4°C~~				~~IT~~
2x - 7 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C	P16-1	9169201031 9169201053	NA	PACE
1 - 250ML	Glass	Tritium	COOL 4°C			NA	PACE

SM 3/29/94

SAMPLE ID'S RINSATE: NA TRIP BLANK: NS03Ø1 ~~FIELD~~ Ambient BLANK: NSØ1Ø1 FIELD DUPLICATE: NS2ØØ1

RECORDED BY: Jolette Minard (SIGNATURE) QA CHECKED BY: (SIGNATURE)

SEEP PG 36

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE 1 OF

FACILITY CODE: OU5 NP

LOCATION ID: NEW PROP

LOT CONTROL NO: NA

SAMPLE ID: NS 2011

SAMPLE TYPE: K

LOG DATE: 3/29/94

ACCEPTANCE CODE: A

ANALYTICAL LAB CODE: NA

LOGGER CODE: SAIC

SAMPLING PERIOD: START 1525 COMPLETE 1610

SAMPLING METHOD: GRAB

DATE SENT: 3/29/94

COMMENTS: SAMPLE IS duplicate of NS2001. Parameter measurements taken on NS2001

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	NA
SPECIFIC CONDUCTANCE	Ec	umhos/cm	NA
REDOX POTENTIAL	Eh	mvolts	NA
TEMPERATURE	TMP	°C	NA
ALKALINITY ($CaCO_3$)	ALK	mg/l	NA
DISSOLVED OXYGEN	DO	mg/l	NA

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F – FIELD R – REPLICATE
K – KNOWN A – ACID BLANK

SAMPLING METHODS:

G – GRAB SP – SUBMERSIBLE PUMP
PP – PERISTALIC PUMP O – OTHER (SPECIFY)

COMPLETE BOLDED DATA FOR ENTRY INTO TRACS
WCD—007 (1/88)

FORM COMPLETED BY/DATE

Juletta Minard
TECHNICAL REVIEWER/DATE 4/4/94

SEEP PC 3.7

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE 1 OF 1

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE 3/30/94

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 = 3.36\%$

MD 3/30/94

1st = 3.6 % 3.36

2nd = NA %

pH CHECK AFTER TITRATION

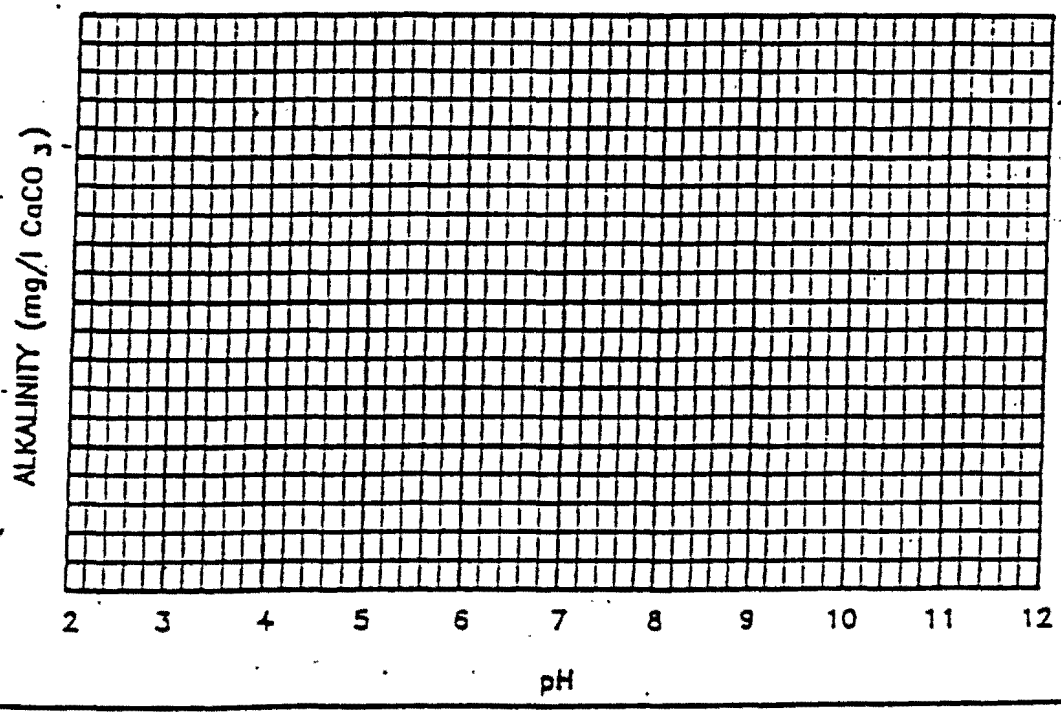
7.00 = 6.99

4.00 = 3.96

SAMPLE ID NS3001

pH	ALKALINITY (mg/l Ca CO_3) 1st	2nd	3rd
8.90	NR	→	NA
8.60			
8.30			
8.05			
7.80			
7.50	Ø (7.16)	Ø (7.07)	
6.50	158	214 (6.48)	
5.70	280 (5.47)	281	
5.10	295 (5.02)	305 (5.01)	
4.80	NR	—	
4.50	298	308	
4.25	302 (4.21)	310 (4.17)	
4.00	304 (3.99)	312 (3.96)	

VALUES IN ( ) ARE pH WHEN TARGET pH WAS NOT ACHIEVED.



COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQ-007 (3/88)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS3001 DATE COLLECTED (MM/DD/YY): 3/30/94 TIME: (HH:MM) 0900

MOUND SAMPLE NUMBER: MND16-0317-0200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP3 DESCRIPTION: SEEP NUMBER 3

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH Surface TO NA

WEATHER: Sunny @ 35°F

FIELD OBSERVATIONS: WATER SL. MURKY BEFORE SAMPLING. FLOW EST. @ 1.0 LPM

SAMPLE TYPE:

- [x] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS
NA		

SAMPLE COLLECTED: (YES) NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? (YES) NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: Joletta Menard (SIGNATURE) QA CHECKED BY: [signature] (SIGNATURE)

SEEP PG 38

SAMPLE LOG SHEET

SAMPLE ID NUMBER: NS3001

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C # gm 4/1/94	AIR BILL # gm 4/1/94	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C	~~P16~~-2	~~91692Ø1Ø42~~	3267Ø43	IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C		91692Ø1Ø86	3263Ø42	IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C			3258172	IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C			3214Ø52	IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C			3321Ø22	IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C			4Ø14Ø92	IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C			3214Ø52	IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C			33Ø9Ø62	IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C			4Ø14Ø92	IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C			3214Ø52	IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2, ~~4°C~~ 4°C gm			3214Ø52	IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C	↓	↓	3267Ø43	IT
gm 4/1/94 2Y-1Z GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2, ~~4°C~~	P16-2	91692Ø1Ø42	NA	PACE
1 - 250ML	Glass	Tritium	COOL 4°C	↓	↓	NA	PACE

SEEP PG 3 of

SAMPLE ID'S RINSATE: NA TRIP BLANK: NSØ3Ø2 Ambient FIELD BLANK: NSØ1Ø1 gm 4/1/94 FIELD DUPLICATE: NA

RECORDED BY: Joletta Minard (SIGNATURE) QA CHECKED BY: [illegible] (SIGNATURE)

SEEP PG 40

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE 1 OF 1

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOT CONTROL NO NA

SAMPLE ID NS3001

SAMPLE TYPE K

LOG DATE 3/30/94

ACCEPTANCE CODE A

ANALYTICAL LAB CODE NA

LOGGER CODE SAIC

SAMPLING PERIOD: START 0900

COMPLETE 0947

SAMPLING METHOD GRAB

DATE SENT 3/30/94

COMMENTS pH standard 4.0 = pH 4.00; pH standard 7.0 = pH 6.77; slope = 97.7

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	6.95
SPECIFIC CONDUCTANCE	Ec	umhos/cm	1892
REDOX POTENTIAL	Eh	mvolts	245.2
TEMPERATURE	TMP	°C	9.0
ALKALINITY ($CaCO_3$)	ALK	mg/l	298
DISSOLVED OXYGEN	DO	mg/l	11.7

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F – FIELD R – REPLICATE
K – KNOWN A – ACID BLANK

SAMPLING METHODS:

G – GRAB SP – SUBMERSIBLE PU
PP – PERISTALIC PUMP O – OTHER (SPECIFY)

COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WQD-007 (1/88)

3/30/94
FORM COMPLETED BY/DATE

Joletta Minar
TECHNICAL REVIEWER/DATE 4/4/

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE ____ OF ____

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE _____

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 =$ ____%

1st = ____%

2nd = ____%

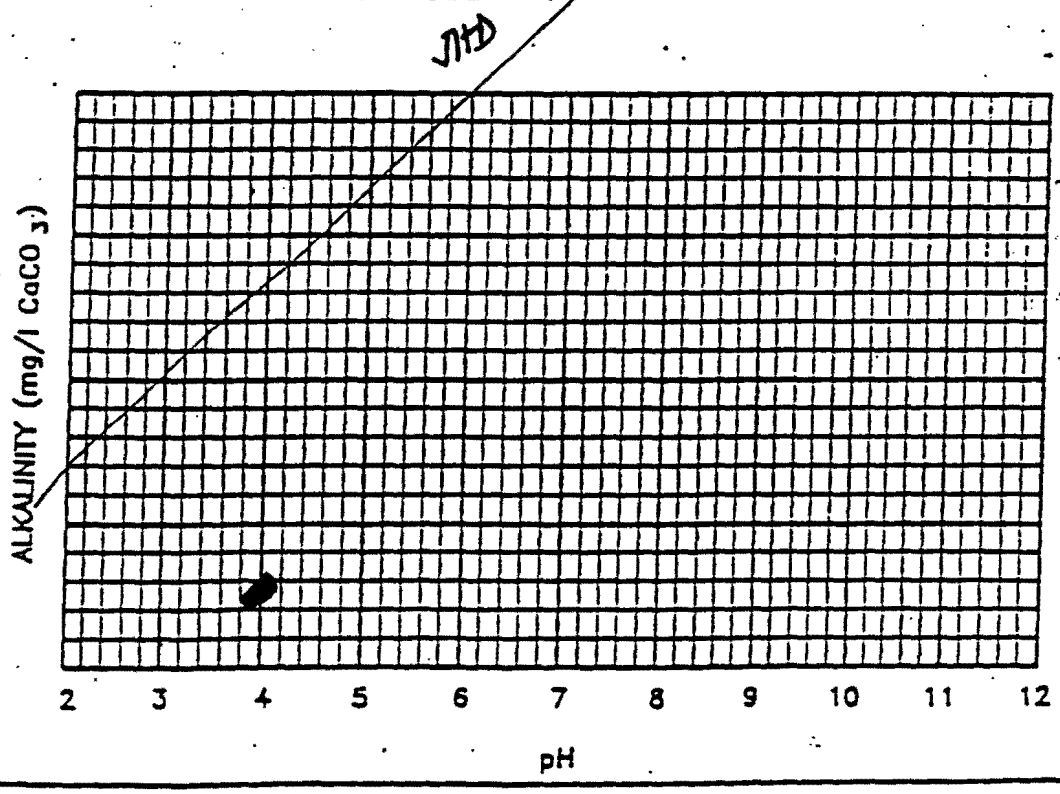
pH CHECK AFTER TITRATION

7.00 = _____

4.00 = _____

SAMPLE ID _____

pH	ALKALINITY (mg/l Ca CO_3)		
	1st	2nd	3rd
8.90			
8.60			
8.30			
8.05			
7.80			
7.50			
6.50			
5.70			
5.10			
4.80			
4.50			
4.25			
4.00			



COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQD-007 (3/88)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS3011 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 1200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP3 DESCRIPTION: SEEP NUMBER 3

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [x] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

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SAMPLING SHEET

SAMPLE ID NUMBER NS8011

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C				IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C				IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C				IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C				IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C				IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C				IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C				IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C				IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C				IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C				IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C				IT
1 - 2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C				PACE
1 - 250ML	Glass	Tritium	COOL 4°C				PACE

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ QA CHECKED BY: _____

(SIGNATURE) (SIGNATURE)

44

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE ____ OF ____

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOT CONTROL NO NA

SAMPLE ID

SAMPLE TYPE K

LOG DATE

ACCEPTANCE CODE A

ANALYTICAL LAB CODE

LOGGER CODE SAIC

SAMPLING PERIOD: START

COMPLETE

SAMPLING METHOD GRAB

DATE SENT

COMMENTS

JMD

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	
SPECIFIC CONDUCTANCE	Ec	umhos/cm	
REDOX POTENTIAL	Eh	mvolts	
TEMPERATURE	TMP	°C	
ALKALINITY ($CaCO_3$)	ALK	mg/l	
DISSOLVED OXYGEN	DO	mg/l	

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F – FIELD R – REPLICATE
K – KNOWN A – ACID BLANK

SAMPLING METHODS:

G – GRAB SP – SUBMERSIBLE PUM
PP – PERISTALIC PUMP O – OTHER (SPECIFY)

COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WQD-027 (1/88)

FORM COMPLETED BY/DATE

TECHNICAL REVIEWER/DATE

SEEP PG 45

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE 1 OF 1

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE 3/30/94

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 =$ 2.63%

1st = 2.63%

2nd = NA %

pH CHECK AFTER TITRATION

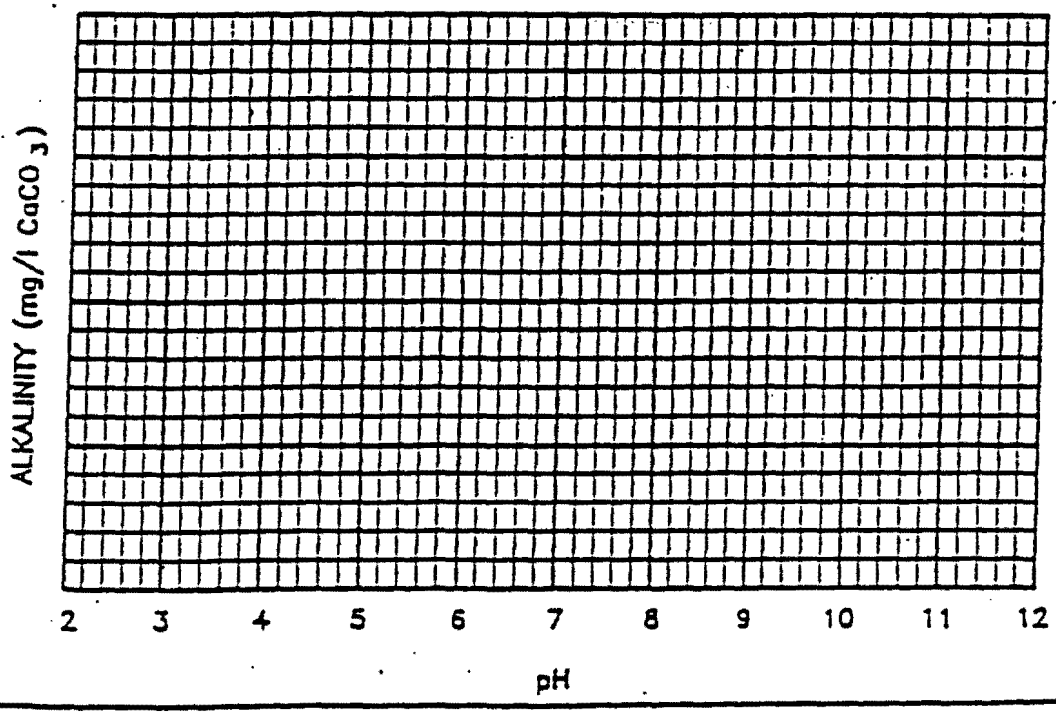
7.00 = 6.98

4.00 = 3.97

SAMPLE ID NS4001

pH	ALKALINITY (mg/l Ca CO_3) 1st	2nd	3rd
8.90	NR		NA
8.60			
8.30			
8.05			
7.80			
7.50	0 (6.99)	0 (7.03)	
6.50	120 (6.32)	100 (6.45)	
5.70	210 (5.68)	205 (5.69)	
5.10	230 (4.99)	NR	
4.80	232	226 (4.77)	
4.50	234	228 (4.52)	
4.25	236 (4.24)	230 (4.16)	
4.00	238 (4.01)	232 (3.99)	

VALUES IN ( ) ARE pH if target pH was not accomplished.



COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
#SD-027 (2/88)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS4001 DATE COLLECTED (MM/DD/YY): 3/30/94 TIME: (HH:MM) 10:00

MOUND SAMPLE NUMBER: MND16- 0408 - 0200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP4 DESCRIPTION: SEEP NUMBER 4

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH SURF TO NA

WEATHER: SUNNY w/ INTERMITTENT CLOUDS, 40°F, SL. BREEZE

FIELD OBSERVATIONS: WATER VERY MURKY BEFORE SAMPLING. FLOW EST. @ 1.0 LPM

SAMPLE TYPE:

- [X] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS
NA		

SAMPLE COLLECTED: (YES) NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? (YES) NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: [signature] (SIGNATURE) QA CHECKED BY: Juletta Minard (SIGNATURE)

SEEP 46

SAMPLE ID NUMBER: NS4001

SAMPLE LOG SHEET

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C	I16-2	9169201086	3267043	IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C			3180092	IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C			3263042	IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C			3214052	IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C			3326132	IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C			3309062	IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C			3214052	IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C			3321022	IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C			3214052	IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C			3214052	IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C			3214052	IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C			3267043	IT
2 - 1/2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2, ~~4°C~~	P16-2	9169201042	NA	PACE
1 - 250ML	Glass	Tritium	COOL 4°C			NA	PACE

gm 4/1/94

SAMPLE ID'S RINSATE: NA TRIP BLANK: NS0302 ~~FIELD~~ Ambient BLANK: NS0101 FIELD DUPLICATE: NA

gm 4/1/94

RECORDED BY: Joletta Minard (SIGNATURE) QA CHECKED BY: (SIGNATURE)

SEEP 48

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE 1 OF

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOT CONTROL NO NA

SAMPLE ID NS4001

SAMPLE TYPE K

LOG DATE 3/30/94

ACCEPTANCE CODE A

ANALYTICAL LAB CODE NA

LOGGER CODE SAIC

SAMPLING PERIOD: START 1004 COMPLETE 1033

SAMPLING METHOD GRAB

DATE SENT 3/30/94

COMMENTS pH stand 7.0 pH = 7.01; pH stand 4.0 pH = 4.05; Slope = 96.7

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	6.99
SPECIFIC CONDUCTANCE	Ec	umhos/cm	1,191
REDOX POTENTIAL	Eh	mvolts	577.9
TEMPERATURE	TMP	°C	8.4
ALKALINITY ($CaCO_3$)	ALK	mg/l	234
DISSOLVED OXYGEN	DO	mg/l	13.1

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F — FIELD R — REPLICATE
K — KNOWN A — ACID BLANK

SAMPLING METHODS:

G — GRAB SP — SUBMERSIBLE
PP — PERISTALIC PUMP O — OTHER (SPECIFY)

COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQD-007 (1/88)

3/30/94
FORM COMPLETED BY/DATE

Joletta Meiner
TECHNICAL REVIEWER/DATE 4/4

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE ____ OF ____

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE _____

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 =$ ____%

1st = ____%

2nd = ____%

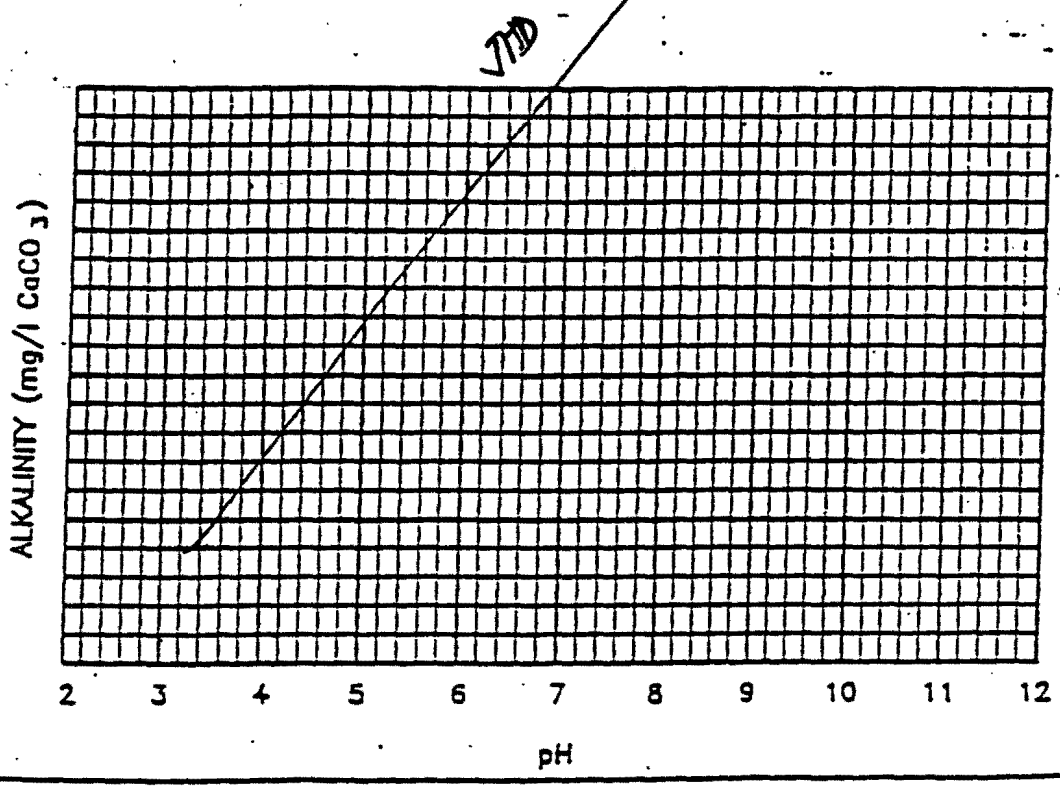
pH CHECK AFTER TITRATION

7.00 = _____

4.00 = _____

SAMPLE ID _____

pH	ALKALINITY (mg/l Ca CO_3)		
	1st	2nd	3rd
8.90			
8.60			
8.30			
8.05			
7.80			
7.50			
6.50			
5.70			
5.10			
4.80			
4.50			
4.25			
4.00			



COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WQD-007 (3/88)

SAMPLE FOCSHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS4011 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 1200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP4 DESCRIPTION: SEEP NUMBER 4

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ QA CHECKED BY: _____

(SIGNATURE) (SIGNATURE)

50

SAMPLE LOG SHEET

SAMPLE ID NUMBER: NS4011

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C				IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C				IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C				IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C				IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C				IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C				IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C				IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C				IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C				IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C				IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C				IT
1 - 2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C				PACE
1 - 250ML	Glass	Tritium	COOL 4°C				PACE

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

SEEP PG 52

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE ____ OF

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOT CONTROL NO NA

SAMPLE ID

SAMPLE TYPE K

LOG DATE

ACCEPTANCE CODE A

ANALYTICAL LAB CODE

LOGGER CODE SAIC

SAMPLING PERIOD: START

COMPLETE

SAMPLING METHOD GRAB

DATE SENT

COMMENTS

NJ 4001

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	
SPECIFIC CONDUCTANCE	Ec	umhos/cm	
REDOX POTENTIAL	Eh	mvolts	
TEMPERATURE	TMP	°C	
ALKALINITY ($CaCO_3$)	ALK	mg/l	
DISSOLVED OXYGEN	DO	mg/l	

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F — FIELD R — REPLICATE
K — KNOWN A — ACID BLANK

SAMPLING METHODS:

G — GRAB SP — SUBMERSIBL
PP — PERISTALIC PUMP O — OTHER (SPEC

COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQD-007 (1/88)

FORM COMPLETED BY/DATE

TECHNICAL REVIEWER/DATE

SEEP PG 53

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE 1 OF 1

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE 3/30/94

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100$ 0.57%

1st = 0.57%

2nd = NA %

pH CHECK AFTER TITRATION

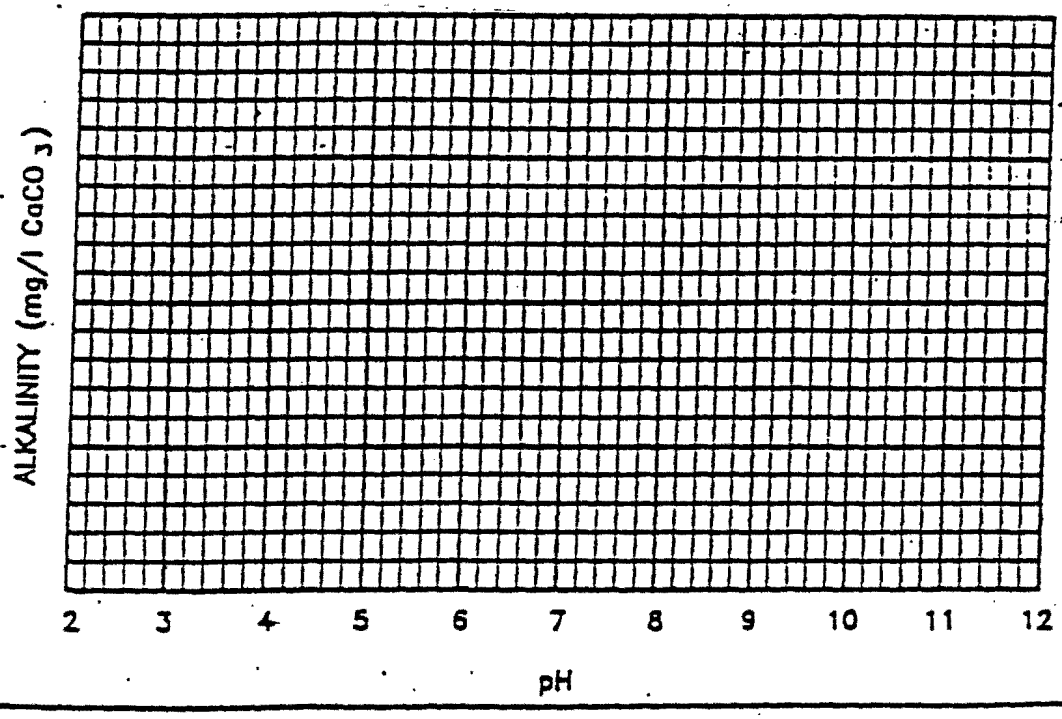
7.00 = 7.08

4.00 = 4.03

SAMPLE ID NS5ØØ1

pH	ALKALINITY (mg/l Ca CO_3) 1st	2nd	3rd
8.90	NA	→	NA
8.60			
8.30			
8.05			
7.80			
7.50	0 (7.00)	0 (6.99)	
6.50	100 (6.20)	80 (6.42)	
5.70	150 (5.63)	162	
5.10	170 (5.05)	NR	
4.80	174 (4.72)	175 (4.77)	
* 4.50	175 (4.60)	176 (4.59)	
4.25	177	178 (4.27)	
4.00	179	180 (4.04)	

VALUES IN ( ) ARE pH WHEN TARGET pH WAS NOT ACHIEVED.



COMPLETE BOLDED DATA FOR ENTRY INTO TRIS
WQ0-007 (3/88)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS5001 DATE COLLECTED (MM/DD/YY): 3/30/94 TIME: (HH:MM) 1046

MOUND SAMPLE NUMBER: MND16-0611-0200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP5 DESCRIPTION: SEEP NUMBER 5

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH SURF TO NA

WEATHER: SUNNY w/ INTERMITTENT CLOUDS 40°F

FIELD OBSERVATIONS: WATER SL. MURKY BEFORE SAMPLING FLOW EST. @ 1.5 LPM

SAMPLE TYPE:

- [X] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY)
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS
NA		

SAMPLE COLLECTED: (YES) NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? (YES) NO FIELD CHANGE ORDER REFERENCE NO:

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY:

RECORDED By: [signature] (SIGNATURE) QA CHECKED BY: Joletta Menard (SIGNATURE)

SEEP 2 S-4

SAMPLE NUMBER: NS500

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C	J16-2	9169201086	3267043	IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C			3180092	IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C			3180092	IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C			3214052	IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C			3214052	IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C			3321022	IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C			3214052	IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C			3321022	IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C			4014092	IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C			3214052	IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C			4014092	IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C			3267043	IT
2x-1/2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2, ~~4°C~~	P16-2	9169201042	NA	PACE
1 - 250ML	Glass	Tritium	COOL 4°C			NA	PACE

gm 4/1/91

SAMPLE ID'S RINSATE: NA TRIP BLANK: NS0302 FIELD BLANK: NS0101 FIELD DUPLICATE: NA

RECORDED BY: Joletta Minard (SIGNATURE) QA CHECKED BY: [illegible] (SIGNATURE)

SEEP PG 56

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE 1 OF

FACILITY CODE: OU5 NP

LOCATION ID: NEW PROP

LOT CONTROL NO: NA

SAMPLE ID: NS5001

SAMPLE TYPE: K

LOG DATE: 3/30/94

ACCEPTANCE CODE: A

ANALYTICAL LAB CODE: NA

LOGGER CODE: SAIC

SAMPLING PERIOD: START 1045 COMPLETE 1114

SAMPLING METHOD: GRAB

DATE SENT: 3/30/94

COMMENTS: pH stand 7.0 pH= 7.02; pH stand. 4.0 pH= 3.94
Slope = 97.6

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	6.73
SPECIFIC CONDUCTANCE	Ec	umhos/cm	583
REDOX POTENTIAL	Eh	mvolts	353.7
TEMPERATURE	TMP	°C	9.4
ALKALINITY ($CaCO_3$)	ALK	mg/l	175
DISSOLVED OXYGEN	DO	mg/l	11.1

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F – FIELD R – REPLICATE
K – KNOWN A – ACID BLANK

SAMPLING METHODS:

G – GRAB SP – SUBMERSIBLE PUMP
PP – PERISTALIC PUMP O – OTHER (SPECIFY)

COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WCD—027 (1/88)

3/30/94
FORM COMPLETED BY/DATE

TECHNICAL REVIEWER/DATE 4/4/9

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE ____ OF ____

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE _____

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 =$ ____%

1st = ____%

2nd = ____%

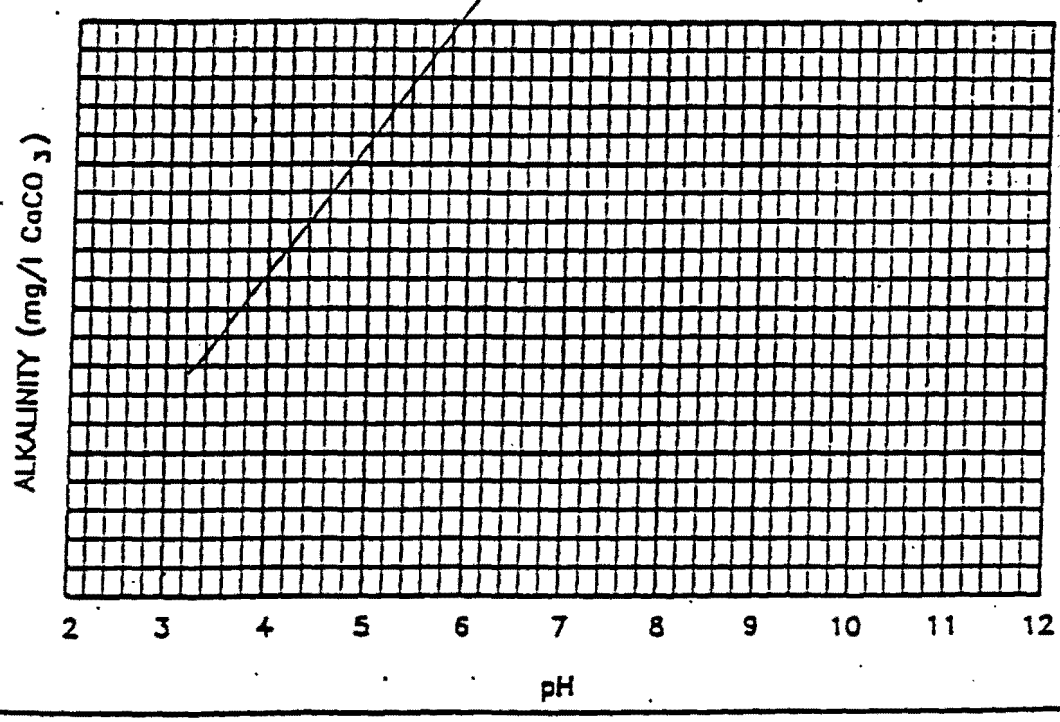
pH CHECK AFTER TITRATION

7.00 = _____

4.00 = _____

SAMPLE ID _____

pH	ALKALINITY (mg/l Ca CO_3)		
	1st	2nd	3rd
8.90			
8.60			
8.30			
8.05			
7.80			
7.50			
6.50			
5.70			
5.10			
4.80			
4.50			
4.25			
4.00			



COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQ0-007 (1/98)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS5011 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 1200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP5 DESCRIPTION: SEEP NUMBER 5

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

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SAMPLE LOGSHEET

SAMPLE ID NUMBER: NS5011

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C				IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C				IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C				IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C				IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C				IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C				IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C				IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C				IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C				IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C				IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C				IT
1 - 2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C				PACE
1 - 250ML	Glass	Tritium	COOL 4°C				PACE

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

SEEP PG 60

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE ____ OF ____

FACILITY CODE: OU5 NP

LOCATION ID: NEW PROP

LOT CONTROL NO: NA

SAMPLE ID: ____

SAMPLE TYPE: K

LOG DATE: ____

ACCEPTANCE CODE: A

ANALYTICAL LAB CODE: ____

LOGGER CODE: SAIC

SAMPLING PERIOD: START ____ COMPLETE ____

SAMPLING METHOD: GRAB

DATE SENT: ____

COMMENTS: ____

JTD

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	____
SPECIFIC CONDUCTANCE	Ec	umhos/cm	____
REDOX POTENTIAL	Eh	mvolts	____
TEMPERATURE	TMP	°C	____
ALKALINITY ($CaCO_3$)	ALK	mg/l	____
DISSOLVED OXYGEN	DO	mg/l	____

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F – FIELD R – REPLICATE
K – KNOWN A – ACID BLANK

SAMPLING METHODS:

G – GRAB SP – SUBMERSIBLE P
PP – PERISTALIC PUMP O – OTHER (SPECIFY

COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WSD-007 (1/88)

FORM COMPLETED BY/DATE ____ TECHNICAL REVIEWER/DATE ____

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE 1 OF 1

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE 3/30/94

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 =$ 1.91 %

1st = 1.91 %

2nd = NA %

pH CHECK AFTER TITRATION

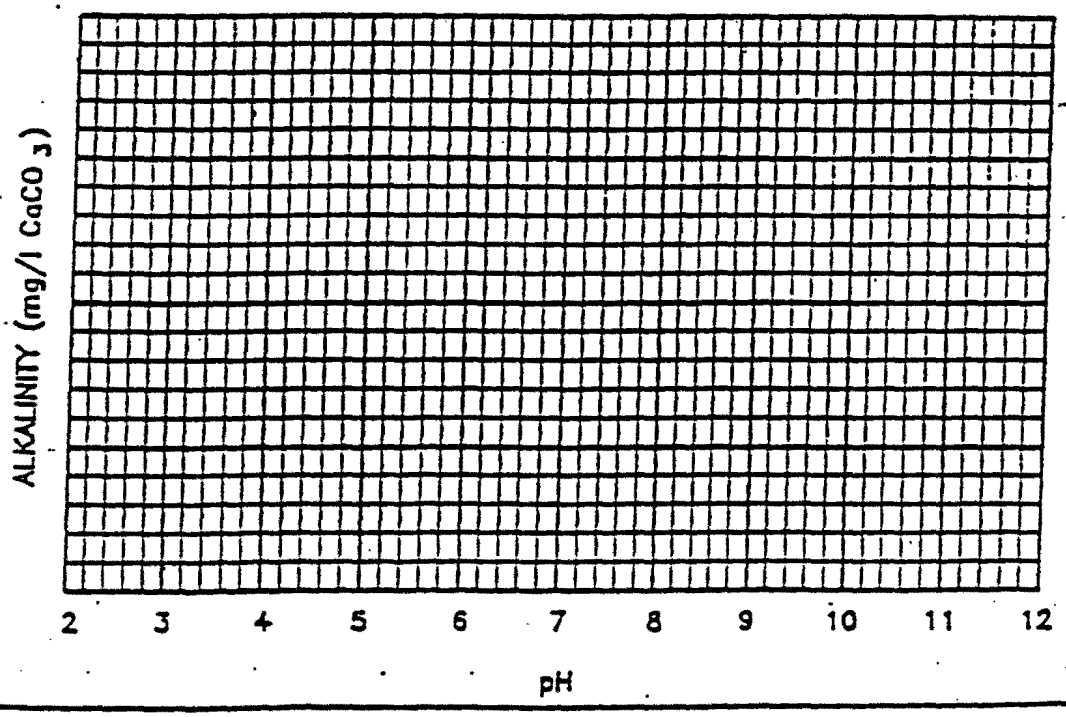
7.00 = 7.04

4.00 = 4.04

SAMPLE ID N56001

pH	ALKALINITY (mg/l Ca CO_3) 1st	2nd	3rd
8.90	NA	~~NA~~	NA
8.60			
8.30			
8.05			
7.80			
7.50	Ø (7.20)	Ø (7.37)	
6.50	120 (6.46)	160	
5.70	205 (5.50)	200 (5.62)	
5.10	NR	NR	
4.80	211 (4.81)	206 (4.77)	
* 4.50	213	209 (4.53)	
4.25	215 (4.24)	211 (4.26)	
4.00	217 (4.03)	213	

VALUES IN ( ) ARE pH WHEN target pH WAS NOT achieved



COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WQD-007 (3/88)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS6001 DATE COLLECTED (MM/DD/YY): 3/30/94 TIME: (HH:MM) 1126

MOUND SAMPLE NUMBER: MND16- 1113 - 0200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP6 DESCRIPTION: SEEP NUMBER 6

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH SURF TO NA

WEATHER: 40°F, sl. breeze, sl. overcast

FIELD OBSERVATIONS: WATER CLEAR BEFORE SAMPLING. FLOW est @ 2.0 LPM ; MS/MSD Sample

SAMPLE TYPE:

- [X] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS
NA		

SAMPLE COLLECTED: (YES) NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? (YES) NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: Joletta Minard (SIGNATURE)

SEEP 26 62

SAMPLE SHEET

SAMPLE ID NUMBER: NS6001

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
4~~2~~ - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C	I16-2	9169201086	3267043	IT
4~~2~~ - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C			3180092	IT
4~~2~~ - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C			3263042	IT
2~~1~~ - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C			3214052	IT
2~~1~~ - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C			3326132	IT
4~~2~~ - 1 LITER	Amber Glass	Explosives	COOL 4°C			3309062	IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C			4014092	IT
2~~1~~ - 1 LITER	Plastic	Fluoride	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C			3214052	IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C			3321022	IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C			4014092	IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C			4014092	IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C			3214052	IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C			3267043	IT
4~~2~~ - ½ GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2, ~~4°C~~	P16-2	9169201042	NA	PACE
2~~1~~ - 250ML	Glass	Tritium	COOL 4°C			NA	PACE

SAMPLE ID'S RINSATE: NA TRIP BLANK: NS0302 FIELD BLANK: NS0101 FIELD DUPLICATE: NA

RECORDED BY: Joletta Minard (SIGNATURE) QA CHECKED BY: [signature] (SIGNATURE)

SEEP 26 C3

SEEP PC 64

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE 1 OF 1

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOT CONTROL NO NA

SAMPLE ID NS 6001

SAMPLE TYPE K

LOG DATE 3/30/94

ACCEPTANCE CODE A

ANALYTICAL LAB CODE NA

LOGGER CODE SAIC

SAMPLING PERIOD: START 1126 COMPLETE 1202

SAMPLING METHOD GRAB

DATE SENT 3/30/94

COMMENTS pH stand 7.0 pH= 7.00 ; pH stand 4.0 pH= 4.13; slope = 97.6

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	7.08
SPECIFIC CONDUCTANCE	Ec	umhos/cm	572
REDOX POTENTIAL	Eh	mvolts	271.5
TEMPERATURE	TMP	°C	7.4
ALKALINITY ($CaCO_3$)	ALK	mg/l	213
DISSOLVED OXYGEN	DO	mg/l	14.4

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F – FIELD R – REPLICATE
K – KNOWN A – ACID BLANK

SAMPLING METHODS:

G – GRAB SP – SUBMERSIBLE PUMP
PP – PERISTALIC PUMP O – OTHER (SPECIFY)

COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQD-007 (1/88)

3/30/94
FORM COMPLETED BY/DATE

Jolotta Minard 4/
TECHNICAL REVIEWER/DATE

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE ____ OF ____

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE 3/30/94

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 =$ ____%

1st = ____%

2nd = ____%

pH CHECK AFTER TITRATION

7.00 = ____

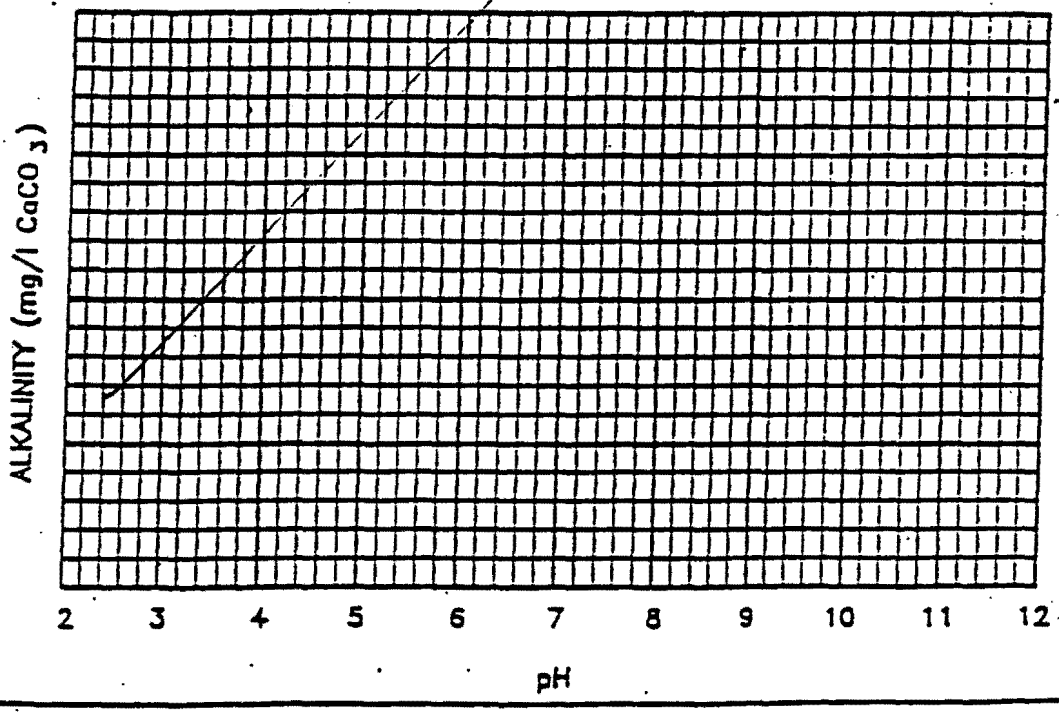
4.00 = ____

SAMPLE ID ~~N57001~~

JMD 3/30/94

pH	ALKALINITY (mg/l Ca CO_3)		
	1st	2nd	3rd
8.90			
8.60			
8.30			
8.05			
7.80			
7.50			
6.50			
5.70			
5.10			
4.80			
4.50			
4.25			
4.00			

JMD



COMPLETE BOLDED DATA FOR ENTRY INTO TRIS
WQ-007 (3/88)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE I PROJECT NO: 34896

SAMPLE ID NUMBER: NS6011 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 1200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP6 DESCRIPTION: SEEP NUMBER 6

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

VTHD

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

SAMPLE ID NUMBER: NS6011

SAMPLING SHEET

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C				IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C				IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C				IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C				IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C				IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C				IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C				IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C				IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C				IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C				IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C				IT
1 - 2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C				PACE
1 - 250ML	Glass	Tritium	COOL 4°C				PACE

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

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SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE ____ OF ____

FACILITY CODE: 005 NP

LOCATION ID: NEW PROP

LOT CONTROL NO: NA

SAMPLE ID: ____

SAMPLE TYPE: K

LOG DATE: ____

ACCEPTANCE CODE: A

ANALYTICAL LAB CODE: ____

LOGGER CODE: SAIC

SAMPLING PERIOD: START ____ COMPLETE ____

SAMPLING METHOD: GRAB

DATE SENT: ____

COMMENTS: ____

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	____
SPECIFIC CONDUCTANCE	Ec	umhos/cm	____
REDOX POTENTIAL	Eh	mvolts	____
TEMPERATURE	TMP	°C	____
ALKALINITY ($CaCO_3$)	ALK	mg/l	____
DISSOLVED OXYGEN	DO	mg/l	____

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F — FIELD R — REPLICATE
K — KNOWN A — ACID BLANK

SAMPLING METHODS:

G — GRAB SP — SUBMERSIBLE PU
PP — PERISTALIC PUMP O — OTHER (SPECIFY)

COMPLETE BOLDED DATA FOR ENTRY INTO TIME
WQD—027 (1/88)

FORM COMPLETED BY/DATE ____

TECHNICAL REVIEWER/DATE ____

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE 1 OF 1

FACILITY CODE OU5 NP

LOCATION ID NEW PROP

LOG DATE 3/30/94

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 =$ 2.22%

1st = 2.22%

2nd = NA %

pH CHECK AFTER TITRATION

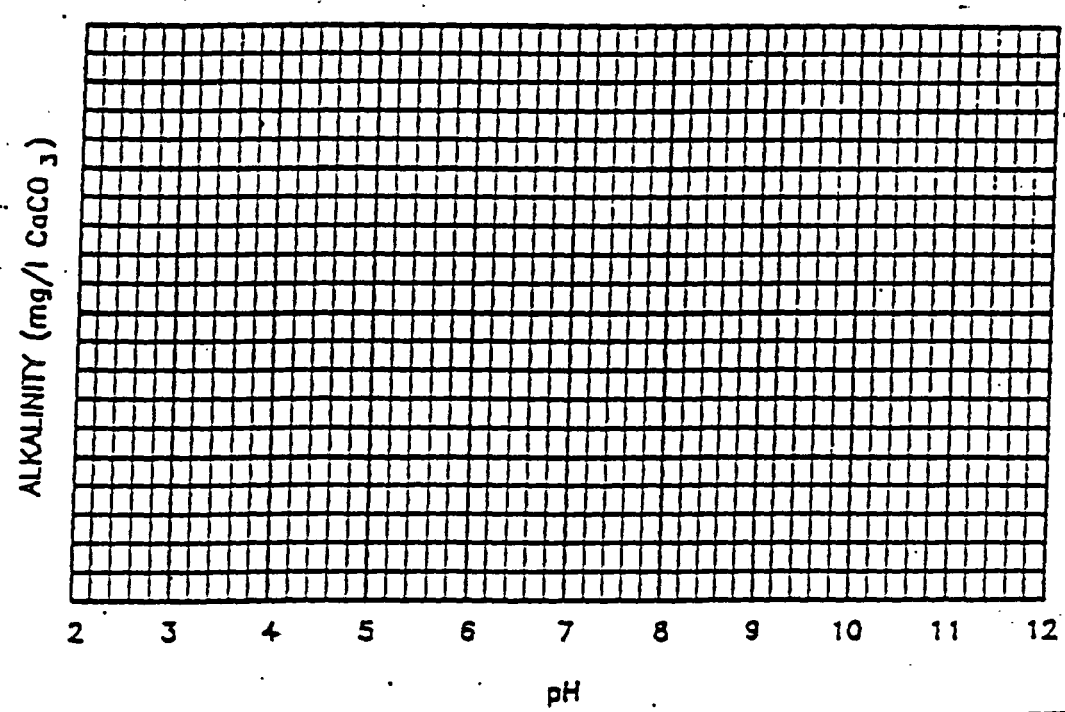
7.00 = 7.06

4.00 = 4.08

SAMPLE ID NS7001

pH	ALKALINITY (mg/l Ca CO_3) 1st	2nd	3rd
8.90	NA	NA	NA
8.60			
8.30			
8.05			
7.80			
7.50	Ø (7.05)	Ø (7.10)	
6.50	170 (6.48)	150 (6.28)	
5.70	210 (5.69)	221	
5.10	NR	NR	
4.80	223 (4.78)	NR	
* 4.50	225 (4.51)	230 (4.45)	
4.25	227	232 (4.13)	
4.00	229 (4.01)	234	

VALUES IN ( ) ARE pH WHEN target pH WAS NOT achieved.



COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQD—007 (3/88)

SEEP PL 70

SAMPLE ID NUMBER: NS7001 DATE COLLECTED (MM/DD/YY): 3/30/94 TIME: (HH:MM) 1435

MOUND SAMPLE NUMBER: MND16-1308 - 0200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP7 DESCRIPTION: SEEP NUMBER 7

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH SURF TO NA

WEATHER: overcast, sl. breeze fm S., 45°F

FIELD OBSERVATIONS: water sl. murky before sampling; flow est as 1.0 LPM

Note: water getting murkier during sampling

SAMPLE TYPE:

- [x] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY)
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS
NA		

SAMPLE COLLECTED: (YES) NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? (YES) NO FIELD CHANGE ORDER REFERENCE NO:

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY:

RECORDED By: [signature] (SIGNATURE) QA CHECKED BY: Joletta Minard (SIGNATURE)

SAMPLE NUMBER: NS7001

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C	I16-2	9169201086	3267043	IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C			3258172	IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C			3263042	IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C			3214052	IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C			3326132	IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C			3321022	IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C			3214052	IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C			3321022	IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C			3214052	IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C			3214052	IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C			3214052	IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C			3267043	IT
2½ - ½ GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2 ~~4°C~~	P16-2	9169201042	NA	PACE
1 - 250ML	Glass	Tritium	COOL 4°C			NA	PACE

SEED pg 71

SAMPLE ID'S RINSATE: NA TRIP BLANK: NS0302 FIELD BLANK: NS0101 FIELD DUPLICATE: NA

RECORDED BY: Joletta Menard (SIGNATURE) QA CHECKED BY: (SIGNATURE)

SEEP PC 72

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE 1 OF 1

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOT CONTROL NO NA

SAMPLE ID NS7001

SAMPLE TYPE K

LOG DATE 3/30/94

ACCEPTANCE CODE A

ANALYTICAL LAB CODE NA

LOGGER CODE SAIC

SAMPLING PERIOD: START 1435 COMPLETE 1505

SAMPLING METHOD GRAB

DATE SENT 3/30/94

COMMENTS pH stand. 7.0 pH = 7.09; pH stand 4.0 pH = 3.98
slope = 101.6

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	6.75
SPECIFIC CONDUCTANCE	Ec	umhos/cm	640
REDOX POTENTIAL	Eh	mvolts	281.2
TEMPERATURE	TMP	°C	8.4°C
ALKALINITY ($CaCO_3$)	ALK	mg/l	225
DISSOLVED OXYGEN	DO	mg/l	4.8

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F – FIELD R – REPLICATE
K – KNOWN A – ACID BLANK

SAMPLING METHODS:

G – GRAB SP – SUBMERSIBLE PUMP
PP – PERISTALIC PUMP O – OTHER (SPECIFY)

COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQD-007 (1/88)

3/30/94
FORM COMPLETED BY/DATE

Jolotta Menard 4/4/94
TECHNICAL REVIEWER/DATE

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE ____ OF ____

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE _____

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 =$ ____%

1st = ____%

2nd = ____%

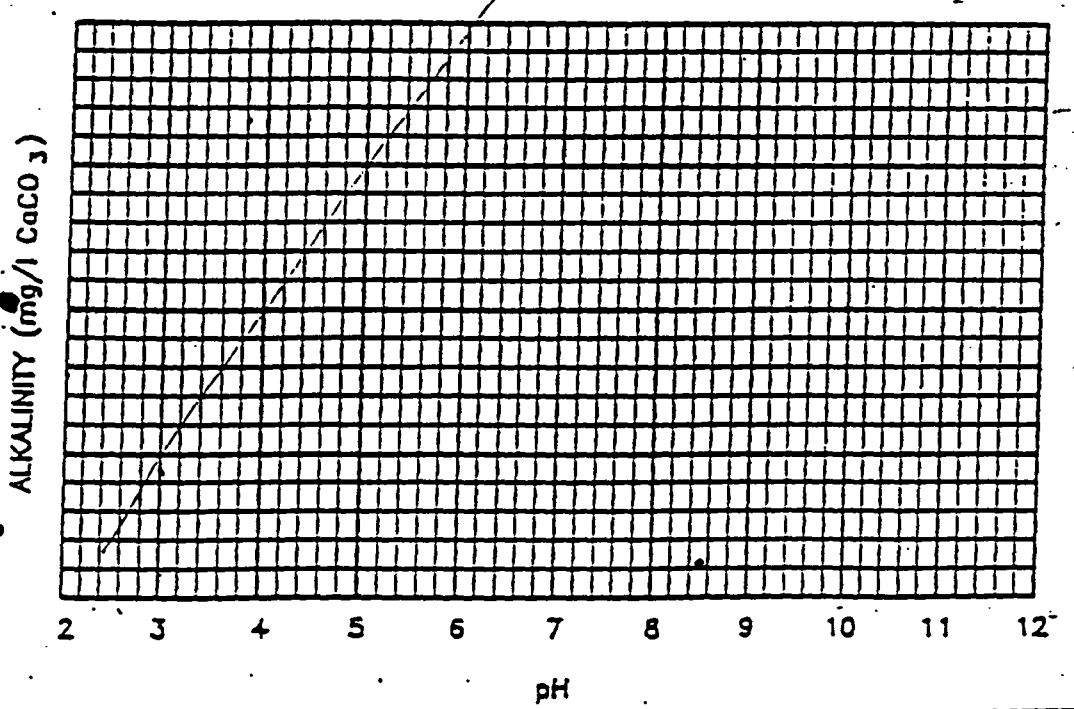
pH CHECK AFTER TITRATION

7.00 = _____

4.00 = _____

SAMPLE ID _____

pH	ALKALINITY (mg/l Ca CO_3)		
	1st	2nd	3rd
8.90			
8.60			
8.30			
8.05			
7.80			
7.50			
6.50			
5.70			
5.10			
4.80			
4.50			
4.25			
4.00			



COMPLETE BOLDED DATA FOR ENTRY INTO TRIS
WQC-007 (2/88)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE I PROJECT NO: 34896

SAMPLE ID NUMBER: NS7011 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 1200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP7 DESCRIPTION: SEEP NUMBER 7

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

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SAMPLE LOG SHEET

SAMPLE ID NUMBER: NS7011

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C				IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C				IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C				IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C				IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C				IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C				IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C				IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C				IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C				IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C				IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C				IT
1 - 2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C				PACE
1 - 250ML	Glass	Tritium	COOL 4°C				PACE

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

SEEP PG 70

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE ____ OF ____

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOT CONTROL NO NA

SAMPLE ID

SAMPLE TYPE K

LOG DATE

ACCEPTANCE CODE A

ANALYTICAL LAB CODE

LOGGER CODE SAIC

SAMPLING PERIOD: START

COMPLETE

SAMPLING METHOD GRAB

DATE SENT

COMMENTS

PARAMETER MEASUREMENTS: ND

POTENTIAL OF HYDROGEN	pH	S.U.	
SPECIFIC CONDUCTANCE	Ec	umhos/cm	
REDOX POTENTIAL	Eh	mvolts	
TEMPERATURE	TMP	°C	
ALKALINITY ($CaCO_3$)	ALK	mg/l	
DISSOLVED OXYGEN	DO	mg/l	

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F — FIELD R — REPLICATE
K — KNOWN A — ACID BLANK

SAMPLING METHODS:

G — GRAB SP — SUBMERSIBLE PUM
PP — PERISTALIC PUMP O — OTHER (SPECIFY)

COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WQD-007 (1/88)

FORM COMPLETED BY/DATE

TECHNICAL REVIEWER/DATE

SEEP PG. 77

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE 1 OF 1

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE 3/30/94

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 =$ 0.35 %

1st = 0.35 %

2nd = NA %

pH CHECK AFTER TITRATION

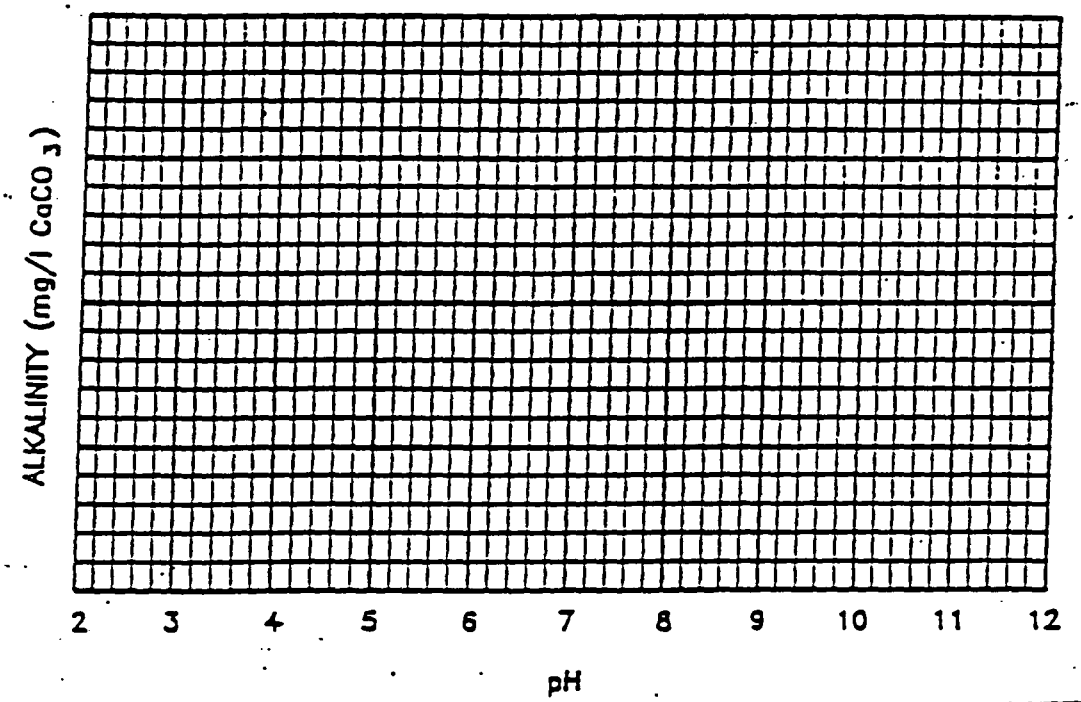
7.00 = 7.07

4.00 = 4.05

SAMPLE ID NS8001

pH	ALKALINITY (mg/l Ca CO_3) 1st	2nd	3rd
8.90	NA	NA	NA
8.60			
8.30			
8.05			
7.80			
7.50	Ø (6.96)	Ø (6.96)	
6.50	230 (6.47)	200 (6.14)	
5.70	280 (5.53)	270 (5.68)	
5.10	NR	285 (5.09)	
4.80	287	288 (4.74)	
* 4.50	289 (4.47)	290 (4.41)	
4.25	291 (4.18)	291 (4.30)	
4.00	293 (3.98)	293 (4.04)	

VALUES IN ( ) ARE pH WHEN target pH WAS NOT ACHIEVED.



COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WQD-007 (2/88)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE I PROJECT NO: 34896

SAMPLE ID NUMBER: NS8001 DATE COLLECTED (MM/DD/YY): 3/30/94 TIME: (HH:MM) 1535

MOUND SAMPLE NUMBER: MND16-0303-0200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP8 DESCRIPTION: SEEP NUMBER 8

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH SURF TO NA

WEATHER: overcast, sl. breeze, 40°F

FIELD OBSERVATIONS: water clear before sampling. Flow est. @ 4.0 LPM

SAMPLE TYPE:

- [x] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY)
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS
NA		

SAMPLE COLLECTED: (YES) NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? (YES) NO FIELD CHANGE ORDER REFERENCE NO:

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY:

RECORDED By: [signature] (SIGNATURE) QA CHECKED BY: Joletta Minard (SIGNATURE)

SEEP PC 78

SAMPLE LOG SHEET

SAMPLE ID NUMBER: NS8001

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C	I16-2	9169201086	3267043	IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C			3180092	IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C			3180092	IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C			3214052	IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C			3214052	IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C			3321022	IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C			3214052	IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C			3321022	IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C			3214052	IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C			4014092	IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C			3214052	IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C			4014092	IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C			3214052	IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C			3267043	IT
2 - 1/2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C	P16-2	9169201042	NA	PACE
1 - 250ML	Glass	Tritium	COOL 4°C		9169201042	NA	PACE

GM 4/1/94

SAMPLE ID'S RINSATE: NA TRIP BLANK: NS0302 FIELD BLANK: NS0101 FIELD DUPLICATE: NA

RECORDED BY: Joletta Minard (SIGNATURE) QA CHECKED BY: (SIGNATURE)

SEEP 96 80

SAMPLE PARAMETER VALUES

SURFACE WATER QUALITY SAMPLING RECORD

PAGE 1 OF 1

FACILITY CODE: OU5 NP

LOCATION ID: NEW PROP

LOT CONTROL NO: NA

SAMPLE ID: NS 8001

SAMPLE TYPE: K

LOG DATE: 3/30/94

ACCEPTANCE CODE: A

ANALYTICAL LAB CODE: NA

LOGGER CODE: SAIC

SAMPLING PERIOD: START 1535 COMPLETE 1600

SAMPLING METHOD: GRAB

DATE SENT: 3/30/94

COMMENTS: pH stand 7.0 pH= 7.04 ; pH stand 4.0 pH= 4.07
slope = 99.3

PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	6.86
SPECIFIC CONDUCTANCE	Ec	umhos/cm	1870
REDOX POTENTIAL	Eh	mvolts	259.9
TEMPERATURE	TMP	°C	8.1
ALKALINITY ($CaCO_3$)	ALK	mg/l	289
DISSOLVED OXYGEN	DO	mg/l	5.0

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

SAMPLE TYPES:

F — FIELD R — REPLICATE
K — KNOWN A — ACID BLANK

SAMPLING METHODS:

G — GRAB SP — SUBMERSIBLE PUMP
PP — PERISTALIC PUMP O — OTHER (SPECIFY)

COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WCD-007 (1/88)

3/30/94
FORM COMPLETED BY/DATE

Joletta Minard 4/9
TECHNICAL REVIEWER/DATE

SURFACE WATER QUALITY SAMPLING RECORD

pH / ALKALINITY GRAPH

PAGE ____ OF ____

FACILITY CODE 005 NP

LOCATION ID NEW PROP

LOG DATE _____

ERROR AT 4.50: $\left| \frac{X1 - X2}{X5} \right| \times 100 =$ ____%

1st = ____%

2nd = ____%

pH CHECK AFTER TITRATION

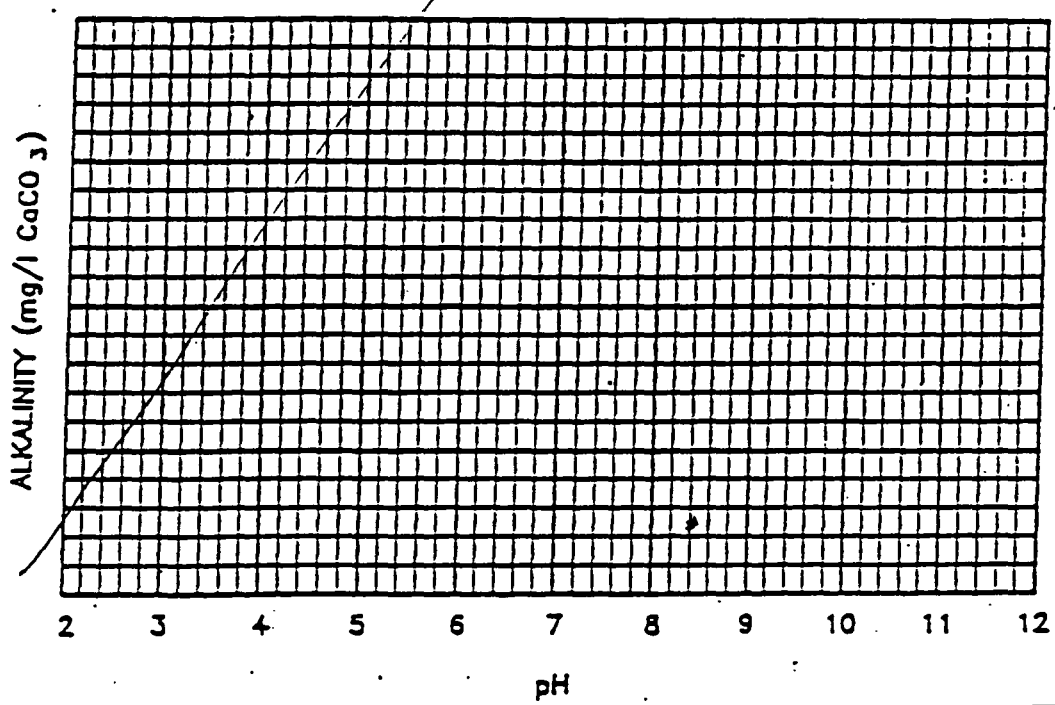
7.00 = _____

4.00 = _____

SAMPLE ID _____ JHD

pH	ALKALINITY (mg/l Ca CO_3)		
	1st	2nd	3rd
8.90			
8.60			
8.30			
8.05			
7.80			
7.50			
6.50			
5.70			
5.10			
4.80			
4.50			
4.25			
4.00			

NO MORE ENTRIES



COMPLETE BOLDED DATA FOR ENTRY INTO TRIS
WQD-007 (3/96)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS8011 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 1200

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: SEEP8 DESCRIPTION: SEEP NUMBER 8

SAMPLE -

MEDIA CODE: 55 DESCRIPTION: Spring / Seep Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

82

SAMPLE LOG SHEET

SAMPLE ID NUMBER: NS8011

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C				IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C				IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C				IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C				IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C				IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C				IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C				IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C				IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C				IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C				IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C				IT
1 - 2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C				PACE
1 - 250ML	Glass	Tritium	COOL 4°C				PACE

NO FURTHER ENTRIES

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

STANDARD ALKALINITY TEST RECORD

FACILITY CODE 005 NP

FIELD REP R. Smith LOG DATE 4/1/94

ALKALINITY TEST KIT:

MANUFACTURER Hach ALKALINITY TEST KIT ID MODEL AL/DT KIT # 4067

pH METER:

MANUFACTURER ORION SERIAL NO MODEL 250A, SN 002405

LAB CODE	STANDARD SOLUTION ID	KNOWN VALUE (mg/l $CaCO_3$)	ALKALINITY TEST VALUES (at pH endpoint = 4.5) mg/l $CaCO_3$
NA	CAT. 14278-10	250	241

COMMENTS USED sample spike method for accuracy check per Hach kit manufacturers instruction manual.

LEFT BOLDED DATA FOR ENTRY INTO TRACE
[illegible]-131 (2/88)

STANDARD ALKALINITY TEST RECORD

FACILITY CODE 005 NP

FIELD REP _____ LOG DATE _____

ALKALINITY TEST KIT:

MANUFACTURER _____ ALKALINITY TEST KIT ID _____

pH METER:

MANUFACTURER _____ SERIAL NO _____

LAB CODE	STANDARD SOLUTION ID	KNOWN VALUE (mg/l $CaCO_3$)	ALKALINITY TEST VALUES (at pH endpoint = 4.5) mg/l $CaCO_3$

JHD

COMMENTS _____

COMPLETE BOLDED DATA FOR ENTRY INTO TMS
SAT-131 (2/88)

STANDARD ALKALINITY TEST RECORD

FACILITY CODE 005 NP

FIELD REP _____ LOG DATE _____

ALKALINITY TEST KIT:

MANUFACTURER _____ ALKALINITY TEST KIT ID _____

pH METER:

MANUFACTURER _____ SERIAL NO _____

VAD

LAB CODE	STANDARD SOLUTION ID	KNOWN VALUE (mg/l $CaCO_3$)	ALKALINITY TEST VALUES (at pH endpoint = 4.5) mg/l $CaCO_3$

COMMENTS _____

COMPLETE BOLDED DATA FOR ENTRY INTO TMS
SAT-131 (2/88)

SEEP 104

STANDARD ALKALINITY TEST RECORD

FACILITY CODE 005 NP

FIELD REP _____ LOG DATE _____

ALKALINITY TEST KIT:

MANUFACTURER _____ ALKALINITY TEST KIT ID _____

pH METER:

MANUFACTURER _____ SERIAL NO _____

LAB CODE	STANDARD SOLUTION ID	KNOWN VALUE (mg/l $CaCO_3$)	ALKALINITY TEST VALUE (at pH endpoint = 4.5) mg/l $CaCO_3$

JMD

COMMENTS _____

COMPLETE BOLDED DATA FOR ENTRY INTO TMS
SAS-131 (2/88)

pH / ALKALINITY VALUES

SEEP 105

SURFACE WATER QUALITY SAMPLING RECORD

FACILITY CODE 005 NP

LOCATION ID NEW PROP

PAGE 1 OF 1

LOG DATE 3/29-3/30/94

SAMPLE ID	TEST KIT ID	pH (S.U.)	ALKALINITY (mg/l $CaCO_3$) TRUE VALUE	ALKALINITY (mg/l $CaCO_3$) FIELD VALUE	UNCERTAINTY (%)
NS 1001	4067	4.50	NA	283	NA
NS 2001	"	4.50		289	
NS 3001	"	4.50		298	
NS 4001	"	4.50		234	
NS 5001	"	4.60		175	
NS 6001	"	4.50		213	
NS 7001	"	4.51		225	
NS 8001	"	4.47		289	
			LAST ENTRY		

COMMENTS SEE Standard Alkalinity Test Record for TRUE VALUE and UNCERTAINTY VALUES. All alkalinity titrations performed by Ron Smith.

ACCEPTANCE CODES: A-ACCEPTABLE R-RECONNAISSANCE U-UNACCEPTABLE N-NOT DETERMINED

COMPLETE BOLDED DATA FOR ENTRY INTO TIMS

WSD-027 (5/88)

SURFACE WATER QUALITY SAMPLING RECORD

FACILITY CODE 005 NP PAGE ____ OF ____

LOCATION ID NEW PROP LOG DATE ____

SAMPLE ID	TEST KIT ID	pH (S.U.)	ALKALINITY (mg/l $CaCO_3$)		UNCERTAINTY (%)
			TRUE VALUE	FIELD VALUE	

COMMENTS ____

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WQD-007 (5/88)

SEEP 107

STANDARD ELECTRICAL CONDUCTIVITY DATA

FACILITY CODE 005 NP LOG DATE 3/29/94

LOGGER CODE SAIC ACCEPTANCE CODE A

MANUFACTURER/Ec METER ID 451 3000 TLC SN 91D029512

ELECTRICAL CONDUCTIVITY OF KNOWN SOLUTIONS AT 25° C:	
KNOWN (~~mg/l KCl~~)	Ec (meter)
1000 µmhos/CM	1016
10,000 µmhos/CM	9,860
49,017 µmhos/CM	OFFSCALE

Ec	TEMPERATURE (°C) (LAB THERMOMETER)	TEMPERATURE (°C) (Ec METER)
NR	0	NR couldnt cool
NR	1	NR " "
NR	2	NR " "
NR	3	NR " "
NR	4	NR " "
1012	5	~~7.0~~ 6.3 JMD 3/29/94
1052	6	5.4
1032	7	6.5
687	8	7.6
707	9	9.3
724	10	10.3
733	11	10.5
758	12	12.1
779	13	13.0
793	14	13.9
817	15	14.8
835	16	15.9
852	17	16.8
871	18	17.7
895	19	18.9
907	20	19.7
928	21	20.7
949	22	21.7
967	23	22.6
991	24	23.7
1010	25	24.7

COMMENTS 1000 µmhos/CM standard used. 1st 3 values erroneously taken w/ temp. compens. to 25°C.

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

COMPLETE BOLDED DATA FOR ENTRY INTO TMS

SEC-046 (1/88)

3/30/94 FORM COMPLETED BY/DATE

Jolitta Minard 4/4/94 TECHNICAL REVIEWER/DATE

STANDARD ELECTRICAL CONDUCTIVITY DATA

FACILITY CODE 005 NP LOG DATE

LOGGER CODE SAIC ACCEPTANCE CODE A

MANUFACTURER/Ec METER ID

ELECTRICAL CONDUCTIVITY OF KNOWN SOLUTIONS AT 25° C	
KNOWN (mg/l KCl)	Ec (meter)

Ec	TEMPERATURE (°C) (LAB THERMOMETER)	TEMPERATURE (°C) (Ec METER)
	0	
	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
	25	

JHD

COMMENTS

ACCEPTANCE CODES: A—ACCEPTABLE R—RECONNAISSANCE U—UNACCEPTABLE N—NOT DETERMINED

COMPLETE BOLDED DATA FOR ENTRY INTO TMS

SCC-046 (1/88)

FORM COMPLETED BY/DATE

TECHNICAL REVIEWER/DATE

SEEP 109

SURFACE WATER QUALITY SAMPLING RECORD

EQUIPMENT / CALIBRATION

FACILITY CODE 005 NP

PAGE 1 OF 1

LOCATION ID NEW PROP

LOG DATE 3/29/94

SAMPLING INFORMATION

WITHDRAWAL METHOD TRANSFER DEVICE

FILTER SIZE NA

THERMOMETER ID 14-983-10B FISCHER

Ec METER ID YSI 3000 TLC METER; SN 91D0295IZ

pH METER ID ORION 250A; SN 002405

PUMP ID NA

ALKALINITY KIT ID HACH MODEL AL-DT TEST KIT, KIT # 4067

FIELD REP J. DAVIS

~~INSTRUMENT(S) USED~~ DO METER: YSI Model 59 DO METER; SN 93C04076

EH METER ID: ORION 250A; SN 004496

CALIBRATION INFORMATION

DATE/TIME OF LAST Ec CALIBRATION (FACTORY) HACCO RESPONSE CHK 3/25/94

TIME OF pH CALIBRATION PER SAMPLE; SEE SAMPLE LOG SHEET SECTION

FOR STANDARD SOLUTION pH 7, INSTRUMENT READING PER SAMPLE; SEE SPI LOG SHEETS

FOR STANDARD SOLUTION pH 4, INSTRUMENT READING PER SAMPLE; SEE SPI LOG SHEETS

FOR STANDARD SOLUTION pH 10, INSTRUMENT READING PER SAMPLE; SEE SPI LOG SHEETS

Eh OF CALIBRATION SOLUTION ZOBELL 3682; 231 ± 10 MV

Eh READING IN CALIBRATION SOLUTION AFTER INSTRUMENT MEASUREMENT 239 MV

TEMP. OF CALIBRATION SOLUTION (°C) 25°C

SHIPPING INFORMATION

NA. See appropriate sections in logbook for sample shipment information.

LAB(S) SHIPPED TO:

DATE(S) SHIPPED:

METHOD OF SHIPMENT:

COMMENTS

COMPLETE BOLDED DATA FOR ENTRY INTO TRIS
WQD-007 (1/86)

3/29/94 — FORM COMPLETED BY/DATE

Juliette Thiard 4/4/94 — TECHNICAL REVIEWER/DATE

LOG SHEETS

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SURFACE WATER QUALITY SAMPLING RECORD

EQUIPMENT / CALIBRATION

FACILITY CODE 005 NP PAGE ____ OF ____

LOCATION ID NEW PROP LOG DATE ____

SAMPLING INFORMATION

WITHDRAWAL METHOD TRANSFER DEVICE

FILTER SIZE NA

THERMOMETER ID ____

Ec METER ID ____

pH METER ID ____

PUMP ID ____

ALKALINITY KIT ID ____

FIELD REP ____ JTM

INSTRUMENT(S) USED ____

CALIBRATION INFORMATION

DATE/TIME OF LAST Ec CALIBRATION ____

TIME OF pH CALIBRATION ____

FOR STANDARD SOLUTION pH 7, INSTRUMENT READING ____

FOR STANDARD SOLUTION pH 4, INSTRUMENT READING ____

FOR STANDARD SOLUTION pH 10, INSTRUMENT READING ____

Eh OF CALIBRATION SOLUTION ____

Eh READING IN CALIBRATION SOLUTION AFTER INSTRUMENT MEASUREMENT ____

TEMP. OF CALIBRATION SOLUTION (°C) ____

SHIPPING INFORMATION

NA. See appropriate sections in logbook for sample shipment information.

LAB(S) SHIPPED TO: ____ ____ ____

DATE(S) SHIPPED: ____ ____ ____

METHOD OF SHIPMENT: ____ ____ ____

COMMENTS ____

COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WQD-007 (1/88)

FORM COMPLETED BY/DATE ____ TECHNICAL REVIEWER/DATE ____

SURFACE WATER QUALITY SAMPLING RECORD

EQUIPMENT / CALIBRATION

FACILITY CODE 005 NP PAGE ____ OF ____

LOCATION ID NEW PROP LOG DATE ____

SAMPLING INFORMATION

WITHDRAWAL METHOD TRANSFER DEVICE

FILTER SIZE NA

THERMOMETER ID ____

Ec METER ID ____

pH METER ID ____

PUMP ID ____

ALKALINITY KIT ID ____

FIELD REP ____

INSTRUMENT(S) USED ____

JMD

CALIBRATION INFORMATION

DATE/TIME OF LAST Ec CALIBRATION ____

TIME OF pH CALIBRATION ____

FOR STANDARD SOLUTION pH 7, INSTRUMENT READING ____

FOR STANDARD SOLUTION pH 4, INSTRUMENT READING ____

FOR STANDARD SOLUTION pH 10, INSTRUMENT READING ____

Eh OF CALIBRATION SOLUTION ____

Eh READING IN CALIBRATION SOLUTION AFTER INSTRUMENT MEASUREMENT ____

TEMP. OF CALIBRATION SOLUTION (°C) ____

SHIPPING INFORMATION

NA. See appropriate sections in logbook for sample shipment information.

LAB(S) SHIPPED TO: ____ ____ ____

DATE(S) SHIPPED: ____ ____ ____

METHOD OF SHIPMENT: ____ ____ ____

COMMENTS ____

COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQD—007 (1/88)

FORM COMPLETED BY/DATE ____ TECHNICAL REVIEWER/DATE ____

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SURFACE WATER QUALITY SAMPLING RECORD

EQUIPMENT / CALIBRATION

FACILITY CODE 005 NP PAGE ___ OF ___

LOCATION ID NEW PROP LOG DATE ___

SAMPLING INFORMATION

WITHDRAWAL METHOD TRANSFER DEVICE

FILTER SIZE NA

THERMOMETER ID ___

Ec METER ID ___

pH METER ID ___

PUMP ID ___

ALKALINITY KIT ID ___

FIELD REP ___

INSTRUMENT(S) USED ___

___ JMD

CALIBRATION INFORMATION

DATE/TIME OF LAST Ec CALIBRATION ___

TIME OF pH CALIBRATION ___

FOR STANDARD SOLUTION pH 7, INSTRUMENT READING ___

FOR STANDARD SOLUTION pH 4, INSTRUMENT READING ___

FOR STANDARD SOLUTION pH 10, INSTRUMENT READING ___

Eh OF CALIBRATION SOLUTION ___

Eh READING IN CALIBRATION SOLUTION AFTER INSTRUMENT MEASUREMENT ___

TEMP. OF CALIBRATION SOLUTION (°C) ___

SHIPPING INFORMATION

NA. See appropriate sections in logbook for sample shipment information.

LAB(S) SHIPPED TO: ___ ___ ___

DATE(S) SHIPPED: ___ ___ ___

METHOD OF SHIPMENT: ___ ___ ___

COMMENTS ___

COMPLETE BOLDED DATA FOR ENTRY INTO TMS
WQD-007 (1/88)

FORM COMPLETED BY/DATE ___ TECHNICAL REVIEWER/DATE ___

SURFACE WATER QUALITY SAMPLING RECORD

EQUIPMENT / CALIBRATION

FACILITY CODE 005 NP PAGE ____ OF ____

LOCATION ID NEW PROP LOG DATE ____

SAMPLING INFORMATION

WITHDRAWAL METHOD TRANSFER DEVICE

FILTER SIZE NA

THERMOMETER ID ____

Ec METER ID ____

pH METER ID ____

PUMP ID ____

ALKALINITY KIT ID ____

FIELD REP ____

INSTRUMENT(S) USED ____

VMD

CALIBRATION INFORMATION

DATE/TIME OF LAST Ec CALIBRATION ____

TIME OF pH CALIBRATION ____

FOR STANDARD SOLUTION pH 7, INSTRUMENT READING ____

FOR STANDARD SOLUTION pH 4, INSTRUMENT READING ____

FOR STANDARD SOLUTION pH 10, INSTRUMENT READING ____

Eh OF CALIBRATION SOLUTION ____

Eh READING IN CALIBRATION SOLUTION AFTER INSTRUMENT MEASUREMENT ____

TEMP. OF CALIBRATION SOLUTION (°C) ____

SHIPPING INFORMATION

NA. See appropriate sections in logbook for sample shipment information.

LAB(S) SHIPPED TO: ____ ____ ____

DATE(S) SHIPPED: ____ ____ ____

METHOD OF SHIPMENT: ____ ____ ____

COMMENTS ____

COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WQD-007 (1/86)

FORM COMPLETED BY/DATE ____ TECHNICAL REVIEWER/DATE ____

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SURFACE WATER QUALITY SAMPLING RECORD

EQUIPMENT / CALIBRATION

FACILITY CODE 005 NP PAGE ___ OF ___

LOCATION ID NEW PROP LOG DATE ___

SAMPLING INFORMATION

WITHDRAWAL METHOD TRANSFER DEVICE

FILTER SIZE NA

THERMOMETER ID ___

Ec METER ID ___

pH METER ID ___

PUMP ID ___

ALKALINITY KIT ID ___

FIELD REP ___ JTD

INSTRUMENT(S) USED ___

CALIBRATION INFORMATION

DATE/TIME OF LAST Ec CALIBRATION ___

TIME OF pH CALIBRATION ___

FOR STANDARD SOLUTION pH 7, INSTRUMENT READING ___

FOR STANDARD SOLUTION pH 4, INSTRUMENT READING ___

FOR STANDARD SOLUTION pH 10, INSTRUMENT READING ___

Eh OF CALIBRATION SOLUTION ___

Eh READING IN CALIBRATION SOLUTION AFTER INSTRUMENT MEASUREMENT ___

TEMP. OF CALIBRATION SOLUTION (°C) ___

SHIPPING INFORMATION

NA. See appropriate sections in logbook for sample shipment information.

LAB(S) SHIPPED TO: ___

DATE(S) SHIPPED: ___

METHOD OF SHIPMENT: ___

COMMENTS ___

COMPLETE BOLDED DATA FOR ENTRY INTO TIMS
WQD-007 (1/86)

FORM COMPLETED BY/DATE ___ TECHNICAL REVIEWER/DATE ___

M & TE INVENTORY

PROJECT NAME: EG&G MOUND OUS NEW PROPERTY PHASE 1 PROJECT NO: 34896

UNIQUE IDENTIFIER	PROJECT IDENTIFIER	ITEM DESCRIPTION	LAST RECALL	NEXT RECALL	DATE	COMMENTS
91D029512	MOU OUS NP	YSI 3000 TLC METER	3/25/94	UNK	3/29/94	HACCO RESPONSE CHECK
002405	MOU OUS NP	ORION 250A pH METER	3/2/94	UNK	3/29/94	HACCO RESPONSE CHECK
4067	MOU OUS NP	HACH digital titrator	NA	NA	3/29/94	ALKALINITY; FIELD ACCUR. CHECK
93C04076	MOU OUS NP	YSI Model 59 DO METER	3/25/94	UNK	3/29/94	HACCO RESPONSE CHECK
004496	MOU OUS NP	ORION 250A Redox	3/25/94	UNK	3/29/94	HACCO RESPONSE CHECK
		LAST ENTRY				

SEEP PG 115

RECORDED by: [signature]

QA CHECKED BY: Jolitta Menard

LOG SHEETS

M & TE INVENTORY

PROJECT NAME:

PROJECT NO:

UNIQUE IDENTIFIER	PROJECT IDENTIFIER	ITEM DESCRIPTION	LAST RECALL	NEXT RECALL	DATE	COMMENTS

EQUIPMENT CALIBRATION

PROJECT NAME: EG&G Mound OUS New Property Phase 1

PROJECT NO: 3-896

CATEGORY 1

M & TE CALIBRATION LOG

IDENTIFIER	ITEM DESCRIPTION	CALIBRATION MEASUREMENT			BACKGROUND CHECK	RESPONSE CHECK	NAME	OUT IN DATE
		PRE	ADJUSTMENT	POST				
91D029512	YSI 3000 TDC METER	NONE	→		NA	239 mV TJD 3/30/94	J. DAVIS	3/29 3
002405	ORION 250A pH METER	CALIBS. performed per sample			→		J. DAVIS	"
4067	HACH Digital titrator	NA	→		→		R. Smith	"
93C04076	YSI Model 59 DO METER	SELF CALIBRATING; NO ADJUSTMENT			→		J. DAVIS	"
004496	ORION 250 A Redox	NA	→		→	239 mV	J. DAVIS	"
			LAST ENTRY.					

SEEP 2/17

LOG SHEETS

EQUIPMENT CALIBRATION

PROJECT NAME: **PROJECT NO:**

CATEGORY 1 M & TE CALIBRATION LOG

IDENTIFIER	ITEM DESCRIPTION	CALIBRATION MEASUREMENT			BACKGROUND CHECK	RESPONSE CHECK	NAME	DATE
		PRE	ADJUSTMENT	POST				

JHD

8/1

EQUIPM[illegible] CALIBRATION

PROJECT NAME: **PROJECT NO:**

CATEGORY 1 M & TE CALIBRATION LOG

IDENTIFIER	ITEM DESCRIPTION	CALIBRATION MEASUREMENT			BACKGROUND CHECK	RESPONSE CHECK	NAME	DATE
		PRE	ADJUSTMENT	POST				
			DHD					
								11/9

EQUIPMENT CALIBRATION

PROJECT NAME: PROJECT NO:

CATEGORY 1 M & TE CALIBRATION LOG

IDENTIFIER	ITEM DESCRIPTION	CALIBRATION MEASUREMENT			BACKGROUND CHECK	RESPONSE CHECK	NAME	DATE
		PRE	ADJUSTMENT	POST				

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EQUIPMENT CALIBRATION

PROJECT NAME:

PROJECT NO:

CATEGORY 1

M & TE CALIBRATION LOG

IDENTIFIER	ITEM DESCRIPTION	CALIBRATION MEASUREMENT			BACKGROUND CHECK	RESPONSE CHECK	NAME	DATE
		PRE	ADJUSTMENT	POST				

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LOG SHEETS

EQUIPMENT CALIBRATION

PROJECT NAME: **PROJECT NO:**

CATEGORY 1 — M & TE CALIBRATION LOG

IDENTIFIER	ITEM DESCRIPTION	CALIBRATION MEASUREMENT			BACKGROUND CHECK	RESPONSE CHECK	NAME	DATE
		PRE	ADJUSTMENT	POST				
		NA						

221

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS0101 DATE COLLECTED (MM/DD/YY): 3/29/94 TIME: (HH:MM) 1515

MOUND SAMPLE NUMBER: MND16-0000 - 3201

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: AB1 DESCRIPTION: AMBIENT BLANK #1

SAMPLE -

MEDIA CODE: 72 DESCRIPTION: ASTM Water DEPTH NA TO NA

WEATHER: SUNNY

FIELD OBSERVATIONS: Collected at NS2001 using ASTM wtr. Two 40ml vials filled.

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY)
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [x] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS
NA		

SAMPLE COLLECTED: (YES) NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? (YES) NO FIELD CHANGE ORDER REFERENCE NO:

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY:

RECORDED By: Joletta Minard (SIGNATURE) QA CHECKED BY: (SIGNATURE)

SEEP P2 123

SAMPLE LOG SHEET

SAMPLE ID NUMBER: NS0101

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
2~~3~~ - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C	I16-1	9169201112	3267043	IT
PM 3/29/94							

SAMPLE ID'S RINSATE: NA TRIP BLANK: NS0301 ~~FIELD~~ AMBIENT BLANK: NS0101 PM 3/29/94 FIELD DUPLICATE: NA

RECORDED BY: Joletta Menard (SIGNATURE) QA CHECKED BY: [illegible] (SIGNATURE)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS0102 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 3201

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: AB2 DESCRIPTION: AMBIENT BLANK #2

SAMPLE -

MEDIA CODE: 72 DESCRIPTION: ASTM Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

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SAMPLE LOG SHEET

SAMPLE NUMBER: UNS01025

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS0201 DATE COLLECTED (MM/DD/YY): 3-29-94 TIME: (HH:MM) 1700

MOUND SAMPLE NUMBER: MND16-0000-3203

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: BB1 DESCRIPTION: Sample Bank Blank #1

SAMPLE -

MEDIA CODE: 72 DESCRIPTION: ASTM Water DEPTH NA TO NA

WEATHER: Cold, @ 34°F

FIELD OBSERVATIONS: Collected in sample trailer when packing samples with ASTM Type II Water

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) Sample bank
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [x] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS
NA		

SAMPLE COLLECTED: (YES) NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? (YES) NO FIELD CHANGE ORDER REFERENCE NO:

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY:

RECORDED By: Joletta Minard (SIGNATURE) QA CHECKED BY: (SIGNATURE)

SAMPLE LOG SHEET

SAMPLE ID NUMBER: NS0201

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
2ø - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C	I16-1	9169201112	3267043	IT
gm 3/29/94							

SAMPLE ID'S RINSATE: NA TRIP BLANK: NSØ3Ø1 ~~FIELD~~ AMBIENT BLANK: NSØ1Ø1 FIELD DUPLICATE: NA

RECORDED BY: Joletta Minard (SIGNATURE) QA CHECKED BY: gm 3/29/94 (SIGNATURE)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS0202 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 3204

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: BB2 DESCRIPTION: Sample Bank Blank #2

SAMPLE -

MEDIA CODE: 72 DESCRIPTION: ASTM Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

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SAMPLE NUMBER: NS0202

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS0301 DATE COLLECTED (MM/DD/YY): 3/29/94 TIME: (HH:MM) NA

MOUND SAMPLE NUMBER: MND16-0000-2201

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: TB1 DESCRIPTION: Trip Blank #1

SAMPLE -

MEDIA CODE: 72 DESCRIPTION: ASTM Water DEPTH NA TO NA

WEATHER: Cold, @ 35°F

FIELD OBSERVATIONS: TRip blank shipped in duplicate to laboratory

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY)
- [ ] SPATIAL COMPOSITE
- [x] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS
NA		

SAMPLE COLLECTED: (YES) NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? (YES) NO FIELD CHANGE ORDER REFERENCE NO:

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY:

RECORDED By: Joletta Minard (SIGNATURE) QA CHECKED BY: (SIGNATURE)

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SAMPLE NUMBER: NS0301

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
2ø - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C	I16-1	9169201112	3267043	IT
JM 4/4/94							

SAMPLE ID'S RINSATE: NA TRIP BLANK: NS0301 FIELD BLANK: NS0101 FIELD DUPLICATE: NA

RECORDED BY: Joletta Minard (SIGNATURE) QA CHECKED BY: (SIGNATURE)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS0302 DATE COLLECTED (MM/DD/YY): 3/30/94 TIME: (HH:MM) NA

MOUND SAMPLE NUMBER: MND16- 0000 - 2202

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: TB2 DESCRIPTION: Trip Blank #2

SAMPLE -

MEDIA CODE: 72 DESCRIPTION: ASTM Water DEPTH NA TO NA

WEATHER: Cold, @ 32°F

FIELD OBSERVATIONS: Trip blank sent in duplicate to laboratory

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [x] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS
NA →		→
↓		

SAMPLE COLLECTED: (YES) NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? (YES) NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: Jletta Minard (SIGNATURE) QA CHECKED BY: [signature] (SIGNATURE)

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SAMPLE NUMBER: NS0302

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
2Ø - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C	I16-2	9169201086	3267043	IT
JM 4/4/94							

SAMPLE ID'S RINSATE: NA TRIP BLANK: NSØ3Ø2 FIELD BLANK: NSØ1Ø1 FIELD DUPLICATE: NA

RECORDED BY: Jolitta Minard (SIGNATURE) QA CHECKED BY: (SIGNATURE)

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SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 134896

SAMPLE ID NUMBER: NS0303 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 2203

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: TB3 DESCRIPTION: Trip Blank #3

SAMPLE -

MEDIA CODE: 72 DESCRIPTION: ASTM Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

135

SAMPLE NUMBER: NS0803

SAMPLE SHEET

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

136

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE I PROJECT NO: 34896

SAMPLE ID NUMBER: NS0304 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 2204

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: TB4 DESCRIPTION: Trip Blank #4

SAMPLE -

MEDIA CODE: 72 DESCRIPTION: ASTM Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

137

SAMPLE NUMBER: INS0304

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS0401 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 4201

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: RI1 DESCRIPTION: RINSATE #1

SAMPLE -

MEDIA CODE: 73 DESCRIPTION: Rinse Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

JM 4/4/94

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

139

SAMPLE SHEET

SAMPLE NUMBER: NS0401

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C				IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C				IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C				IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C				IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C				IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C				IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C				IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C				IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C				IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C				IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C				IT
1 - 2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C				PACE
1 - 250ML	Glass	Tritium	COOL 4°C				PACE

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

140

SAMPLE LOG SHEET

PROJECT NAME: EG&G MOUND OU5 NEW PROPERTY PHASE 1 PROJECT NO: 34896

SAMPLE ID NUMBER: NS0402 DATE COLLECTED (MM/DD/YY): _____ TIME: (HH:MM) _____

MOUND SAMPLE NUMBER: MND16- - 4202

SAMPLING -

LOCATION CODE: MND16 DESCRIPTION: MOUND OU5 NEW PROPERTY SEEPS

POINT CODE: RI2 DESCRIPTION: RINSATE #2

SAMPLE -

MEDIA CODE: 73 DESCRIPTION: Rinse Water DEPTH _____ TO _____

WEATHER: _____

FIELD OBSERVATIONS: _____

SAMPLE TYPE:

- [ ] GRAB
- [ ] TIME COMPOSITE
- [ ] QC RINSATE
- [ ] OTHER (SPECIFY) _____
- [ ] SPATIAL COMPOSITE
- [ ] QC TRIP BLANK
- [ ] QC FIELD BLANK

FIELD MEASUREMENTS	READING	UNITS

SAMPLE COLLECTED: YES NO

SAP SAMPLING PROCEDURE WAS FOLLOWED? YES NO FIELD CHANGE ORDER REFERENCE NO: _____

IF SAP WAS NOT FOLLOWED, SPECIFY WHAT DEVIATIONS WERE NECESSARY AND WHY: _____

RECORDED By: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

141

SAMPLE NUMBER: NS0402

SAMPLING SHEET

CONTAINER VOLUME	CONTAINER TYPE	METHOD NAME AND NUMBER ANALYSIS	PRESERVATIVES (TYPE/VOL)	C-O-C #	AIR BILL #	CONTAINER LOT #	LABORATORY
3 - 40ML	Glass	Volatile Organics	HCL pH<2, 4°C				IT
2 - 1 LITER	Amber Glass	Semi-Volatile Organics	COOL 4°C				IT
2 - 1 LITER	Amber Glass	Pesticides / PCBs	COOL 4°C				IT
1 - 1 LITER	Plastic	CLP Metals	HNO3 pH,2, 4°C				IT
1 - 1 LITER	Plastic	Cyanide	NaOH pH>12,4°C				IT
2 - 1 LITER	Amber Glass	Explosives	COOL 4°C				IT
1 - 1 LITER	Plastic	Chloride	COOL 4°C				IT
1 - 1 LITER	Plastic	Fluoride	COOL 4°C				IT
1 - 1 LITER	Plastic	Sulfate	COOL 4°C				IT
1 - 1 LITER	Plastic	Nitrate / Nitrite	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Amber Glass	Total Organic Carbon (TOC)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Dissolved Solids (TDS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Suspended Solids (TSS)	COOL 4°C				IT
1 - 1 LITER	Plastic	Total Nitrogen (TKN)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Total Phosphorus (TP)	H2SO4 pH<2,4°C				IT
1 - 1 LITER	Plastic	Alkalinity	COOL 4°C				IT
1 - 1 LITER	Plastic	Ammonia	H2SO4 pH<2,4°C				IT
1 - 40ML	Plastic	Rad Screen	COOL 4°C				IT
1 - 2 GAL	Plastic	Pu,Th,U,Ac,Ra,Sr,Am,Gamma	HNO3 pH<2,4°C				PACE
1 - 250ML	Glass	Tritium	COOL 4°C				PACE

SAMPLE ID'S RINSATE: _____ TRIP BLANK: _____ FIELD BLANK: _____ FIELD DUPLICATE: _____

RECORDED BY: _____ (SIGNATURE) QA CHECKED BY: _____ (SIGNATURE)

147

SEEP 144

DECONTAMINATION

PROJECT NAME: EG&G Mound New Property Phase 1

PROJECT NO: 34896

DATE	EQUIPMENT RINSATE NO.	ITEMS	DECONED BY
		NO DECON. REQUIRED. SAMPLE	
		BOTTLES DIPPED DIRECTLY IN SEEPS	

CONTACT REPORT

:CT NAME: | PROJECT NO:

CONTACTED, TITLE, PHONE: ...ren Field, Project Manager, (314) 298-8566

ORIGINATOR: Teresa C. Fort

IZATION: IT

DATE CONTACTED: 03-30-94 03-31-94

SS: 15 Rider Trail North | CITY: Earth City | STATE: Mo. | ZIP: 63045

Telecon: ☑ Visit: ☐

:T: Cooler (Sample) Shipment / Lab Requirements

:SION: Notified him of 4 coolers: 2 samples + Duplicate. Fax COC ... 24 hrs. DP within 37 calendar days. COC + LOR originals ... 3 days. (3-30-94)

fied him of 9 coolers with 6 samples. Reminded him of COC faxed from previous day. Approved alternate method for -ide per EPA 325.2 + Lithium per ICP 6010 as long as tion limits as stated in QAPjP are met. Reference S.O.W 37 calendar day turnaround and CLP requirement organic + inorganic data packages. Anions + losives per OUY QAPjP Section 9 requirements. Exploding :ction limits questioned per ATHAMER or 8330. will back with answer on 4-1-94. Also asked about disk format non CLP data. I said I would fax a copy of the requirements 4-1-94

COMMENTS, ACTION, DATES

CONTACT REPORT

ECT NAME: | PROJECT NO:

IUAL CONTACTED, TITLE, PHONE: :x / Brie Clien Project Mgr (303) 278-3400

ORIGINATOR: Teresa C. Fort

IZATION: PACE, Inc.

DATE CONTACTED: 3-30-94 3-31-94

SS: | CITY: | STATE: | ZIP:

Telecon: ☑ Visit: ☐

:T: Cooler (Sample) Shipments

:SION: ...rned them of shipment of 2 coolers with 2 samples and a Dup. ...nded them we need the COC faxed within 24 hours. The ...nal COC + LOR must be received within 3 days. Data Packages ...ue within 37 calendar days. Reminded them to review ...US QAPjP for limits and times. 3-30-94

...94 called to inform them of shipment of 5 coolers with ...mples. Notified them that Actinium 227 was missing ... their list of analytes. They will send a corrected LOR

COMMENTS, ACTION, DATES

APPENDIX C

ADDENDUM

NEW PROPERTY SOIL GAS SURVEY REPORT

NER
Northeast Research Institute LLC

605 Parfet Street • Suite 100
Lakewood, Colorado 80215
303-238-0090 • 800-845-5137
Fax 303-238-2522

November 30, 1994

Mr. Thomas Tank
Science Applications International Corporation
4031 Colonel Glenn Highway, Suite 300
Beavercreek, Ohio 45431-1600

Tel: (513) 429-2699
Fax: (513) 429-9557

Dear Mr. Tank:

I am writing to formally report the results of the Petrex soil gas survey at the New Property of the USDOE Mound Facility for Total Semivolatile Hydrocarbons and Oil & Grease Range Hydrocarbons.

To date, results for Total Petroleum Hydrocarbons (divided into the groups: aromatics, and cycloalkanes/alkenes) and Total Halogenated Hydrocarbons (as response to PCE) have been reported. Survey results for Total Semivolatile Hydrocarbons is presented in Table 3 (attached). Total semivolatile hydrocarbons are reported as the combined response to naphthalene, C_{11} through C_{15} alkyl naphthalenes, and C_{12}, C_{14}, and C_{16} polycyclic hydrocarbons. These compounds are constituents of creosote, coal tar, and other heavy, high boiling point fraction petroleum products. Naphthalene, and C_{11} and C_{12} alkyl naphthalenes (e.g., methylnaphthalene and ethyl- or dimethylnaphthalene) are also often found in medium to heavy weight fuels and heating oils.

Only low relative levels of Semivolatile compounds were detected in the soil gas and only in a small percentage of the samples. A review of the mass spectra of all samples indicated that very few semivolatile compounds are present in the soil gas, and that the majority of the responses derive from the presence of lighter weight compounds particularly, naphthalene and methylnaphthalene. The occurrence of these semivolatiles in Petrex soil gas samples is shown in the mass spectra of samples #138 and #155 (attached).

The highest level of Semivolatile Hydrocarbons (naphthalene and methylnaphthalene) were detected in samples #67, and #91. Most samples containing semivolatile hydrocarbons were collected principally from the central and northern portions of the site. Three samples, #136, #139, and #140, were collected from points located on the edge of the access road which defines the northern margin of the property. Low level detections in these samples may derive from the use of petroleum in this area. As indicated by Table 3, overall response to Semivolatile Hydrocarbons in the soil gas as detected by this survey was so low as to not merit mapping.

A careful review of results for all soil gas samples indicated that no Oil & Grease Range Hydrocarbons (represented by C_{13}, C_{14}, and C_{15} alkanes, cycloalkanes, alkenes, cycloalkenes, dienes, and alkynes) were detected in the soil gas. Thus, no table of results and no map of areal distribution was generated for these analytes.

Please attach this letter, Table 3, and the mass spectra of samples #138 and #155 as an addendum to the final report dated April 13, 1994. Also, please call me if I can assist you further in the evaluation of survey findings.

Sincerely,

NORTHEAST RESEARCH INSTITUTE LLC

Paul C. Bedard
Project Manager

encl.

Northeast Research Institute LLC
605 Parfet Street • Suite 100
Lakewood, Colorado 80215
303-238-0090 • 800-845-5137
Fax 303-238-2522

Table 3: New Property Petrex Survey Results for Semivolatile Hydrocarbons

NERI Project: 2043-1E
Site: Operable Unit -5, USDOE Mound Facility
Analysis: Thermal Desorption - Mass Spectrometry
Date of Analysis: 3/10/94
Units: Ion Counts

Sample #	Total Semivolatile Hydrocarbons (a)
1	ND
2	ND
3	ND
4	ND
5	ND
6	ND
7	ND
8	ND
9	1,245
10	ND
11	ND
12	ND
13	ND
14	ND
15	ND
16	ND
17	ND
18	8,163
19	1,224
20	ND
21	ND
22	1,308
23	ND
24	ND
25	ND
26	ND
27	ND
28	1,029
29	ND

Table 3 (cont'd)

Sample #	Total Semivolatile Hydrocarbons (a)
30	ND
31	ND
32	ND
33	ND
34	875
35	ND
36	ND
37	ND
38	ND
39	ND
40	ND
41	ND
42	ND
43	ND
44	1,632
45	993
46	ND
47	ND
48	ND
49	ND
50	ND
51	ND
52	ND
53	ND
54	ND
55	1,080
56	1,209
57	ND
58	ND
59	ND
60	ND
61	ND
62	ND
63	ND
64	ND
65	ND
66	ND
67	10,454
68	ND
69	ND

Table 3 (cont'd)

Sample #	Total Semivolatile Hydrocarbons (a)
70	ND
71	ND
72	ND
73	3,249
74	ND
75	ND
76	ND
77	ND
78	ND
79	4,758
80	ND
81	ND
82	3,063
83	ND
84	ND
85	ND
86	ND
87	ND
88	ND
89	ND
90	ND
91	11,811
92	ND
93	ND
94	ND
95	2,473
96	ND
97	ND
98	ND
99	ND
100	3,436
101	ND
102	ND
103	ND
104	ND
105	ND
106	ND
107	ND
108	ND
109	ND
110	ND

Table 3 (cont'd)

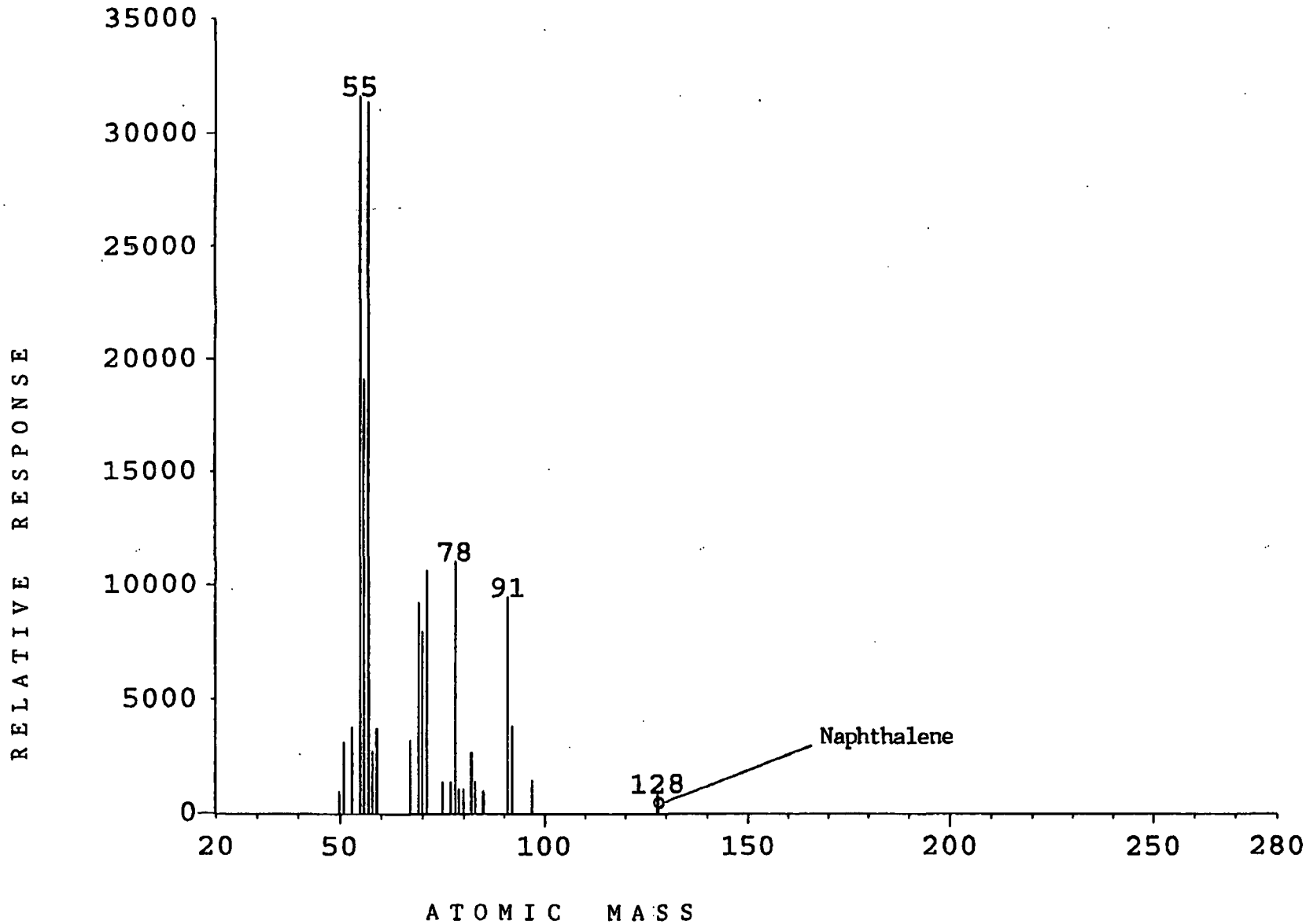
Sample #	Total Semivolatile Hydrocarbons (a)
111	ND
112	ND
113	ND
114	ND
115	3,894
116	ND
117	ND
118	ND
119	ND
120	ND
121	ND
122	ND
123	ND
124	ND
125	806
126	ND
127	ND
128	ND
129	ND
130	ND
131	ND
132	5,069
133	ND
134	ND
135	ND
136	5,886
137	ND
138	879
139	6,713
140	4,899
141	ND
157 *	ND
158 *	ND
159 *	ND
160 *	ND

Key: (a) Intensity of response to ions of atomic masses 128, 142, 153, 156, 178, 184, 198, 202, and 212.
ND Targeted compounds were not detected in this sample.
* Travel Blank

2043 · 1

Sample Number

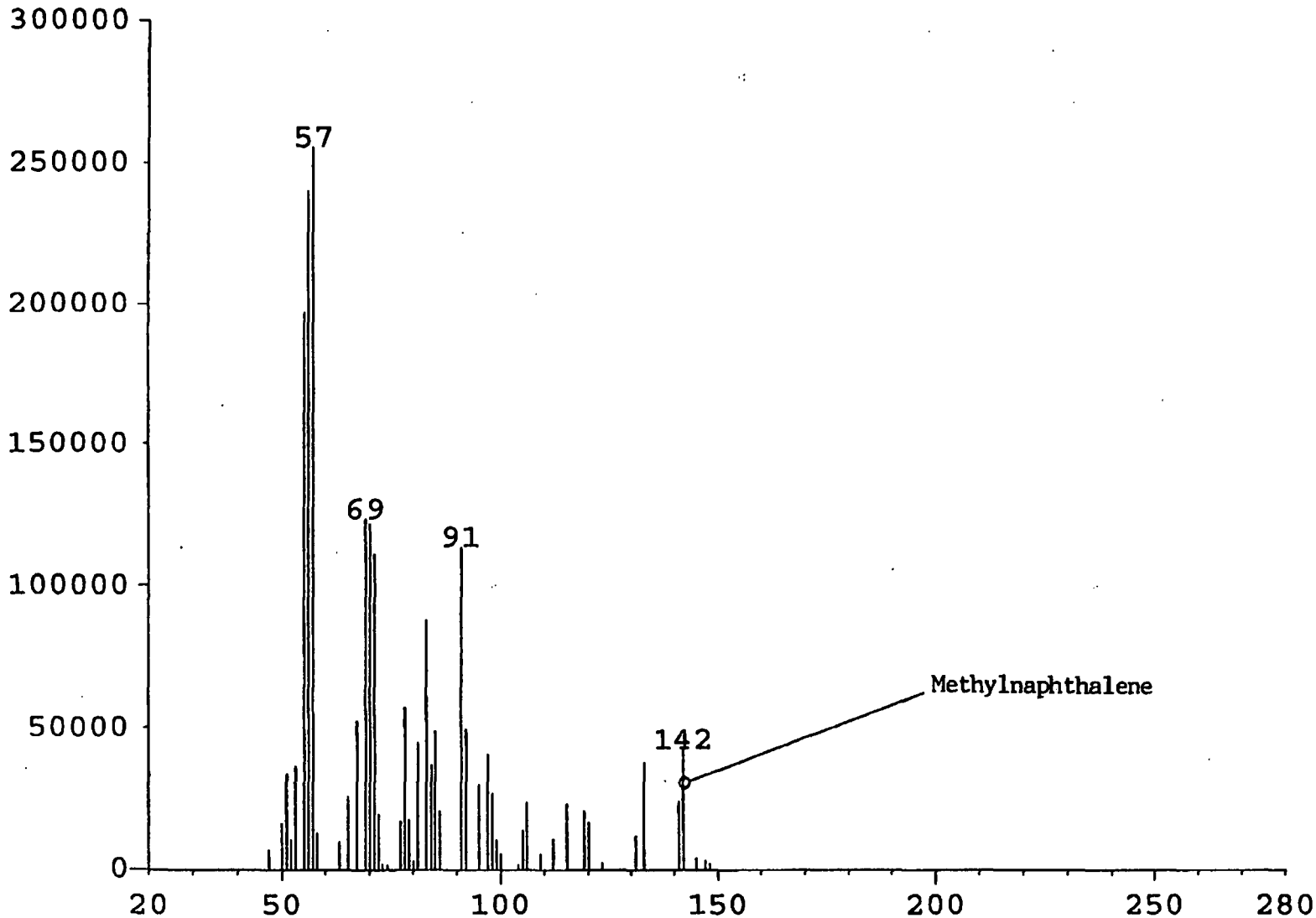
0138: Scan Avg 1-20 (0.01 - 0.14 min)



P.8/9
NOV 30 '94 06:46PM

P.9/9

0155: Scan Avg 1-20 (0.01 - 0.14 min)



NOV 30 '94 06:46PM

APPENDIX C

SOIL GAS SURVEY REPORT

FINAL REPORT ON THE FINDINGS
OF THE PETREX SOIL GAS SURVEY
CONDUCTED FOR
SCIENCE APPLICATIONS
INTERNATIONAL CORPORATION
AT THE MOUND PLANT
LOCATED IN
MIAMISBURG, OHIO

PREPARED BY: DATE:

Jane Matheney-Rood 4-13-94

Jane Matheney-Rood, Project Manager

APPROVED BY: DATE:

J H Viellenave 4-13-94

James H. Viellenave, Vice President

NORTHEAST RESEARCH INSTITUTE
605 PARFET STREET, SUITE 100
LAKEWOOD, COLORADO 80215
(303) 238-0090

0494-2043E

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4.0 OBJECTIVES 3

5.0 SCOPE OF WORK 3

6.0 FIELD ACTIVITIES 3

7.0 METHOD QA/QC 3
- 7.1 Lot Control
- 7.2 Travel Blanks

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- 8.2 The Distribution of Cycloalkanes/Alkenes
- 8.3 TD-GC/MS Results

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10.0 RECOMMENDATIONS 6

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APPENDICES

A. PETREX Protocol
B. Sample Mass Spectra
C. Table 1
D. Plates 1-3
E. Histograms
F. TD-GC/MS Results

1.0 EXECUTIVE SUMMARY

Northeast Research Institute (NERI) and Science Applications International Corporation (SAIC) recently completed a PETREX Soil Gas Survey at Operable Unit 5 (OU5), New Property Site, at the U.S. Department of Energy's Mound Plant located in Miamisburg, Ohio. Compounds of concern at this site included a variety of hydrocarbons and chlorinated compounds.

The purposes of the PETREX Soil Gas Survey were to identify the variety of hydrocarbons and chlorinateds in the soil gas, to identify potential source areas for these compounds, to determine preferential migration pathways and areal extents of these compounds, and to provide guidelines for the placement of follow-up soil borings and monitoring wells.

The C_6-C_{11} aromatic hydrocarbons, predominantly benzene, toluene, ethylbenzene, and xylene(s) (BTEX), and the C_4-C_8 non-aromatic hydrocarbons were detected in the soil gas. The cycloalkanes/alkenes were selected to represent the C_4-C_8 non-aromatic hydrocarbons due to their predominance on the spectra. The distributions of these compounds were mapped and potential source areas identified. In addition to hydrocarbons, elevated relative response levels for tetrachloroethene (PCE) were detected in the soil gas at two sampler locations.

Primary potential source areas for the aromatic hydrocarbons appeared to be located at the southwest and southeast corners of the site. Additional potential source areas for the aromatics, as indicated by slightly lower relative response levels, are located along the eastern and southern site boundaries. Migration direction for the aromatics appeared to be in a general northeast-southwest trend and may extend beyond the survey boundaries to the west, south, and east. The more significant potential source areas for the non-aromatic hydrocarbons appeared to be located along the eastern site boundary and along the eastern boundary of Area 1 near sampler location 115. Additional potential source areas, as shown by slightly lower relative response levels, were located randomly throughout the southern half of the survey area. Migration direction for the non-aromatics appeared to be in a general northeast-southwest direction and may extend beyond survey boundaries to the southwest and east. Elevated relative response values for PCE were identified in the soil gas at sampler locations 4 and 13. These incidences of elevated responses for PCE appeared random and discrete in nature.

2.0 INTRODUCTION

Northeast Research Institute (NERI) and Science Applications International Corporation (SAIC) recently completed a PETREX Soil Gas Survey at Operable Unit 5 (OU5), New Property Site, at the U.S. Department of Energy's (DOE) Mound Plant located in Miamisburg, Ohio. According to SAIC, the survey area was formerly a farm site and was subsequently acquired and maintained by the DOE as a vacant field. The Mound Plant proper exists to the north of the vacant field and survey area. Groundwater direction is believed to be in a northeast/southwest direction. The properties surrounding the survey area consist of light industry to the west and farms and houses to the south and east.

3.0 OVERVIEW OF THE PETREX TECHNIQUE

Each PETREX soil gas sampler consists of two or three activated charcoal adsorption elements (collectors) housed in a resealable glass container in an inert atmosphere.

Soil gas sample collection is performed by unsealing the sampler and exposing the collector to the soil gas of the subsurface environment at the base of a shallow borehole. Sample collection proceeds via free vapor diffusion through the opening of the uncapped sampler container. Following a controlled period of time, the sampler is retrieved from the borehole, resealed, and submitted for analysis.

One collector from each soil gas sampler is analyzed by Thermal Desorption/Mass Spectrometry (TD-MS). Selected second collectors may be analyzed by Thermal Desorption-Gas Chromatography/Mass Spectrometry (TD-GC/MS) for compound confirmation. At least ten percent of samplers used in any project are three collector samplers. The third collector is used for setting instrument sensitivity prior to analysis. Fourteen samplers were submitted for TD-GC/MS analysis, and results are discussed in Section 8.3 of this report.

Compounds are identified by comparison to standard reference spectra run on the same instrument. The mass spectral ion count of the appropriate indicator peak(s) for each compound or group of compounds is then plotted as relative response on a map and contoured using a variety of standard geostatistical analyses.

For a more detailed and technical discussion of the method, please refer to Appendix A, PETREX Protocol.

4.0 OBJECTIVES

The purposes of the PETREX Soil Gas Survey were to:

1. Identify the hydrocarbons and chlorinated compounds in the soil gas;

2. Identify potential source areas and determine preferential migration pathways of the identified compounds; and

3. Provide guidelines for the placement of follow-up soil borings and monitoring wells.

5.0 SCOPE OF WORK

A total of 141 PETREX soil gas samplers were utilized for this soil gas survey. The survey was designed by SAIC with sampler frequency approximately every 200 feet. The sampler locations are displayed on Plate 1, Appendix D.

6.0 FIELD ACTIVITIES

Sampler installation was performed by a NERI Senior Geologist and personnel from SAIC who were simultaneously trained by the Geologist in the methods and protocols associated with performing a PETREX Soil Gas Survey. Sampler retrieval was performed by SAIC. According to field notes from SAIC, the samplers were installed between February 21 and 24, 1994, and retrieved between March 7 and 8, 1994.

Sampler exposure time was determined by the use of time test samplers (time tests). Time test samplers were installed concurrently with the survey sampler installation and removed for analysis following varying exposure periods. The purpose of the time test samplers was to assess the loading rate of Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs) onto the PETREX collectors. Based upon the analyses of time test samplers, an exposure period of approximately 2 weeks was determined adequate to allow for an accurate interpretation of the data.

7.0 METHOD QA/QC

7.1 Lot Control

Quality assurance/quality control (QA/QC) collectors from each lot manufactured by NERI were analyzed by TD-MS to ensure that they were contaminant free before the lot of collectors used in the field was released from the PETREX laboratory. No compounds were detected above background on the QA/QC collectors.

7.2 Travel Blanks

Four PETREX samplers were provided as travel blanks. These travel blanks remained sealed and traveled with the survey samplers from the laboratory to the field and back to the laboratory to monitor for potential contamination of the survey samplers. The travel blanks were analyzed under the same instrument conditions as the survey collectors. Results of TD-MS analyses of the travel blanks for the targeted compounds are provided in Table 1, Appendix C.

A more detailed description of the PETREX QA/QC may be found in the PETREX Protocol located in Appendix A.

8.0 RESULTS

The C_6-C_{11} aromatic hydrocarbons, predominantly BTEX, and the C_4-C_8 non-aromatic hydrocarbons, represented by the cycloalkanes/alkenes, were detected in the soil gas. The distributions of these compounds were mapped and are displayed on Plates 2 and 3, respectively, in Appendix D. Contouring intervals for Plates 2 and 3 were determined by breaks exhibited in the data and are displayed on the histograms included in Appendix E.

Plate 1: Sample Locations
Plate 2: Relative Response of Aromatic Hydrocarbons
Plate 3: Relative Response of Cycloalkanes/Alkenes

In addition to the presence of hydrocarbons, elevated response levels for PCE were detected in the vicinity of sampler locations 4 and 13. These occurrences appeared to be random and discrete and were not mapped. The ion counts for PCE (indicator mass peak 164) for the above listed samples were 660651 and 1838440, respectively.

The response values are reported in ion counts and are presented in tabular format in Table 1, Appendix C. Ion count values are the unit of measure assigned by the mass spectrometer to the relative intensities associated with each of the reported compounds. These intensity levels or response levels do not represent an actual concentration of the reported compounds; however, they are best utilized as a semiquantitative measurement. A difference in ion count values of an order of magnitude or more is considered significant when interpreting potential source areas and migration/dispersion pathways versus background areas.

Example mass spectra of the compounds identified are provided as Figures 1 and 2, Appendix B.

Table 2 lists the reported compounds and the indicator mass peaks which were summed to represent the compound occurrences reported on Plates 2 and 3.

TABLE 2
REPORTED COMPOUNDS AND THEIR INDICATOR MASS PEAKS

Compound	Indicator Mass Peak(s)
C_6-C_{11} Aromatic Hydrocarbons	78,92,106,120,134,148
C_4-C_8 Cycloalkanes/Alkenes	56,70,84,98,112

8.1 The Distribution of Aromatic Hydrocarbons

The distribution of the aromatic hydrocarbons in the soil gas was mapped and is displayed on Plate 2, Appendix D. Primary potential source areas for the aromatic hydrocarbons appeared to be located at the southwest and southeast corners of the survey area. Additional potential source areas for the aromatics, as indicated by slightly lower relative response levels, were located along the eastern and southern site boundaries. Migration direction appeared to be in a general northeast-southwest trend and may extend beyond the survey boundaries to the west, south, and east.

The relative response values reported at sampler locations 26, 36, and 67 were elevated due to interference associated with terpene compounds. Terpenes generally are naturally existing vegetative compounds whose molecular weights and fragmentation patterns exist within the same molecular weight range as some of the aromatic hydrocarbons, thereby either masking the identification of the aromatics or elevating the reported values. Terpenes can, however, also be associated with a refined product such as turpentine. As a result, the samplers identified with terpenes were contoured on Plate 2, Appendix D, relative to surrounding, non-terpene interfered samplers. These samples were denoted by the letter "T".

8.2 The Distribution of Cycloalkanes/Alkenes

The distribution of the C_4-C_8 cycloalkanes/alkenes in the soil gas was mapped as displayed on Plate 3, Appendix D. The more significant potential source areas for the non-aromatic hydrocarbons appeared to be located along the eastern site boundary and along the eastern boundary of Area 1 near sampler location 115. Additional potential source areas, as shown by slightly lower relative response levels, were located randomly throughout the southern half of the survey area. Migration direction for the non-aromatics appeared to be in a general northeast-southwest direction and may extend beyond survey boundaries to the southwest and east.

8.3 TD-GC/MS Results

Fourteen samplers (4,13,15,16,18,23,30,31,32,36,38,49,51,57) were submitted for TD-GC/.MS analysis. One sampler, #57, was not able to be analyzed, and as a result, only 13 samplers were reported. The purpose of the analyses was to confirm the presence of aromatic and non-aromatic hydrocarbons and PCE.

The aromatic hydrocarbons, including BTEX, were confirmed present on all 13 samplers analyzed. The cycloalkanes/alkenes were only confirmed present on samplers 31, 32, 36, 49, and 51. Since the cycloalkanes/alkenes were not detected on all samplers submitted for TD-GC/MS analysis, minor modifications were made to the cycloalkanes/alkenes map (Plate 3, Appendix D). The non-aromatic hydrocarbons classified as alkanes were detected on samplers 49 and 51. PCE was confirmed present on samplers 4 and 13. PCE was also detected on sampler 23, which was not previously identified present, albeit at significantly lower amounts than 4 and 13. Trichloroethene (TCE) was detected on sampler 13, and terpenes were confirmed present on sampler 36.

9.0 CONCLUSIONS

The C_6-C_{11} aromatic hydrocarbons and C_4-C_8 cycloalkanes/alkenes were detected in the soil gas. Based on the contouring of Plates 2 and 3, the potential source areas for the hydrocarbons did not appear to be associated with the Mound Site proper. The potential source areas appeared predominantly along survey boundaries in the southwest and eastern portions of the survey area. In addition to the hydrocarbons, elevated relative response values for PCE were detected in the soil gas at sampler locations 4 and 13. TD-GC/MS analyses confirmed the presence of a variety of hydrocarbons, PCE, TCE, and terpenes.

10.0 RECOMMENDATIONS

Based upon the findings of the PETREX Soil Gas Survey the following recommendations can oe made:

1. Extend the soil gas survey to the west, south, and east in areas where contaminant migration appeared to extend beyond current survey boundaries. This additional sampling will provide data to help determine the areal limits of contaminant migration and define additional potential source areas.

2. Perform subsurface borings and profiling of soils in areas of highest soil gas response to determine the vertical extent of chemical dispersion and aid in characterizing the environmental significance of the highest soil gas response levels. If the highest soil gas response levels are representative of environmentally significant subsurface contamination, then subsurface profiling should be performed in the intermediate or lower response levels until background conditions have been determined.

11.0 LIMITATIONS

This report represents NERI's professional interpretation and judgment based on technical information gathered during investigative activities. Professional judgments expressed herein are restricted to facts available within the established limits of the scope of work, budget, and schedule. NERI assumes no responsibility for the existence or disclosure of conditions which did not come to its knowledge, or conditions not generally recognized as environmentally unacceptable, at the time this report was prepared.

It is NERI's specific intent that all observations and conclusions presented will be used as a guide and not necessarily a firm course of action unless explicitly stated as such. No warranties are expressed or implied and the information included in this report is not to be construed as legal advice.

F2043JR/04.13.94

APPENDIX A
PETREX Protocol

REVISED SEPTEMBER 1993

PETREX ENVIRONMENTAL SOIL GAS PROTOCOL

INTRODUCTION

The PETREX Technique provides a means by which trace quantities of gases from subsurface derived organic contaminants can be detected and collected at the earth's surface. The Technique is integrative, thereby eliminating the short-term variations associated with other gas/vapor detection methods. The PETREX Technique directly collects and records a broad range of organic compounds emanating from subsurface sources.

SOIL GAS COLLECTOR PREPARATION

Adsorption collector wires (after construction) are cleaned by heating to 358° C in a high vacuum system. Wires are packed under an inert atmosphere in glass culture tubes. One collector out of every batch of thirty is checked for cleanliness by mass spectrometry. Another collector from the batch is checked for adsorptive capability. Based on the results, the batch of collectors is approved for release into the field.

SOIL GAS SAMPLER INSTALLATION

The sampler consists of two or three collectors, each a ferromagnetic wire coated with an activated charcoal adsorbent in a screw top glass culture tube. Each sampler is typically placed in a shallow hole, 14-18 inches deep. The hole is backfilled and the location is marked. The sampler is left in the ground from one to thirty days, then retrieved and sealed for transportation back to the laboratory for analysis.

The PETREX soil gas sampling technique is adaptable to various surface conditions commonly encountered within survey areas. These surfaces typically include concrete, asphalt, grass, and gravel. Two installation methods are routinely utilized to adapt to these surface conditions.

The first method utilizes a coring shovel for sampler installations in grass or otherwise loosely consolidated soil conditions. The shovel cores a 14 inch deep by 2 inch diameter hole in the surface soils.

PETREX soil gas samplers are placed (open end down) at the bottom of each core hole. The samplers are then backfilled with an aluminum foil plug and the original excavated soil. To complete installation, sample locations are marked with ribbon flagging and a numbered pin lag, as well as entered into a field notebook and plotted on a field map.

The second method of sampler installation utilizes an electric rotary hammer, equipped with an 18 inch by 1.5 inch diameter drill bit, for sampler installations under concrete, asphalt, or otherwise consolidated conditions. A hole is drilled through the surface to the dimensions of the drill bit equipped to the rotary hammer.

PETREX soil gas samplers are placed at the bottom of each drilled hole. For retrieval purposes, a cleaned galvanized steel wire is attached to each sampler. Aluminum foil is used to plug each hole to approximately two inches below grade. Then each hole is capped to grade with hydraulic cement. The hydraulic cement serves as protection from the external surface environment.

To complete sampler installation, sampler locations are marked with paint (where applicable), entered into a field notebook, and plotted on a field map.

SOIL GAS SAMPLER RETRIEVAL

PETREX soil gas samplers are retrieved following a time period that has allowed for the soil gas emanating from the subsurface environment of a survey area to equilibrate with the installed PETREX samplers. This time integration period is determined for each PETREX soil gas survey based on time calibration data or site conditions.

Retrieval operations are dependent on surface conditions and routinely consist of the following two methods.

The first method applies to grass covered or loosely consolidated soil conditions. A trowel is utilized to expose the backfilled samplers; then with a pair of tongs, the samplers are brought to the surface. At the surface, the samplers are sealed, cleaned; and labeled. Following retrieval, all debris are gathered and the core hole is backfilled with original material.

The second method applies to concrete, asphalt, or other consolidated surface conditions. A hammer and chisel is utilized to remove the hydraulic cement plug and expose the sampler. By means of the pre-attached retrieval wire, the sampler is brought to the surface. At the surface, the retrieval wire is removed and the sampler is sealed, cleaned, and labeled. Following retrieval, each drill hole is backfilled and patched with cement or asphalt.

TIME CALIBRATION SAMPLERS

Time calibration samplers are included in PETREX soil gas surveys, as appropriate. These samplers are included as a means of monitoring the loading rates of volatile and semivolatile organic compounds (VOCs and SVOCs) emanating from the soil gas at a survey area onto the PETREX collectors.

During PETREX sampler installation, two sets of three to five time calibration samplers are also installed at survey sample locations that best represent the range of soil gas response for the survey area. These representative locations are determined based on previous soils and/or groundwater studies and other site specific conditions such as gradient and potential source areas.

The first set of time calibration samplers are generally retrieved within a week or less following the initial installation and the second set one week later. Often, permanent on-site personnel are instructed to perform time calibration sampler retrieval.

Lengths of exposure periods of the survey samplers for each survey are determined based on the results of each respective set of time calibration samplers. Time calibration samplers are usually analyzed within 24 hours upon receipt at the laboratory. At the first indication of significant relative ion count intensities and significant total ion count values, the decision is made to retrieve the entire complement of survey samplers.

If there are no significant relative ion count intensities detected from the second set of time calibration samplers, then the survey samplers are allowed to equilibrate in the field for a maximum time period of up to 30 days. The average environmental PETREX soil gas survey requires a collector integration period of one day to two weeks.

METHOD QA/QC

Within every survey sampler, the two or three collector wires should have adsorbed identical compounds. Like compounds on separate collectors relate an acceptable quality assurance (QA) during the survey's analysis. The first wire is analyzed by Thermal Desorption/Mass Spectrometry (TD/MS). The data from the first wire is reported on the relative response maps. The second wire is retained for analysis by Thermal Desorption-Gas Chromatography/Mass Spectrometry (TD-GC/MS), if warranted by the initial TD/MS analysis of the second wire.

Approximately ten percent of the total PETREX survey samplers contain three collector wires. The third collector wire, a QC collector wire, is used by the operator to test the mass spectrometer's operating conditions prior to survey analysis. Some of these quality control (QC) collectors are also used to check the mass spectrometer sensitivity during survey analysis. In addition, the QC collector may be used to compare the reproducibility of the detected VOCs.

TRAVEL BLANKS

Two PETREX samplers, each containing a single collector wire, are included with each PETREX soil gas survey as travel blanks. These blanks are analyzed with the survey samplers to indicate whether there may have been contamination introduced to the survey samplers during installation or shipment. If compounds other than normal atmospherics (e.g., CO_2, H_20, N_2, and Ar) are detected on the blanks, these results are taken into consideration in the data presentation. This process, an initial step to data interpretation, involves the correction of ion count values of the detected blank contaminants from the entire survey's data set. The resulting ion count values are provided on the relative response maps.

MASS SPECTROMETER TUNING

An Extranuclear Quadrupole C-50 Mass Spectrometer or similar instrument, equipped with a Curie-point pyrolysis/thermal desorption inlet, is used for collector analysis. Mass assignment and resolution are manually adjusted using a Perfluorotributylamine (PFTBA) standard or a built-in tuning program, depending on the instrument. A linear correction, based on the known spectrum of PFTBA, is calculated. This correction is applied to a second PFTBA spectrum. If correct mass (M/Z) values are obtained, the operator proceeds to the next tuning step. If not, Step 1 is repeated until correct masses are obtained.

Peak intensity ratios are set from the major peaks in the PFTBA spectrum using the following values:

Mass (M/Z)		Spectrum Intensities
69	=	100%
131	=	48% ± 5%
219	=	50% ± 5%

During tuning, the ion signal for mass (M/Z) 69 of PFTBA is measured at a preset sample pressure and detector voltage and compared to previous values at the same setting.

Electron energy is set to 70 electron volts. All other operating parameters, such as scans, scan range, and mass offset, are established in the computer program. These values may only be changed by the laboratory manager.

Tuning is performed at the beginning of a run so that an individual survey is analyzed at the same set of instrument conditions. The samplers are analyzed in random order.

LABORATORY ANALYSIS

Periodic machine background and blank PETREX collector analyses are performed to assure that there is no carry-over between successive collectors. If there are peaks present which are not related to atmospheric gases, the supervisor is notified and the mass spectrometer is shut down and cleaned as necessary.

A written sample number record is kept during the analysis to prevent accidental cross numbering. The mass spectrometer control program contains appropriate "flag statements" that prompt the operator with a warning if an input sample number has already been analyzed. The operator then checks the current number, along with the disk storage location of the previously entered number to identify the true numbering situation.

COMPOUND IDENTIFICATION

Compound identification is based on molecular weight, compound fragmentation, and isotope distribution, as applicable. Each VOC exhibits a unique mass spectral signature. NERI maintains a large library of spectra of individual compounds, accessible by computer. In addition, the company maintains a large library of mass spectra of commonly used chemical mixtures; e.g., gasolines, diesels, industrial oils and solvents, coatings, plastics, etc. These spectra are used to assist in both compound and mixture identifications.

The ion count response of an indicator peak(s), representative of the compound and away from interference by other compounds, is extracted for data presentation and mapping.

INTERPRETATION OF SOIL GAS DATA

Soil gas data (including PETREX) reflect volatile and semivolatile organics collected at a point in the near surface. The sources of these volatile organics may be in the stratigraphic column and/or in groundwater below the collection point. Thus, the organics can be derived from surface spills, deposition, or migration into the deeper vadose zone, and groundwater. The soil gas survey reveals the areal extent of contamination and is the optimum guide in identifying areas in order to develop a vertical profile, including the drilling of soil borings and monitoring wells.

Soil gas data are always semi-quantitative in that multiple sources in soil and/or groundwater cannot be differentiated. However, the higher ion responses are representative of higher concentrations in the subsurface, given that geologic conditions are relatively consistent.

Due to chemical differences between individual compounds, including their ability to both adsorb and desorb from the charcoal PETREX collector element, it is invalid to compare the ion count of a compound at one sampling location to that of another compound.

Patterns of compound distribution in the soil gas, as detected at the surface, can be strongly influenced by irregularities in the near surface and subsurface environment through which the soil gas diffuses. These irregularities include subsurface man-made structures, such as concrete foundations, drainage systems, and wells, and such naturally occurring structures as fractured and unfractured bedrock, clay, and shale lenses.

Other factors influencing the soil gas signal include ground and surface water, the free carbon content of soils, microbiotic activity in the soil, and natural and synthetic ground cover.

All of these factors indicate that the most powerful use of soil gas data is in reconnaissance; identifying and mapping the relative abundance of the widest array of chemical species and mixtures. Efforts to relate soil gas response directly to groundwater or soil contaminant concentrations is generally not regarded as productive owing to the assumptions that are required for heterogeneity and source distribution.

RELATIVE RESPONSE DETERMINATION AND MAPPING

The relative response values are reported as the ion counts of indicator peaks for any given compound or mixture. Sample locations on a base map are digitized as X-Y coordinates and ion counts for the reported compounds are plotted at respective locations.

Mapping of the ion counts occurs after contour intervals for each compound or component class are determined. In order to establish the contour intervals, factors such as statistical analysis of ion count distribution, physiochemical considerations, and component-source material relationships (if known) are taken into account for each compound or class, in each area, on an individual basis. Each map is then contoured by hand. The resultant contour zones for each compound or component class in each area are color coded on a relative basis depending on whether the data are interpreted to be of high, moderate to high, moderate, etc., intensity. The response values found on each of the response maps are color coded and contoured on this basis.

APPENDIX B
Sample Mass Spectra

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0161: Scan Avg 1-20 (0.01 - 0.14 min)

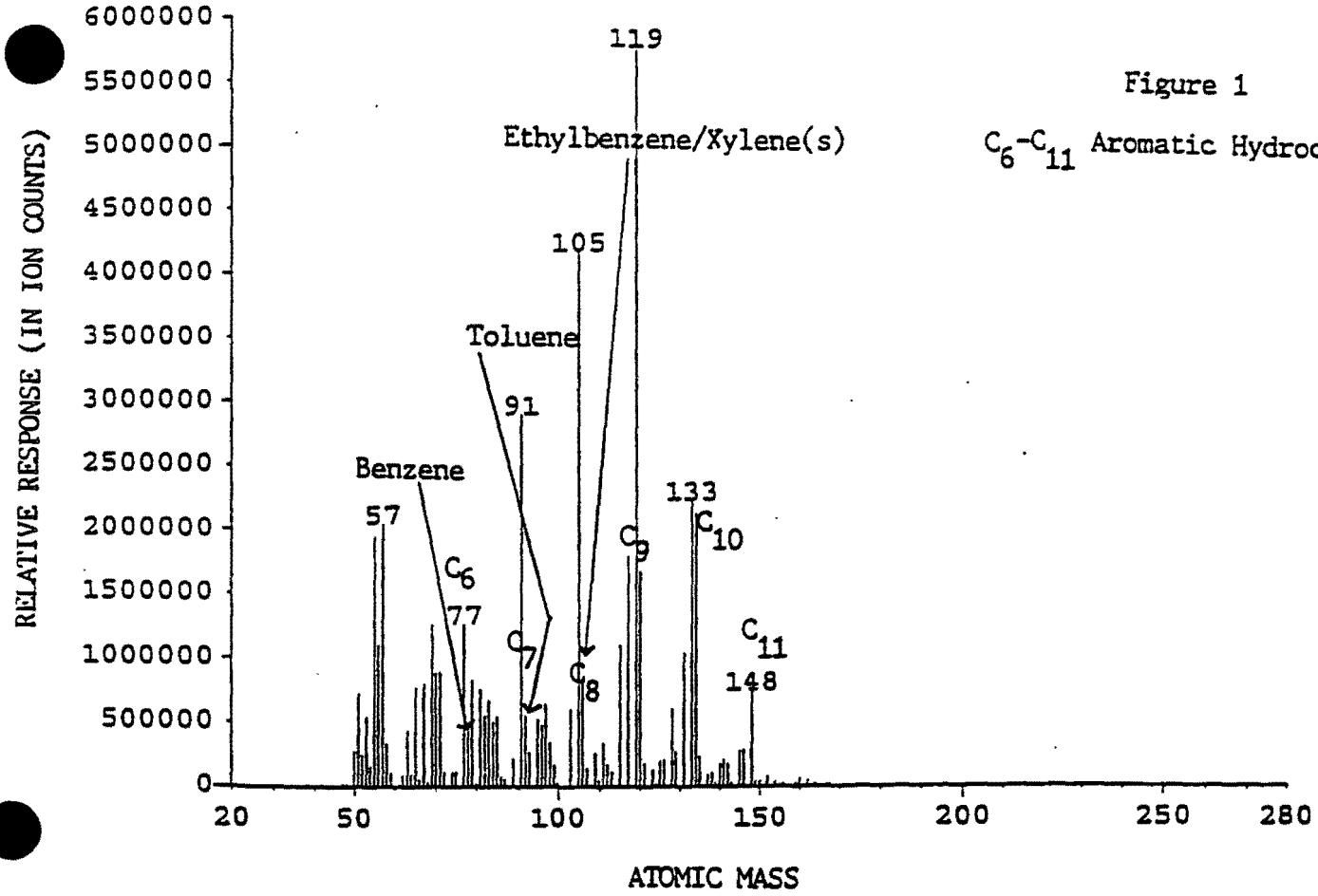

Figure 1

C_6-C_{11} Aromatic Hydrocarbons

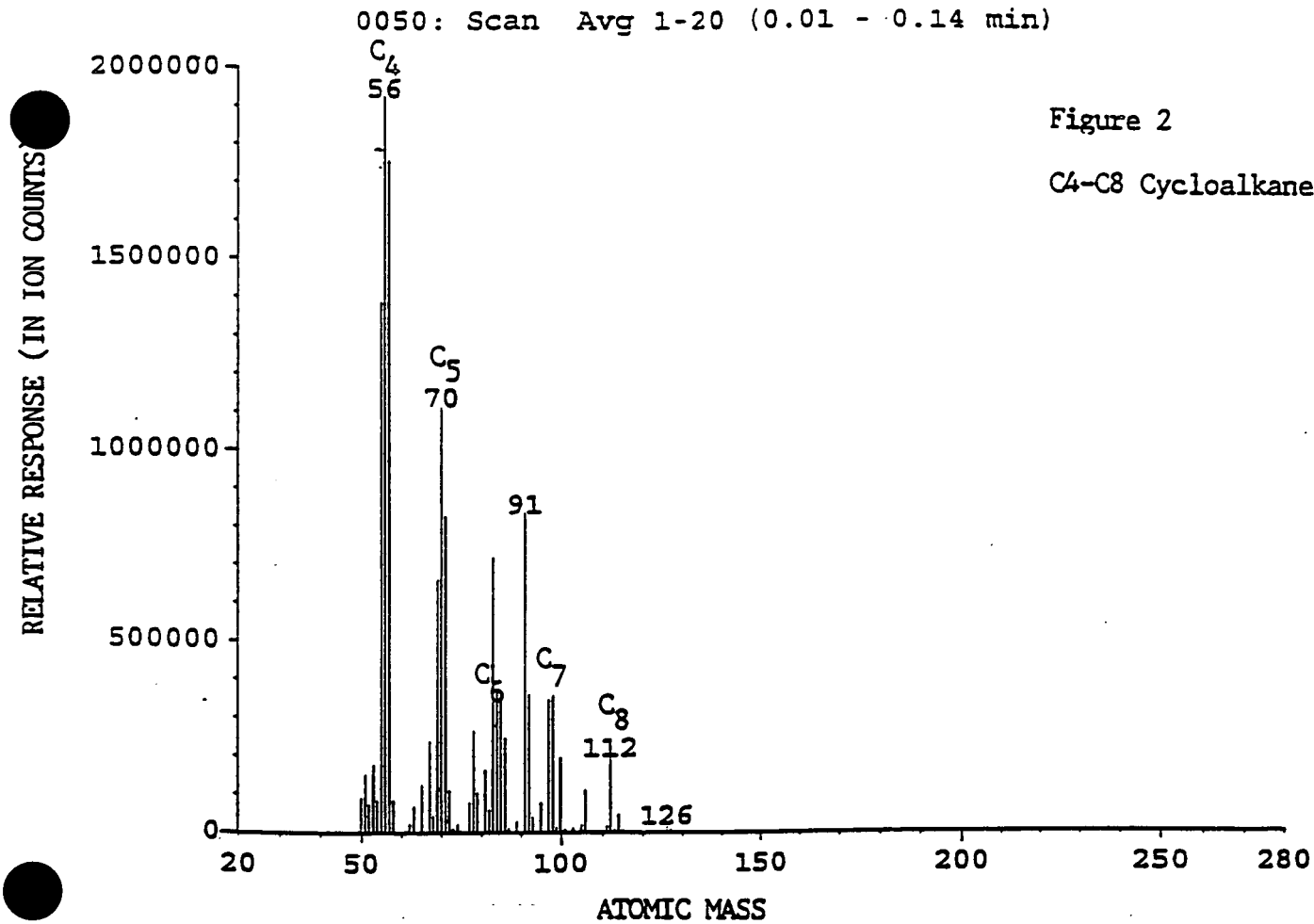

Figure 2

C4-C8 Cycloalkanes/Alkenes

APPENDIX C
Table 1
Relative Ion Response Levels for Identified Compounds

TABLE 1
MOUND PLANT
Miamisburg, Ohio
Relative Response Levels
(In Ion Counts)

SAMPLE	AROMATICS	CYCLOS
1	28820	56257
2	158121	556829
3	64208	460380
4	84661	ND
5	7456	17092
6	72344	81012
7	45521	208179
8	53574	91910
9	4248	23497
10	42266	74391
11	173618	279814
12	41678	127612
13	34578	ND
14	119076	141719
15	446959	ND
16	235840	ND
17	886273	593894
18	2084379	ND
19	22143	51422
20	412872	139788
21	244155	73862
22	480249	639247
23	1766247	ND
24	231560	769866
25	1436112	222147
26	T 114673	163205
27	555351	388464
28	29857	60132
29	45451	64610
30	1450015	ND
31	1404284	600379
32	1402078	458396
33	238314	38787
34	50554	75676
35	27320	75106

TABLE 1
MOUND PLANT
Miamisburg, Ohio
Relative Response Levels
(In Ion Counts)

SAMPLE	AROMATICS	CYCLOS
36	T 11112	456949
37	232762	44924
38	1531622	ND
39	36956	63687
40	27994	62662
41	8041	7972
42	12502	21334
43	16707	75520
44	171483	482506
45	41560	173934
46	75378	106348
47	27961	74844
48	75128	239799
49	1287539	6163327
50	733556	3955851
51	351215	1388404
52	41533	159186
53	77633	407866
54	157112	551433
55	317626	464066
56	57374	106074
57	388175	1104119
58	989759	3360803
59	50882	88608
60	58010	127556
61	35746	38210
62	7935	10111
63	60017	416555
64	14459	24688
65	35763	101433
66	49570	55836
67	T 204942	394667
68	68124	229240
69	141872	634879 B
70	30910	44057

TABLE 1
MOUND PLANT
Miamisburg, Ohio
Relative Response Levels
(In Ion Counts)

SAMPLE	AROMATICS	CYCLOS
71	18906	112116
72	123823	331751
73	121634	184639
74	78376	117493
75	14073	37623
76	52854	203957
77	177893	387481
78	25211	84198
79	8727	11386
80	45526	47273
81	27195	62409
82	164015	217241
83	60032	203303
84	78147	302429
85	5034	16254
86	15928	22504
87	118717	341297
88	39052	62916
89	24553	54277
90	6338	12751
91	12600	30366
92	75084	102738
93	26961	74811
94	8415	35136
95	47737	98447
96	112534	115212
97	7663	16018
98	5091	68551
99	57008	92166
100	7574	37287
101	5692	10204
102	115370	273792
103	9064	33505
104	8949	25183
105	118935	253850

TABLE 1
MOUND PLANT
Miamisburg, Ohio
Relative Response Levels
(In Ion Counts)

SAMPLE	AROMATICS	CYCLOS
106	17798	53056
107	16322	43228
108	44480	90844
109	16586	36839
110	32339	52335
111	62579	228995
112	5234	12984
113	9807	31315
114	80253	140423
115	192494	1380517
116	33210	47313
117	15474	39597
118	101840	168517
119	23541	88283
120	1429	6650
121	345585	396604
122	74768	115919
123	211927	998754
124	1308	4242
125	29665	64494
126	58617	90720
127	7005	17807
128	25869	44951
129	34829	69713
130	28349	47833
131	20960	50853
132	44733	78227
133	92563	291827
134	47949	66351
135	41005	88244
136	58252	114409
137	84567	95698
138	14822	27062
139	18521	75923
140	10855	23211

TABLE 1
MOUND PLANT
Miamisburg, Ohio
Relative Response Levels
(In Ion Counts)

SAMPLE	AROMATICS	CYCLOS	
141	19636	44648	
157	ND	ND	TB
158	ND	ND	TB
159	ND	ND	TB
160	ND	8089	TB

AROMATICS - C6-C11 Aromatic Hydrocarbons
benzene, toluene, ethylbenzene, xylene(s)
Indicator Mass Peak(s) 78,92,106,120,134,148
CYCLOS - C4-C8 Cycloalkanes/Alkenes
Indicator Mass Peak(s) 56,70,84,98,112
TB - Travel Blank
ND - Not Detected
B - Sampler Broken on Retrieval
T - Terpene Compounds Detected

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2043-1A.XLS

APPENDIX D
Plates 1 - 3

NERI
NORTHEAST RESEARCH INSTITUTE, INC.

COMPOUNDS DETECTABLE WITH PETREX SAMPLERS

The following compounds have been detected in soil gas with PETREX collectors and identified by mass spectrometry. Verification was obtained from duplicate PETREX collectors using GC/MS or other qualitative analytical instrumentation.

Most volatile compounds are detectable from ground water sources. Semi-volatiles and the most soluble of volatiles may be detectable only from shallow ground water or vadose zone sources. The following list is intended for use as a guide to developing environmental strategies. It should not be applied to specific sites and situations without advice from Northeast Research Institute (NERI) personnel.

AROMATIC HYDROCARBONS *(Benzene-Based)*

All aromatic hydrocarbons from C_6 (Benzene) to C_{12} (e.g., C_9 Alkyl Benzene) – including specifically identified:

- Benzene
- Toluene
- Xylenes
- Ethyl methyl benzene
- Ethyl benzene
- Trimethyl benzenes
- Propyl benzenes

ALKANES *(Aliphatics/Paraffins)*

All alkane hydrocarbons from C_4 (Butane) to C_{15} (Pentadecanes), C_2 (Ethane), alkanes with various alkyl groups attached, and all cycloalkanes with various alkyl groups attached – including specifically identified:

- Ethane
- Butanes
- Pentanes
- Hexanes
- Heptanes
- Octanes
- Nonanes
- Decanes
- Undecanes
- Dodecanes
- Tridecanes
- Octadecanes
- Cyclopropane
- Cyclobutanes
- Cyclopentanes
- Cyclohexanes
- Cycloheptanes
- Cyclo-octanes
- Cyclononanes
- Cyclodecanes
- Octyl cyclopropane
- Methyl cyclopentane
- Methyl propty cyclopentane
- Methyl hexane
- Trimethyl hexane
- Methyl cyclohexane
- Trimethyl cyclohexane
- Ethyl methyl cyclohexane
- Ethyl -methylethyl cyclohexane
- Methyl octa decane
- Dimethyl heptane
- Dimethyl octane
- Ethyl methyl octane
- Dimethyl undecane

ALKENES *(Olefins)*

All alkenes from C_3 (Propylene) to C_{15} (Pentadecene), alkenes with various alkyl and other hydrocarbon groups attached, and C_4 to C_{15} cycloalkenes including those with various alkyl groups and other hydrocarbons attached – including specifically identified:

- Ethylene
- Propylene
- Butenes
- Pentenes
- Hexenes
- Heptenes
- Octenes
- Nonenes
- Decenes
- Cyclobutene
- Cyclopentene
- Cyclohexene
- Cycloheptene
- Cyclo octene
- Cyclononene
- Cyclodecene
- Methyl pentene
- Methyl cyclohexene

ALKYNES Alkynes from C_3 to C_{14}

DIENES Dienes from C_3 to C_{14}

STYRENES Styrene, Methyl styrene, and C_2 to C_3 styrenes

VOLATILE HALOGENATED COMPOUNDS

*Vinyl chloride**
Chloromethane
*Methylene chloride**
Chloroform
Carbon tetrachloride
Chloroethane
Dichloroethanes
Trichloroethanes
Tetrachloroethanes
Dichloropropanes
Dichloroethenes
Trichloroethene
Tetrachloroethene
Dichloropropene
Trichloropropene
Chlorobenzene
Chlorotoluene
Dichlorodifluoromethane
Trichlorofluoromethane
Bromoform
Dibromoethane
Bromodichloromethane
Dibromochloromethane
Bromodichloropropane

* *Compounds exhibiting a low affinity to activated carbon*

SEMI-VOLATILE ORGANICS

Hexachloroethane
Hexachlorocyclohexane
Hexachlorobutadiene
Hexachloropentadiene
Dichlorobenzenes
Tetrachlorobenzene
Hexachlorobenzene
Dibromochloropropane
Phenol
Methyl phenol
C_2 - C_3 phenols
Naphthalene
Methyl naphthalenes
C_2 - C_4 Naphthalenes
Chlorophenols
Chloronaphthalenes
Chlorobenzotrifluoride
Dichlorobenzotrifluoride
Trichlorobenzotrifluoride
Nitrobenzene
Nitrotoluene
Dinitrotoluene
Anthracene
Phenanthrene
Acenaphthalene

SULPHUR COMPOUNDS

Hydrogen Sulfide
Sulfur Dioxide
Carbon Disulfide
Carbonyl Sulfide

OTHER DETECTABLE COMPOUNDS

Ethanol
Methoxyethanol
Propanol
Butanol
Dimethyl Butanol
Hexanol
Nonanol
MEK
Butanone
Methyl Butanone
Hexanone
Methyl Hexanone
Tridecanone
Aldehyde
Benzaldehyde
Acetaldehyde

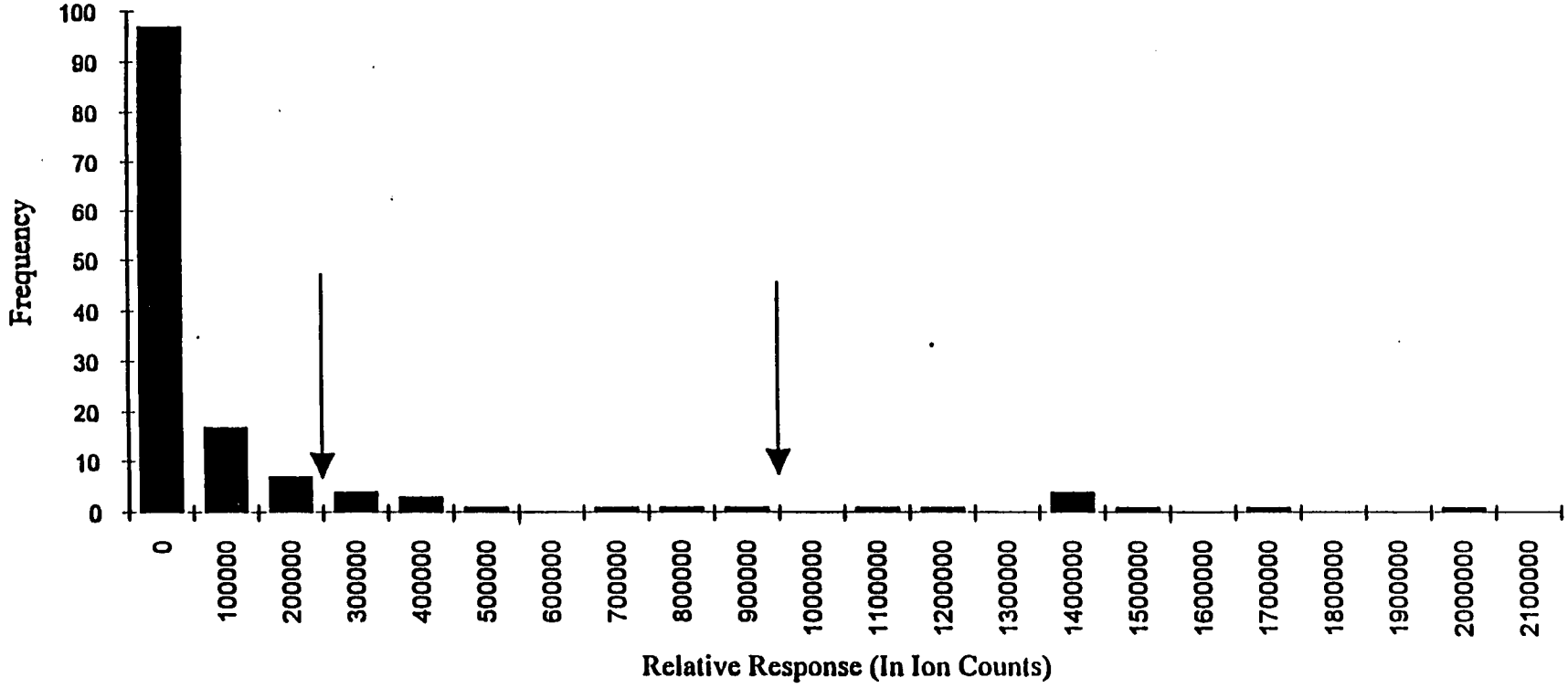
MIXTURES

The PETREX Technique can detect and characterize fresh and aged hydrocarbon mixtures including:

Gasolines (leaded/unleaded)
Diesel fuels
Jet fuels (JP4/JP5)
Aviation gasoline
White gasoline
Hydraulic fluids
Lubricants (Light oils to greases)
Cutting oils
Coolants
Seal oils
Creosotes

APPENDIX E
Histograms

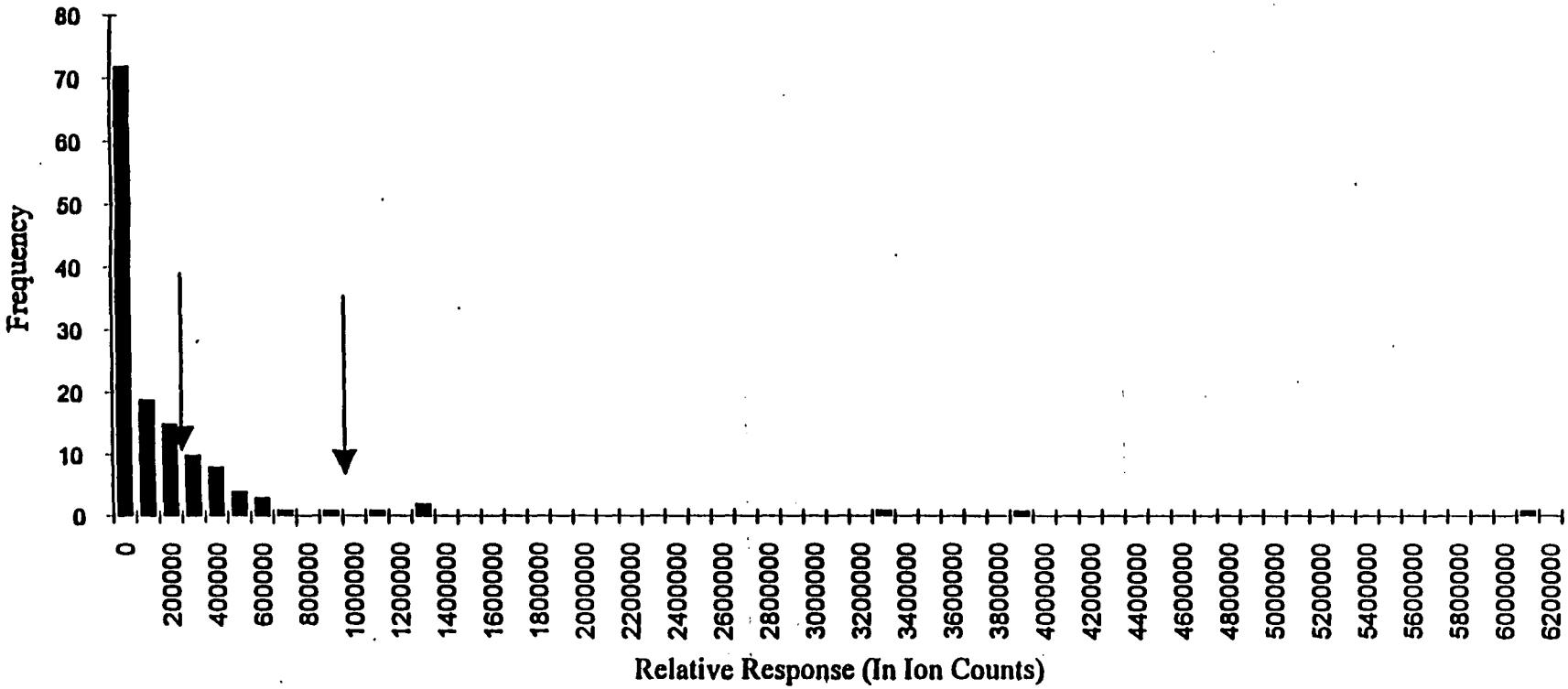
AROMATIC HYDROCARBONS HISTOGRAM



Arrows indicate sample population breaks
used to establish intervals on Plate 2.

2043AROM.HIS

CYCLOALKANES/ALKENES HISTOGRAM



Arrows indicate sample population breaks
used to establish intervals on Plate 3.

2043CYCL.HIS

APPENDIX F
TD-GC/MS Results

Results of TD-GC/MS PETREX Sample Analysis

NERI Project: 2043E
Client: Science Applications International Corporation
Site/Location: Miamisburg, Ohio
Analysis: Thermal Desorption-Gas Chromatography/Mass Spectrometry
Date of Analysis: 3/21/94-3/22/94
Units: Area Counts

Sample #4

Compound	Relative Area
Toluene	19313
Tetrachloroethene	1237517

Sample #13

Compound	Relative Area
Trichloroethene	13765
Toluene	40923
Tetrachloroethene	5110235

Sample #15

Compound	Relative Area
Benzene	1027313
Toluene	135186
Ethylbenzene	41532
Styrene	39121

Sample #16

Compound	Relative Area
Benzene	16434
Toluene	57626

Sample #18

Compound	Relative Area
Benzene	3688536
Toluene	62454

Sample #23

Compound	Relative Area
Benzene	2268689
Toluene	39735
Tetrachloroethene	69178

Sample #30

Compound	Relative Area
Benzene	3200242
Toluene	52475

Sample #31

Compound	Relative Area
1-Pentene	13094
Benzene	2726096
Toluene	24963

Sample #32

mpound	Relative Area
2-Methyl-1-propene	70998
Pentene	49267
(z)-1,3-pentadiene	69617
1-Hexene	59921
Benzene	4242294
Toluene	77952

Sample #36

Compound	Relative Area
Benzene	2709842
Toluene	50904
Cyclopropylidencyclohexane	237934
2-β-pinene*	105303

* - Terpene

Sample #38

ıpound	Relative Area
Benzene	4282031

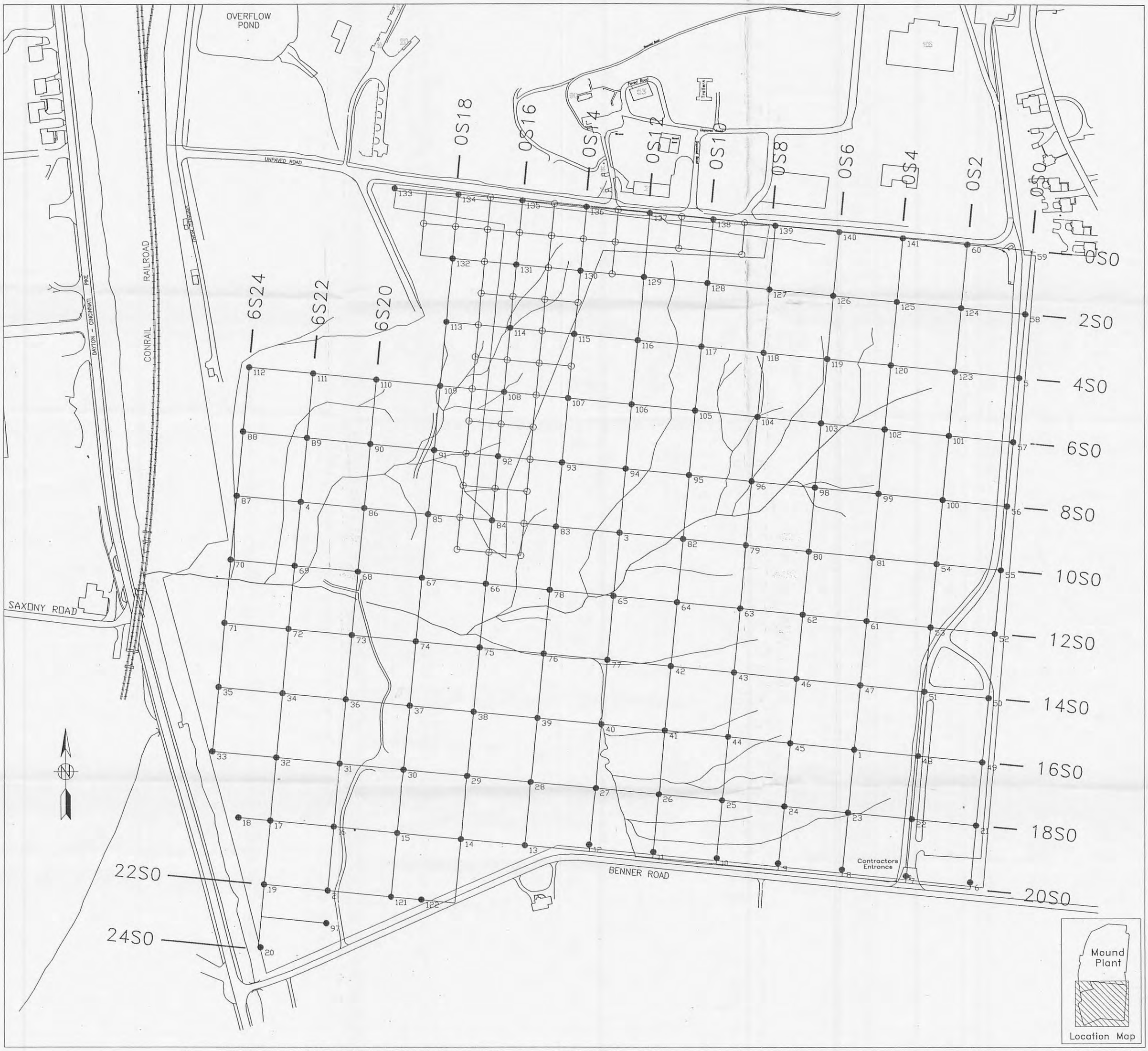
Sample #49

Compound	Relative Area
Pentane	279900
3-Methylpentane	153411
Hexane	506985
Benzene	206419
1,2-Dimethyltranscyclopentane	124750
Heptane	438139
Methylcyclohexane	392250
Toluene	411729

Sample #51

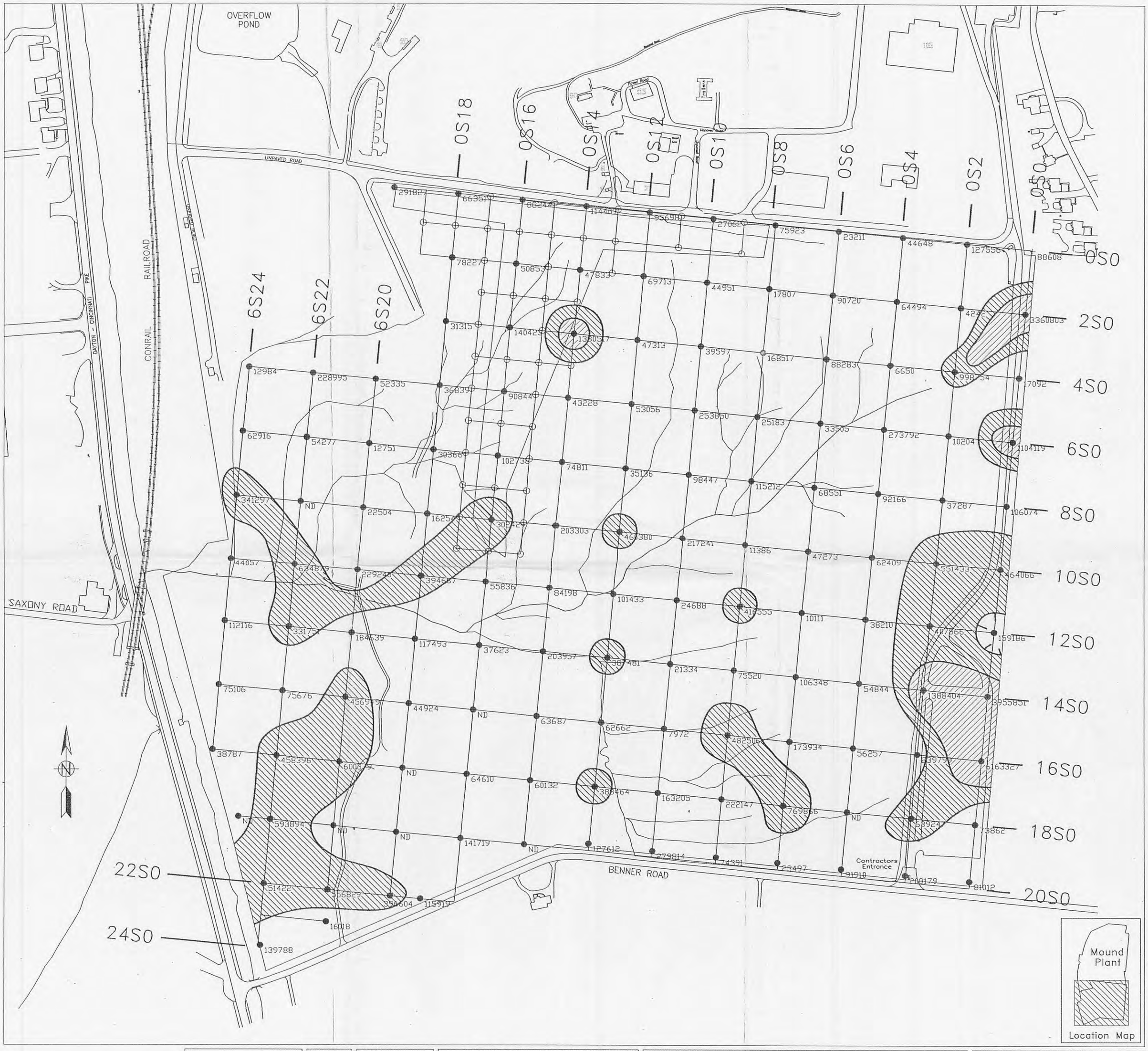
Compound	Relative Area
Pentane	138879
2-Methylpentane	118192
3-Methylpentane	66045
Hexane	309279
Benzene	72490
Isopropycyclobutane	13974
Methylcyclohexane	56767
luene	77952

GCMS2043



Prepared by:	Drawn By: JCS	Project #: 2043E	New Property/OU-5	LEGEND	Sample Locations
Northeast Research Institute LLC 605 Parfet Street Suite 100 Lakewood, Colorado 80215 (303) 238-0090	Checked By:	Date: November 10, 1994	USDOE Mound Facility Miamisburg, Ohio	Features: ● Petrex and Fidler Sample Location □ Structures —— Plant Boundary ═══ Paved/Unpaved Roadway ~~~ Ephemeral Stream ○ Fidler Sample	Plate 1
	Project Manager: JMR	File Name: 2043_1.dwg	PETREX FINGERPRINT TECHNOLOGY®		

Prepared by: Northeast Research Institute LLC, 605 Parfet Street, Suite 100, Lakewood, Colorado 80215, (303) 238-0090	Drawn By: JCS	Project #: 2043E	New Property/OU-5	LEGEND	Relative Response
	Checked By:	Date: November 10, 1994	USDOE Mound Facility, Miamisburg, Ohio	Relative Response Values(in ion counts): ≥ 1,000,000; 300,000 – 999,999; T Relative Response Value Elevated Due To Terpenes.	Aromatic Hydrocarbons
	Project Manager: JMR	File Name: 2043_2.dwg	PETREX FINGERPRINT TECHNOLOGY®	Features: Petrex and Fidler Sample Location; Structures; Plant Boundary; Paved/Unpaved Roadway; Ephemeral Stream; Fidler Sample	Plate 2



Prepared by:
Northeast Research Institute LLC
605 Parfet Street
Suite 100
Lakewood, Colorado 80215
(303) 238-0090

Drawn By: JCS	Project #: 2043E
Checked By:	Date: November 10, 1994
Project Manager: JMR	File Name: 2043_3.dwg

New Property/OU-5

USDOE Mound Facility
Miamisburg, Ohio

PETREX FINGERPRINT TECHNOLOGY®

LEGEND

Relative Response Values(in ion counts):
- ≥ 1,000,000
- 300,000 – 999,999
- ND None Detected

Features:
- Petrex and Fidler Sample Location
- Structures
- Plant Boundary
- Paved/Unpaved Roadway
- Ephemeral Stream
- Fidler Sample

Relative Response
Cycloalkanes/Alkenes

Plate 3

APPENDIX D

RADIOLOGICAL DATA (FIDLER & SOIL SCREENING FACILITY

APPENDIX D

Radiological Data (FIDLER survey and Mound Soil Screening Facility Data)

SMPID	Contamination Criteria CH1 Units: CPM RESULTS	FIDLER Readings CH1 Units: CPM RESULTS	Contamination Criteria CH2 Units: CPM RESULTS	FIDLER Readings CH2 Units: CPM RESULTS	Plutonium-238 Units: pCi/g		Thorium-232 Units: pCi/g	
					RESULTS	NOTES	RESULTS	NOTES
000S0	273.0	180.0	11112.0	11000.0	15.0	a	0.9	a
000S2	273.0	190.0	11112.0	11000.0	17.0	a	0.9	a
000S4	273.0	200.0	11112.0	11000.0	8.0	a	1.3	a
000S6	273.0	200.0	11112.0	10000.0	14.0	a	1.4	a
000S8	273.0	190.0	11112.0	*12000.0*	10.0	a	1.2	a
000S9	262.0	190.0	11112.0	10500.0	6.0	a	1.4	a
001S9	262.0	180.0	11112.0	11000.0	17.0	a	0.9	a
002S0	262.0	210.0	11112.0	10000.0	8.0	a	0.7	a
002S2	273.0	210.0	11112.0	11000.0	10.0	a	0.9	a
002S4	273.0	210.0	11112.0	10000.0	5.0	a	0.7	a
002S6	273.0	230.0	11112.0	11000.0	13.0	a	1.1	a
002S8	273.0	230.0	11112.0	*12000.0*	12.0	a	0.7	a
004S0	273.0	170.0	11112.0	10000.0	12.0	a	1.0	a
004S2	273.0	220.0	11112.0	10000.0	7.0	a	0.7	a
004S4	273.0	180.0	11112.0	11000.0	4.0	a	0.7	a
004S6	273.0	220.0	11112.0	*12000.0*	19.0	a	0.9	a
004S8	273.0	210.0	11112.0	11000.0	10.0	a	0.9	a
006S0	262.0	160.0	11112.0	8000.0	11.0	a	0.8	a
006S2	262.0	190.0	11112.0	10000.0	12.0	a	1.1	a
006S4	262.0	150.0	11112.0	7500.0	9.0	a	1.1	a
006S6	262.0	200.0	11112.0	11000.0	4.0	a	0.7	a
006S8	262.0	220.0	11112.0	11000.0	9.0	a	1.2	a
008S0	262.0	240.0	11112.0	9500.0	16.0	a	1.0	a
008S2	262.0	210.0	11112.0	*12000.0*	20.0	a	1.3	a
008S4	262.0	210.0	11112.0	10000.0	8.0	a	0.8	a
008S6	262.0	200.0	11112.0	*11500.0*	12.0	a	1.2	a
008S8	262.0	260.0	11112.0	11000.0	11.0	a	0.7	a
00S10	262.0	220.0	11112.0	11000.0	11.0	a	1.6	a
00S11	262.0	200.0	11112.0	*11500.0*	13.0	a	1.8	a
00S12	262.0	220.0	11112.0	9000.0	15.0	a	0.8	a
00S13	262.0	180.0	11112.0	6500.0	17.0	a	1.2	a
00S14	262.0	170.0	11112.0	8500.0	5.0	a	1.0	a
00S15	262.0	180.0	11112.0	10000.0	9.0	a	1.4	a
00S16	262.0	210.0	11112.0	10000.0	13.0	a	0.9	a
00S17	262.0	180.0	11112.0	10000.0	7.0	a	0.9	a
00S18	262.0	180.0	11112.0	9500.0	13.0	a	1.2	a
00S20	262.0	180.0	11112.0	9500.0	14.0	a	0.9	a
010S0	273.0	150.0	11112.0	10000.0	11.0	a	1.3	a
010S2	273.0	200.0	11112.0	10000.0	14.0	a	1.2	a

Highlighted areas represent detection above FIDLER contaminant criteria or above the Mound Soil Screening Facility detection limit.

APPENDIX D

Radiological Data (FIDLER survey and Mound Soil Screening Facility Data)

SMPID	Contamination Criteria CH1 Units: CPM RESULTS	FIDLER Readings CH1 Units: CPM RESULTS	Contamination Criteria CH2 Units: CPM RESULTS	FIDLER Readings CH2 Units: CPM RESULTS	Plutonium-238 Units: pCi/g		Thorium-232 Units: pCi/g	
					RESULTS	NOTES	RESULTS	NOTES
010S4	273.0	240.0	11112.0	*12000.0*	11.0	a	0.9	a
010S6	273.0	230.0	11112.0	*12000.0*	8.0	a	1.7	a
010S8	273.0	220.0	11112.0	*13000.0*	14.0	a	1.7	a
012S0	262.0	190.0	11112.0	9000.0	6.0	a	1.2	a
012S2	262.0	160.0	11112.0	9000.0	6.0	a	1.0	a
012S4	262.0	250.0	11112.0	11000.0	17.0	a	0.9	a
012S6	262.0	240.0	11112.0	11000.0	7.0	a	1.4	a
012S8	262.0	245.0	11112.0	*11500.0*	11.0	a	1.4	a
014S0	273.0	150.0	11112.0	8000.0	1.0	a	0.2	a
014S2	273.0	160.0	11112.0	7000.0	10.0	a	0.6	a
014S4	273.0	260.0	11112.0	*12000.0*	20.0	a	1.0	a
014S6	273.0	230.0	11112.0	*12000.0*	11.0	a	1.2	a
014S8	273.0	230.0	11112.0	*12000.0*	19.0	a	1.1	a
016S0	262.0	110.0	11112.0	5000.0	12.0	a	0.3	a
016S2	262.0	170.0	11112.0	9000.0	10.0	a	0.8	a
016S4	262.0	210.0	11112.0	11000.0	20.0	a	1.8	a
016S6	262.0	220.0	11112.0	11000.0	16.0	a	0.7	a
016S8	262.0	220.0	11112.0	*11500.0*	8.0	a	1.3	a
018S0	262.0	200.0	11112.0	10500.0	0.0	a	0.1	a
018S2	262.0	190.0	11112.0	10000.0	17.0	a	1.2	a
018S4	262.0	220.0	11112.0	*11500.0*	23.0	a	1.4	a
018S6	262.0	260.0	11112.0	*11500.0*	24.0	a	1.1	a
018S8	262.0	220.0	11112.0	10500.0	13.0	a	1.3	a
01S10	262.0	170.0	11112.0	10000.0	23.0	a	1.1	a
01S11	262.0	200.0	11112.0	*15000.0*	9.0	a	1.7	a
01S12	262.0	170.0	11112.0	10500.0	21.0	a	0.9	a
01S13	262.0	160.0	11112.0	10000.0	10.0	a	1.6	a
01S14	262.0	180.0	11112.0	10000.0	*25.0*	a	1.3	a
01S15	262.0	190.0	11112.0	10000.0	17.0	a	1.5	a
01S16	262.0	195.0	11112.0	10500.0	13.0	a	0.8	a
01S17	262.0	150.0	11112.0	9000.0	15.0	a	1.3	a
01S18	262.0	190.0	11112.0	10000.0	12.0	a	0.8	a
020S0	273.0	220.0	11112.0	11000.0	16.0	a	1.1	a
020S2	273.0	150.0	11112.0	7000.0	0.0	a	0.3	a
020S4	273.0	270.0	11112.0	11000.0	20.0	a	1.5	a
020S6	273.0	260.0	11112.0	*14000.0*	8.0	a	0.8	a
020S8	273.0	240.0	11112.0	11000.0	18.0	a	1.3	a
02S10	273.0	190.0	11112.0	11000.0	8.0	a	0.5	a

Highlighted areas represent detection above FIDLER contaminant criteria or above the Mound Soil Screening Facility detection limit.

APPENDIX D

Radiological Data (FIDLER survey and Mound Soil Screening Facility Data)

SMPID	Contamination Criteria CH1 Units: CPM RESULTS	FIDLER Readings CH1 Units: CPM RESULTS	Contamination Criteria CH2 Units: CPM RESULTS	FIDLER Readings CH2 Units: CPM RESULTS	Plutonium-238 Units: pCi/g		Thorium-232 Units: pCi/g	
					RESULTS	NOTES	RESULTS	NOTES
02S12	273.0	220.0	11112.0	*12000.0*	11.0	a	0.9	a
02S13	273.0	210.0	11112.0	*12000.0*	13.0	a	1.2	a
02S14	273.0	200.0	11112.0	*12000.0*	17.0	a	0.7	a
02S15	273.0	190.0	11112.0	11000.0	21.0	a	1.3	a
02S16	273.0	210.0	11112.0	*12000.0*	15.0	a	1.1	a
02S17	273.0	210.0	11112.0	*12000.0*	22.0	a	1.3	a
02S18	273.0	180.0	11112.0	11000.0	19.0	a	1.0	a
03S14	273.0	200.0	11112.0	*12000.0*	13.0	a	1.2	a
03S15	273.0	210.0	11112.0	*12000.0*	10.0	a	0.9	a
03S16	273.0	190.0	11112.0	*12000.0*	6.0	a	1.4	a
03S17	273.0	220.0	11112.0	*12000.0*	19.0	a	1.0	a
04S10	273.0	220.0	11112.0	*12000.0*	6.0	a	1.1	a
04S12	273.0	200.0	11112.0	*12000.0*	3.0	a	0.9	a
04S14	273.0	210.0	11112.0	*12000.0*	17.0	a	1.3	a
04S15	273.0	200.0	11112.0	*12000.0*	11.0	a	1.1	a
04S16	273.0	190.0	11112.0	11000.0	17.0	a	0.7	a
04S17	273.0	190.0	11112.0	*12000.0*	18.0	a	1.3	a
04S18	273.0	190.0	11112.0	*13000.0*	6.0	a	1.2	a
05S14	273.0	180.0	11112.0	*12000.0*	20.0	a	1.4	a
05S15	273.0	220.0	11112.0	*13000.0*	11.0	a	1.1	a
05S16	273.0	200.0	11112.0	*12000.0*	16.0	a	1.3	a
05S17	273.0	190.0	11112.0	10000.0	24.0	a	1.2	a
06S10	262.0	150.0	11112.0	10000.0	13.0	a	1.2	a
06S12	262.0	200.0	11112.0	*11500.0*	0.0	a	0.8	a
06S14	262.0	200.0	11112.0	10000.0	7.0	a	1.3	a
06S15	262.0	180.0	11112.0	*11500.0*	20.0	a	1.2	a
06S16	262.0	200.0	11112.0	*11500.0*	14.0	a	1.2	a
06S17	262.0	200.0	11112.0	10500.0	16.0	a	1.6	a
06S18	262.0	200.0	11112.0	*12000.0*	8.0	a	1.1	a
06S20	262.0	190.0	11112.0	10000.0	8.0	a	1.0	a
06S22	262.0	190.0	11112.0	8500.0	14.0	a	0.8	a
06S24	262.0	190.0	11112.0	11000.0	6.0	a	1.0	a
07S15	262.0	190.0	11112.0	9500.0	8.0	a	1.7	a
07S16	262.0	220.0	11112.0	11000.0	6.0	a	1.4	a
07S17	262.0	185.0	11112.0	10000.0	17.0	a	1.3	a
08S10	262.0	190.0	11112.0	10500.0	2.0	a	1.3	a
08S12	262.0	250.0	11112.0	10000.0	16.0	a	1.1	a

Highlighted areas represent detection above FIDLER contaminant criteria or above the Mound Soil Screening Facility detection limit.

APPENDIX D
Radiological Data (FIDLER survey and Mound Soil Screening Facility Data)

SMPID	Contamination Criteria CH1 Units: CPM RESULTS	FIDLER Readings CH1 Units: CPM RESULTS	Contamination Criteria CH2 Units: CPM RESULTS	FIDLER Readings CH2 Units: CPM RESULTS	Plutonium-238 Units: pCi/g		Thorium-232 Units: pCi/g	
					RESULTS	NOTES	RESULTS	NOTES
08S14	262.0	230.0	11112.0	*12000.0*	7.0	a	1.1	a
08S15	262.0	225.0	11112.0	*11500.0*	21.0	a	1.6	a
08S16	262.0	240.0	11112.0	*12000.0*	12.0	a	1.1	a
08S17	262.0	245.0	11112.0	10500.0	11.0	a	1.3	a
08S18	262.0	225.0	11112.0	11000.0	6.0	a	1.1	a
08S20	262.0	190.0	11112.0	9000.0	9.0	a	0.7	a
08S22	262.0	*270.0*	11112.0	*11500.0*	6.0	a	1.1	a
08S24	262.0	240.0	11112.0	*11500.0*	15.0	a	1.4	a
09S15	262.0	210.0	11112.0	11000.0	16.0	a	1.5	a
09S16	262.0	190.0	11112.0	11000.0	10.0	a	1.4	a
09S17	262.0	230.0	11112.0	10500.0	9.0	a	1.2	a
0S112	262.0	210.0	11112.0	*14500.0*	NS		NS	
10S10	273.0	260.0	11112.0	*12000.0*	10.0	a	0.9	a
10S12	273.0	210.0	11112.0	11000.0	7.0	a	1.3	a
10S14	273.0	220.0	11112.0	*12000.0*	11.0	a	1.5	a
10S15	273.0	220.0	11112.0	11000.0	13.0	a	1.3	a
10S16	273.0	250.0	11112.0	*12000.0*	7.0	a	1.1	a
10S17	273.0	220.0	11112.0	*12000.0*	7.0	a	1.5	a
10S18	273.0	210.0	11112.0	11000.0	7.0	a	1.1	a
10S20	273.0	230.0	11112.0	*12000.0*	3.0	a	1.2	a
10S22	273.0	220.0	11112.0	*12000.0*	17.0	a	1.1	a
10S24	273.0	150.0	11112.0	7000.0	2.0	a	1.2	a
11S15	273.0	220.0	11112.0	*12000.0*	6.0	a	0.4	a
11S16	273.0	230.0	11112.0	11000.0	6.0	a	1.6	a
11S17	273.0	230.0	11112.0	*12000.0*	10.0	a	1.6	a
12S10	262.0	230.0	11112.0	*12000.0*	19.0	a	0.9	a
12S12	262.0	*270.0*	11112.0	11000.0	8.0	a	1.2	a
12S14	273.0	210.0	11112.0	*12000.0*	15.0	a	*2.1*	NA
12S16	273.0	270.0	11112.0	*12000.0*	8.0	a	1.0	a
12S18	273.0	230.0	11112.0	*12000.0*	12.0	a	0.9	a
12S20	273.0	220.0	11112.0	11000.0	9.0	a	0.9	a
12S22	273.0	*280.0*	11112.0	*12000.0*	9.0	a	1.0	a
12S24	273.0	250.0	11112.0	10000.0	13.0	a	0.8	a
14S10	273.0	260.0	11112.0	11000.0	14.0	a	1.3	a
14S12	273.0	190.0	11112.0	*12000.0*	12.0	a	1.1	a
14S14	273.0	190.0	11112.0	10000.0	0.0	a	1.1	a
14S16	273.0	260.0	11112.0	10000.0	9.0	a	1.0	a

Highlighted areas represent detection above FIDLER contaminant criteria or above the Mound Soil Screening Facility detection limit.

APPENDIX D
Radiological Data (FIDLER survey and Mound Soil Screening Facility Data)

SMPID	Contamination Criteria CH1 Units: CPM RESULTS	FIDLER Readings CH1 Units: CPM RESULTS	Contamination Criteria CH2 Units: CPM RESULTS	FIDLER Readings CH2 Units: CPM RESULTS	Plutonium-238 Units: pCi/g		Thorium-232 Units: pCi/g	
					RESULTS	NOTES	RESULTS	NOTES
14S18	273.0	220.0	11112.0	*12000.0*	7.0	a	0.9	a
14S20	273.0	190.0	11112.0	11000.0	7.0	a	0.9	a
14S22	273.0	*280.0*	11112.0	*12000.0*	5.0	a	1.4	a
14S24	273.0	200.0	11112.0	9000.0	9.0	a	0.7	a
16S10	262.0	220.0	11112.0	*11500.0*	19.0	a	0.8	a
16S12	262.0	230.0	11112.0	9500.0	16.0	a	0.8	a
16S14	262.0	220.0	11112.0	10000.0	7.0	a	1.1	a
16S16	262.0	210.0	11112.0	10000.0	0.0	a	1.1	a
16S18	262.0	225.0	11112.0	10500.0	18.0	a	1.2	a
16S20	262.0	210.0	11112.0	10500.0	18.0	a	1.0	a
16S22	262.0	230.0	11112.0	9500.0	11.0	a	0.8	a
16S24	262.0	240.0	11112.0	*12000.0*	15.0	a	1.1	a
18S10	262.0	200.0	11112.0	11000.0	12.0	a	1.1	a
18S12	262.0	250.0	11112.0	11000.0	15.0	a	1.0	a
18S14	262.0	230.0	11112.0	10000.0	8.0	a	1.2	a
18S16	262.0	210.0	11112.0	9500.0	13.0	a	1.3	a
18S18	262.0	220.0	11112.0	10000.0	8.0	a	1.3	a
18S20	262.0	140.0	11112.0	7500.0	14.0	a	1.2	a
18S22	262.0	200.0	11112.0	10000.0	23.0	a	0.9	a
18S24	262.0	250.0	11112.0	10000.0	16.0	a	1.1	a
20S10	273.0	220.0	11112.0	11000.0	17.0	a	1.3	a
20S12	273.0	240.0	11112.0	11000.0	12.0	a	1.3	a
20S14	273.0	210.0	11112.0	11000.0	0.0	a	1.4	a
20S16	273.0	260.0	11112.0	11000.0	8.0	a	1.7	a
20S18	273.0	200.0	11112.0	10000.0	18.0	a	1.1	a
20S20	273.0	230.0	11112.0	10000.0	10.0	a	1.4	a
20S22	273.0	*290.0*	11112.0	11000.0	23.0	a	1.4	a
20S24	NA	NA	NA	NA	12.0	a	1.3	a
22S17	273.0	220.0	11112.0	11000.0	0.0	a	1.2	a
22S18	273.0	250.0	11112.0	11000.0	8.0	a	0.8	a
22S20	273.0	220.0	11112.0	11000.0	14.0	a	0.7	a
22S22	273.0	250.0	11112.0	11000.0	11.0	a	1.4	a
23S20	262.0	220.0	11112.0	9000.0	8.0	a	1.2	a
23S22	262.0	230.0	11112.0	9500.0	NS		NS	
24S22	273.0	220.0	11112.0	11000.0	18.0	a	1.6	a
2S115	273.0	220.0	11112.0	*14000.0*	NA	NA	NA	NA
6S111	262.0	210.0	11112.0	*13000.0*	NA	NA	NA	NA

Highlighted areas represent detection above FIDLER contaminant criteria or above the Mound Soil Screening Facility detection limit.

APPENDIX E

1994 SEEP SAMPLING RESULTS

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 616		Seep 610		Seep 610 (DUP)		Seep 617		Seep 620	
Sample ID		NS1001		NS2001		NS2011		NS3001		NS4001	
EPA Sample ID		MND16--0206-0200		MND16--0903-0200		MND16--0903-1200		MND16--0317-0200		MND16--0408-0200	
Lab Sample ID		4790-001 REG		4790-003 REG		4790-004 REG		4791-001 REG		4791-002 REG	
Date Collected		3/29/94		3/29/94		03/29/94DUPE		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
Inorganics	**Units**										
Aluminum	UG/L	472	J-D	302	J-D	84.9	J-D	727	J-D	5490	J-D
Antimony	UG/L	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U
Arsenic	UG/L	0.8	U	0.8	U	0.81		0.8	U	0.8	U
Barium	UG/L	129	J	43	J	40.6	J	42.6	J	46.7	J
Beryllium	UG/L	0.56	U-B	0.16	U-B	0.16	U-B	0.32	U-B	0.52	U-B
Bismuth	UG/L	57.6	U-B	38.9	U-B	35.5	U-B	60.2	U-B	46.7	U-B
Cadmium	UG/L	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Calcium	UG/L	277000		128000		124000		174000		139000	
Chromium	UG/L	4.9	J-B	2.6	J-B	3.2	J-B	5.8	J-B	8.9	J-B
Cobalt	UG/L	1	U	1	U	1	U	1.1		3.4	
Copper	UG/L	3.4	J-D	1.4	J-D	2.7	J-D	3.4	J-D	7.6	J-D
Cyanide	UG/L	2.3	J-DB	0.25	UJ-DB	1.1	UJ-DB	0.25	UJ-DB	0.41	UJ-DB
Iron	UG/L	624	J-D	470	J-D	161	J-D	1170	J-D	7830	J-D
Lead	UG/L	2.3	U-B	2.2	U-B	1.2	U-B	1.2	U-B	1.8	U-B
Lithium	UG/L	8.4		5.9		5.4		29.8		16	
Magnesium	UG/L	64400		23200		22300		75500		35700	
Manganese	UG/L	26.8	J-D	8.2	J-D	3.5	J-D	37.5	J-D	129	J-D
Mercury	UG/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Molybdenum	UG/L	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Nickel	UG/L	4.6	U	4.6	U	4.6	U	4.6	U	7.5	
Potassium	UG/L	1460		1100		1010		3150		2520	
Selenium	UG/L	0.9	U	0.9	UJ-I	0.9	UJ-I	0.9	UJ-I	0.9	UJ-I
Silver	UG/L	3.7	U	1		1.1		1.7		1	
Sodium	UG/L	387000		26200		24900		77200		57000	
Thallium	UG/L	1.5	UJ-I	1.5	U	1.5	U	7.5	U	1.5	UJ-I
Tin	UG/L	6.8	U	6.8	U	6.8	U	6.8	U	6.8	U
Vanadium	UG/L	57.6		28.1		27.7		42.8		36.3	
Zinc	UG/L	7.4	J-D	9.6	J-D	4.4	J-D	9.6	J-D	24.5	J-D

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY									
Mound Seep #		Seep 619		Seep 621		Seep 614		Seep 623	
Sample ID		NS5001		NS6001		NS7001		NS8001	
EPA Sample ID		MND16--0611-0200		MND16--1113-0200		MND16--1308-0200		MND16--0303-0200	
Lab Sample ID		4791-003 REG		4791-004 REG		4791-005 REG		4791-006 REG	
Date Collected		3/30/94		3/30/94		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
Inorganics	**Units**								
Aluminum	UG/L	3040	J-D	254	J-D	3910	J-D	546	J-D
Antimony	UG/L	0.32	U	0.32	U	0.32	U	0.32	U
Arsenic	UG/L	0.8	U	0.94		0.8	U	0.8	U
Barium	UG/L	42.2	J	20.9	J	29.8	J	67.9	J
Beryllium	UG/L	0.2	U-B	0.16	U-B	0.32	U-B	0.32	U-B
Bismuth	UG/L	35.1	U-B	37.2	U-B	41.5	U-B	53.4	U-B
Cadmium	UG/L	0.4	U	0.4	U	0.4	U	0.4	U
Calcium	UG/L	80300		82300		113000		142000	
Chromium	UG/L	4.4	J-B	1.6	J-B	6.5	J-B	4.3	J-B
Cobalt	UG/L	1.4		1	U	3.1		1.2	
Copper	UG/L	5.7	J-D	3.2	J-D	6.2	J-D	2.8	J-D
Cyanide	UG/L	0.71	UJ-DB	0.25	UJ-DB	0.25	UJ-DB	1.7	J-DB
Iron	UG/L	3570	J-D	336	J-D	6180	J-D	786	J-D
Lead	UG/L	2.1	U-B	0.6	U	2.5	U-B	2.3	U-B
Lithium	UG/L	3.2		1.7	U	18.1		6.1	
Magnesium	UG/L	16600		16900		25300		35100	
Manganese	UG/L	110	J-D	9.2	J-D	159	J-D	17.3	J-D
Mercury	UG/L	0.1	U	0.1	U	0.1	U	0.1	U
Molybdenum	UG/L	1.5	U	1.5	U	1.5	U	1.5	U
Nickel	UG/L	4.6	U	4.6	U	5.2		4.6	U
Potassium	UG/L	1310		766		2460		1500	
Selenium	UG/L	0.9	UJ-I	0.9	UJ-I	0.9	UJ-I	0.9	UJ-I
Silver	UG/L	0.92	U	0.92	U	1.4		0.92	U
Sodium	UG/L	15400		13500		17500		130000	
Thallium	UG/L	7.5	U	1.5	U	1.5	U	1.5	UJ-I
Tin	UG/L	6.8	U	6.8	U	6.8	U	6.8	U
Vanadium	UG/L	22		18.6		29.3		35.6	
Zinc	UG/L	22.6	J-D	5.6	J-D	25.4	J-D	7.7	J-D

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 616		Seep 610		Seep 610 (DUP)		Seep 617		Seep 620	
Sample ID		NS1001		NS2001		NS2011		NS3001		NS4001	
EPA Sample ID		MND16--0206-0200		MND16--0903-0200		MND16--0903-1200		MND16--0317-0200		MND16--0408-0200	
Lab Sample ID		4790-001 REG		4790-003 REG		4790-004 REG		4791-001 REG		4791-002 REG	
Date Collected		3/29/94		3/29/94		03/29/94DUPE		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
Volatile Organics	**Units**										
Acetone	UG/L	10	UJ-C-	10	UJ-C-	10	UJ-C-	10	UJ-C-	10	UJ-C-
Acetonitrile	UG/L	100	U	100	U	100	U	100	U	100	U
Acrylonitrile	UG/L	100	U	100	U	100	U	100	U	100	U
Benzene	UG/L	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane	UG/L	5	U	5	U	5	U	5	U	5	U
Bromoform	UG/L	5	U	5	U	5	U	5	U	5	U
Bromomethane	UG/L	10	U	10	U	10	U	10	U	10	U
2-Butanone	UG/L	10	U	10	U	10	U	10	U	10	U
Carbon Disulfide	UG/L	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride	UG/L	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	UG/L	5	U	5	U	5	U	5	U	5	U
Chloroethane	UG/L	10	U	10	U	10	U	10	U	10	U
Chloroform	UG/L	5	U	5	U	5	U	5	U	5	U
Chloromethane	UG/L	10	U	10	U	10	U	10	U	10	U
Dibromochloromethane	UG/L	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	UG/L	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	UG/L	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	UG/L	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethene	UG/L	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	UG/L	5	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene	UG/L	5	U	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene	UG/L	5	U	5	U	5	U	5	U	5	U
1,2-Diethylbenzene	UG/L	5	U	5	U	5	U	5	U	5	U
Ethylbenzene	UG/L	5	U	5	U	5	U	5	U	5	U
2-Hexanone	UG/L	10	U	10	U	10	U	10	U	10	U
4-Methyl-2-pentanone	UG/L	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	UG/L	5	U	5	U	5	U	5	U	5	U
n-Hexane	UG/L	10	U	10	U	10	U	10	U	10	U
Styrene	UG/L	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	UG/L	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	UG/L	5	U	5	U	5	U	5	U	5	U

APPENDIX E
Seep Sampling Results (1994)

Toluene	UG/L	5	U	5	U	5	U	5	U	5	U
1,1,1-Trichloroethane	UG/L	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	UG/L	5	U	5	U	5	U	5	U	5	U
Trichloroethene	UG/L	5	U	5	U	5	U	8		5	U
1,1,2-Trichlorotrifluoroe	UG/L	5	U	5	U	5	U	5	U	5	U
Vinyl Acetate	UG/L	10	U	10	U	10	U	10	U	10	U
Vinyl Chloride	UG/L	10	U	10	U	10	U	10	U	10	U
Xylene, Total	UG/L	5	U	5	U	5	U	5	U	5	U
Tentatively Identified Compounds						1					

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 619		Seep 621		Seep 614		Seep 623			
Sample ID		NS5001		NS6001		NS7001		NS8001			
EPA Sample ID		MND16--0611-0200		MND16--1113-0200		MND16--1308-0200		MND16--0303-0200			
Lab Sample ID		4791-003 REG		4791-004 REG		4791-005 REG		4791-006 REG			
Date Collected		3/30/94		3/30/94		3/30/94		3/30/94			
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code		
Volatile Organics	Units										
Acetone	UG/L	10	UJ-C-	10	UJ-C-	10	UJ-C-	10	UJ-C-		
Acetonitrile	UG/L	100	U	100	UJ-S+	100	U	100	U		
Acrylonitrile	UG/L	100	U	100	UJ-S+	100	U	100	U		
Benzene	UG/L	5	U	5	U	5	U	5	U		
Bromodichloromethane	UG/L	5	U	5	U	5	U	5	U		
Bromoform	UG/L	5	U	5	U	5	U	5	U		
Bromomethane	UG/L	10	U	10	U	10	U	10	U		
2-Butanone	UG/L	10	U	10	U	10	U	10	U		
Carbon Disulfide	UG/L	5	U	5	U	5	U	5	U		
Carbon Tetrachloride	UG/L	5	U	5	U	5	U	5	U		
Chlorobenzene	UG/L	5	U	5	U	5	U	5	U		
Chloroethane	UG/L	10	U	10	U	10	U	10	U		
Chloroform	UG/L	5	U	5	U	5	U	5	U		
Chloromethane	UG/L	10	U	10	U	10	U	10	U		
Dibromochloromethane	UG/L	5	U	5	U	5	U	5	U		
1,1-Dichloroethane	UG/L	5	U	5	U	5	U	5	U		
1,2-Dichloroethane	UG/L	5	U	5	U	5	U	5	U		
1,1-Dichloroethene	UG/L	5	U	5	UJ-S+	5	U	5	U		
1,2-Dichloroethene	UG/L	5	U	5	U	5	U	5	U		
1,2-Dichloropropane	UG/L	5	U	5	U	5	U	5	U		
cis-1,3-Dichloropropene	UG/L	5	U	5	U	5	U	5	U		
trans-1,3-Dichloropropene	UG/L	5	U	5	U	5	U	5	U		
1,2-Diethylbenzene	UG/L	5	U	5	U	5	U	5	U		
Ethylbenzene	UG/L	5	U	5	U	5	U	5	U		
2-Hexanone	UG/L	10	U	10	U	10	U	10	U		
4-Methyl-2-pentanone	UG/L	10	U	10	U	10	U	10	U		
Methylene Chloride	UG/L	5	U	5	U	5	U	5	U		
n-Hexane	UG/L	10	U	10	U	10	U	10	U		
Styrene	UG/L	5	U	5	U	5	U	5	U		
1,1,2,2-Tetrachloroethane	UG/L	5	U	5	U	5	U	5	U		
Tetrachloroethene	UG/L	5	U	5	U	5	U	5	U		

APPENDIX E
Seep Sampling Results (1994)

Toluene	UG/L	5	U	5	U	5	U	5	U		
1,1,1-Trichloroethane	UG/L	5	U	5	U	5	U	5	U		
1,1,2-Trichloroethane	UG/L	5	U	5	U	5	U	5	U		
Trichloroethene	UG/L	5	U	5	U	5	U	5	U		
1,1,2-Trichlorotrifluoroe	UG/L	5	U	5	U	5	U	5	U		
Vinyl Acetate	UG/L	10	U	10	U	10	U	10	U		
Vinyl Chloride	UG/L	10	U	10	U	10	U	10	U		
Xylene, Total	UG/L	5	U	5	U	5	U	5	U		
Tentatively Identified Compounds						1		1			

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 616		Seep 610		Seep 610 (DUP)		Seep 617		Seep 620	
Sample ID		NS1001		NS2001		NS2011		NS3001		NS4001	
EPA Sample ID		MND16--0206-0200		MND16--0903-0200		MND16--0903-1200		MND16--0317-0200		MND16--0408-0200	
Lab Sample ID		4790-001 REG		4790-003 REG		4790-004 REG		4791-001 REG		4791-002 REG	
Date Collected		3/29/94		3/29/94		03/29/94DUPE		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
Semi-volatile Organics	Units										
Acenaphthene	UG/L	10	U	11	U	10	U	10	U	10	U
Acenaphthylene	UG/L	10	U	11	U	10	U	10	U	10	U
Anthracene	UG/L	10	U	11	U	10	U	10	U	10	U
Benzo(a)anthracene	UG/L	10	U	11	U	10	U	10	U	10	U
Benzo(a)pyrene	UG/L	10	U	11	U	10	U	10	U	10	U
Benzo(b)fluoranthene	UG/L	10	U	11	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	UG/L	10	U	11	U	10	U	10	U	10	U
Benzo(k)fluoranthene	UG/L	10	U	11	U	10	U	10	U	10	U
Benzoic Acid	UG/L	52	UJ-C	53	UJ-C	50	UJ-C	52	UJ-C	52	UJ-C
Benzyl Alcohol	UG/L	10	U	11	U	10	U	10	U	10	U
2-Benzyl-4-chlorophenol	UG/L	10	U	11	U	10	U	10	U	10	U
bis(2-Chloroethoxy)methane	UG/L	10	U	11	U	10	U	10	U	10	U
bis(2-Chloroethyl)ether	UG/L	10	U	11	U	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	UG/L	10	U	11	U	10	U-B	10	U-B	10	U
4-Bromophenyl-phenylether	UG/L	10	U	11	U	10	U	10	U	10	U
Butylbenzylphthalate	UG/L	10	UJ-C	11	UJ-C	10	UJ-C	10	UJ-C	10	UJ-C
Carbazole	UG/L	10	U	11	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	UG/L	10	U	11	U	10	U	10	U	10	U
4-Chloroaniline	UG/L	10	UJ-C	11	UJ-C	10	UJ-C	10	UJ-C	10	UJ-C
2-Chloronaphthalene	UG/L	10	U	11	U	10	U	10	U	10	U
2-Chlorophenol	UG/L	10	U	11	U	10	U	10	U	10	U
4-Chlorophenyl-phenylether	UG/L	10	U	11	U	10	U	10	U	10	U
Chrysene	UG/L	10	U	11	U	10	U	10	U	10	U
Di-n-butylphthalate	UG/L	10	U-B	11	U-B	10	U-B	10	U-B	10	U-B
Di-n-octylphthalate	UG/L	10	UJ-C	11	UJ-C	10	UJ-C	10	UJ-C	10	UJ-C
Dibenzo(a,h)anthracene	UG/L	10	U	11	U	10	U	10	U	10	U
Dibenzofuran	UG/L	10	U	11	U	10	U	10	U	10	U
1,2-Dichlorobenzene	UG/L	10	U	11	U	10	U	10	U	10	U
1,3-Dichlorobenzene	UG/L	10	U	11	U	10	U	10	U	10	U
1,4-Dichlorobenzene	UG/L	10	U	11	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	UG/L	10	U	11	U	10	U	10	U	10	U

APPENDIX E
Seep Sampling Results (1994)

2,4-Dichlorophenol	UG/L	10	U	11	U	10	U	10	U	10	U
Diethylphthalate	UG/L	10	U	11	U	10	U	10	U	10	U
2,4-Dimethylphenol	UG/L	10	U	11	U	10	U	10	U	10	U
Dimethylphthalate	UG/L	10	U	11	U	10	U	10	U	10	U
4,6-Dinitro-2-methylphenol	UG/L	26	U	26	U	25	U	26	U	26	U
2,4-Dinitrophenol	UG/L	26	U	26	U	25	U	26	U	26	U
2,4-Dinitrotoluene	UG/L	10	U	11	U	10	U	10	U	10	U
2,6-Dinitrotoluene	UG/L	10	U	11	U	10	U	10	U	10	U
Fluoranthene	UG/L	10	U	11	U	10	U	10	U	10	U
Fluorene	UG/L	10	U	11	U	10	U	10	U	10	U
Hexachlorobenzene	UG/L	10	U	11	U	10	U	10	U	10	U
Hexachlorobutadiene	UG/L	10	U	11	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	UG/L	10	U	11	U	10	U	10	U	10	U
Hexachloroethane	UG/L	10	U	11	U	10	U	10	U	10	U
Indeno(1,2,3-c,d)pyrene	UG/L	10	U	11	U	10	U	10	U	10	U
Isophorone	UG/L	10	U	11	U	10	U	10	U	10	U
2-Methylnaphthalene	UG/L	10	U	11	U	10	U	10	U	10	U
2-Methylphenol	UG/L	10	U	11	U	10	U	10	U	10	U
4-Methylphenol	UG/L	10	U	11	U	10	U	10	U	10	U
N-Nitroso-di-n-propylamine	UG/L	10	U	11	U	10	U	10	U	10	U
N-Nitrosodiphenylamine	UG/L	10	U	11	U	10	U	10	U	10	U
Naphthalene	UG/L	10	U	11	U	10	U	10	U	10	U
2-Nitroaniline	UG/L	26	U	26	U	25	U	26	U	26	U
3-Nitroaniline	UG/L	26	UJ-C	26	UJ-C	25	UJ-C	26	UJ-C	26	UJ-C
4-Nitroaniline	UG/L	26	U	26	U	25	U	26	U	26	U
Nitrobenzene	UG/L	10	U	11	U	10	U	10	U	10	U
2-Nitrophenol	UG/L	10	U	11	U	10	U	10	U	10	U
4-Nitrophenol	UG/L	26	U	26	U	25	U	26	U	26	U
2,2'-oxybis(1-Chloropropane)	UG/L	10	U	11	U	10	U	10	U	10	U
Pentachlorophenol	UG/L	26	U	26	U	25	U	26	U	26	U
Phenanthrene	UG/L	10	U	11	U	10	U	10	U	10	U
Phenol	UG/L	10	U	11	U	10	U	10	U	10	U
Pyrene	UG/L	10	U	11	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene	UG/L	10	U	11	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	UG/L	26	U	26	U	25	U	26	U	26	U
2,4,6-Trichlorophenol	UG/L	10	U	11	U	10	U	10	U	10	U
Tentatively Identified Compounds								2			

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 619		Seep 621		Seep 614		Seep 623			
Sample ID		NS5001		NS6001		NS7001		NS8001			
EPA Sample ID		MND16--0611-0200		MND16--1113-0200		MND16--1308-0200		MND16--0303-0200			
Lab Sample ID		4791-003 REG		4791-004 REG		4791-005 REG		4791-006 REG			
Date Collected		3/30/94		3/30/94		3/30/94		3/30/94			
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code		
Semi-volatile Organics	Units										
Acenaphthene	UG/L	10	U	10	U	10	U	10	U		
Acenaphthylene	UG/L	10	U	10	U	10	U	10	U		
Anthracene	UG/L	10	U	10	U	10	U	10	U		
Benzo(a)anthracene	UG/L	10	U	10	U	10	U	10	U		
Benzo(a)pyrene	UG/L	10	U	10	U	10	U	10	U		
Benzo(b)fluoranthene	UG/L	10	U	10	U	10	U	10	U		
Benzo(g,h,i)perylene	UG/L	10	U	10	U	10	U	10	U		
Benzo(k)fluoranthene	UG/L	10	U	10	U	10	U	10	U		
Benzoic Acid	UG/L	51	UJ-C	51	UJ-C	50	UJ-C	52	UJ-C		
Benzyl Alcohol	UG/L	10	U	10	U	10	U	10	U		
2-Benzyl-4-chlorophenol	UG/L	10	U	10	U	10	U	10	U		
bis(2-Chloroethoxy)methane	UG/L	10	U	10	U	10	U	10	U		
bis(2-Chloroethyl)ether	UG/L	10	U	10	U	10	U	10	U		
bis(2-Ethylhexyl)phthalate	UG/L	10	U-B	10	U	10	U-B	10	U-B		
4-Bromophenyl-phenylether	UG/L	10	U	10	U	10	U	10	U		
Butylbenzylphthalate	UG/L	2	J-C-	10	UJ-C	10	UJ-C	10	UJ-C		
Carbazole	UG/L	10	U	10	U	10	U	10	U		
4-Chloro-3-methylphenol	UG/L	10	U	10	U	10	U	10	U		
4-Chloroaniline	UG/L	10	UJ-C	10	UJ-C	10	UJ-C	10	UJ-C		
2-Chloronaphthalene	UG/L	10	U	10	U	10	U	10	U		
2-Chlorophenol	UG/L	10	U	10	U	10	U	10	U		
4-Chlorophenyl-phenylether	UG/L	10	U	10	U	10	U	10	U		
Chrysene	UG/L	10	U	10	U	10	U	10	U		
Di-n-butylphthalate	UG/L	10	U-B	10	U-B	10	U-B	10	U-B		
Di-n-octylphthalate	UG/L	10	UJ-C	10	UJ-C	10	UJ-C	10	UJ-C		
Dibenzo(a,h)anthracene	UG/L	10	U	10	U	10	U	10	U		
Dibenzofuran	UG/L	10	U	10	U	10	U	10	U		
1,2-Dichlorobenzene	UG/L	10	U	10	U	10	U	10	U		
1,3-Dichlorobenzene	UG/L	10	U	10	U	10	U	10	U		
1,4-Dichlorobenzene	UG/L	10	U	10	U	10	U	10	U		
3,3'-Dichlorobenzidine	UG/L	10	U	10	U	10	U	10	U		

APPENDIX E
Seep Sampling Results (1994)

2,4-Dichlorophenol	UG/L	10	U	10	U	10	U	10	U		
Diethylphthalate	UG/L	10	U	10	U	10	U	10	U		
2,4-Dimethylphenol	UG/L	10	U	10	U	10	U	10	U		
Dimethylphthalate	UG/L	10	U	10	U	10	U	10	U		
4,6-Dinitro-2-methylphenol	UG/L	26	U	26	U	25	U	26	U		
2,4-Dinitrophenol	UG/L	26	U	26	U	25	U	26	U		
2,4-Dinitrotoluene	UG/L	10	U	10	U	10	U	10	U		
2,6-Dinitrotoluene	UG/L	10	U	10	U	10	U	10	U		
Fluoranthene	UG/L	10	U	10	U	10	U	10	U		
Fluorene	UG/L	10	U	10	U	10	U	10	U		
Hexachlorobenzene	UG/L	10	U	10	U	10	U	10	U		
Hexachlorobutadiene	UG/L	10	U	10	U	10	U	10	U		
Hexachlorocyclopentadiene	UG/L	10	U	10	U	10	U	10	U		
Hexachloroethane	UG/L	10	U	10	U	10	U	10	U		
Indeno(1,2,3-c,d)pyrene	UG/L	10	U	10	U	10	U	10	U		
Isophorone	UG/L	10	U	10	U	10	U	10	U		
2-Methylnaphthalene	UG/L	10	U	10	U	10	U	10	U		
2-Methylphenol	UG/L	10	U	10	U	10	U	10	U		
4-Methylphenol	UG/L	10	U	10	U	10	U	10	U		
N-Nitroso-di-n-propylamine	UG/L	10	U	10	U	10	U	10	U		
N-Nitrosodiphenylamine	UG/L	10	U	10	U	10	U	10	U		
Naphthalene	UG/L	10	U	10	U	10	U	10	U		
2-Nitroaniline	UG/L	26	U	26	U	25	U	26	U		
3-Nitroaniline	UG/L	26	UJ-C	26	UJ-C	25	UJ-C	26	UJ-C		
4-Nitroaniline	UG/L	26	U	26	U	25	U	26	U		
Nitrobenzene	UG/L	10	U	10	U	10	U	10	U		
2-Nitrophenol	UG/L	10	U	10	U	10	U	10	U		
4-Nitrophenol	UG/L	26	U	26	U	25	U	26	U		
2,2'-oxybis(1-Chloropropane)	UG/L	10	U	10	U	10	U	10	U		
Pentachlorophenol	UG/L	26	U	26	U	25	U	26	U		
Phenanthrene	UG/L	10	U	10	U	10	U	10	U		
Phenol	UG/L	10	U	10	U	10	U	10	U		
Pyrene	UG/L	10	U	10	U	10	U	10	U		
1,2,4-Trichlorobenzene	UG/L	10	U	10	U	10	U	10	U		
2,4,5-Trichlorophenol	UG/L	26	U	26	U	25	U	26	U		
2,4,6-Trichlorophenol	UG/L	10	U	10	U	10	U	10	U		
Tentatively Identified Compounds		7				1		1			

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 616		Seep 610		Seep 610 (DUP)		Seep 617		Seep 620	
Sample ID		NS1001		NS2001		NS2011		NS3001		NS4001	
EPA Sample ID		MND16--0206-0200		MND16--0903-0200		MND16--0903-1200		MND16--0317-0200		MND16--0408-0200	
Lab Sample ID		4790-001 REG		4790-003 REG		4790-004 REG		4791-001 REG		4791-002 REG	
Date Collected		3/29/94		3/29/94		03/29/94DUPE		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
Pesticides and PCBs	**Units**										
Aldrin	UG/L	0.052	U	0.052	U	0.052	U	0.051	U	0.051	U
alpha-BHC	UG/L	0.052	U	0.052	U	0.052	U	0.051	U	0.051	U
alpha-Chlordane	UG/L	0.052	U	0.052	U	0.052	U	0.051	U	0.051	U
Aroclor-1016	UG/L	1	U	1	U	1	U	1	U	1	U
Aroclor-1221	UG/L	2.1	U	2.1	U	2.1	U	2	U	2	U
Aroclor-1232	UG/L	1	U	1	U	1	U	1	U	1	U
Aroclor-1242	UG/L	1	U	1	U	1	U	1	U	1	U
Aroclor-1248	UG/L	1	U	1	U	1	U	1	U	1	U
Aroclor-1254	UG/L	1	U	1	U	1	U	1	U	1	U
Aroclor-1260	UG/L	1	U	1	U	1	U	1	U	1	U
beta-BHC	UG/L	0.052	U	0.052	U	0.052	U	0.051	U	0.051	U
4,4'-DDD	UG/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDE	UG/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDT	UG/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
delta-BHC	UG/L	0.052	U	0.052	U	0.052	U	0.051	U	0.051	U
Dieldrin	UG/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Endosulfan I	UG/L	0.052	U	0.052	U	0.052	U	0.051	U	0.051	U
Endosulfan II	UG/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Endosulfan Sulfate	UG/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Endrin	UG/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Endrin Aldehyde	UG/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Endrin Ketone	UG/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
gamma-BHC (Lindane)	UG/L	0.052	U	0.052	U	0.052	U	0.051	U	0.051	U
gamma-Chlordane	UG/L	0.052	U	0.052	U	0.052	U	0.051	U	0.051	U
Heptachlor	UG/L	0.052	U	0.052	U	0.052	U	0.051	U	0.051	U
Heptachlor Epoxide	UG/L	0.052	U	0.052	U	0.052	U	0.051	U	0.051	U
p,p'-Methoxychlor	UG/L	0.52	U	0.52	U	0.52	U	0.51	U	0.51	U
Toxaphene	UG/L	5.2	U	5.2	U	5.2	U	5.1	U	5.1	U

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 619		Seep 621		Seep 614		Seep 623			
Sample ID		NS5001		NS6001		NS7001		NS8001			
EPA Sample ID		MND16--0611-0200		MND16--1113-0200		MND16--1308-0200		MND16--0303-0200			
Lab Sample ID		4791-003 REG		4791-004 REG		4791-005 REG		4791-006 REG			
Date Collected		3/30/94		3/30/94		3/30/94		3/30/94			
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code		
Pesticides and PCBs	Units										
Aldrin	UG/L	0.052	U	0.052	U	0.052	U	0.052	U		
alpha-BHC	UG/L	0.052	U	0.052	U	0.052	U	0.052	U		
alpha-Chlordane	UG/L	0.052	U	0.052	U	0.052	U	0.052	U		
Aroclor-1016	UG/L	1	U	1	U	1	U	1	U		
Aroclor-1221	UG/L	2.1	U	2.1	U	2.1	U	2.1	U		
Aroclor-1232	UG/L	1	U	1	U	1	U	1	U		
Aroclor-1242	UG/L	1	U	1	U	1	U	1	U		
Aroclor-1248	UG/L	1	U	1	U	1	U	1	U		
Aroclor-1254	UG/L	1	U	1	U	1	U	1	U		
Aroclor-1260	UG/L	1	U	1	U	1	U	1	U		
beta-BHC	UG/L	0.052	U	0.052	U	0.052	U	0.052	U		
4,4'-DDD	UG/L	0.1	U	0.1	U	0.1	U	0.1	U		
4,4'-DDE	UG/L	0.1	U	0.1	U	0.1	U	0.1	U		
4,4'-DDT	UG/L	0.1	U	0.1	U	0.1	U	0.1	U		
delta-BHC	UG/L	0.052	U	0.052	U	0.052	U	0.052	U		
Dieldrin	UG/L	0.1	U	0.1	U	0.1	U	0.1	U		
Endosulfan I	UG/L	0.052	U	0.052	U	0.052	U	0.052	U		
Endosulfan II	UG/L	0.1	U	0.1	U	0.1	U	0.1	U		
Endosulfan Sulfate	UG/L	0.1	U	0.1	U	0.1	U	0.1	U		
Endrin	UG/L	0.1	U	0.1	U	0.1	U	0.1	U		
Endrin Aldehyde	UG/L	0.1	U	0.1	U	0.1	U	0.1	U		
Endrin Ketone	UG/L	0.1	U	0.1	U	0.1	U	0.1	U		
gamma-BHC (Lindane)	UG/L	0.052	U	0.052	U	0.052	U	0.052	U		
gamma-Chlordane	UG/L	0.052	U	0.052	U	0.052	U	0.052	U		
Heptachlor	UG/L	0.052	U	0.052	U	0.052	U	0.052	U		
Heptachlor Epoxide	UG/L	0.052	U	0.052	U	0.052	U	0.052	U		
p,p'-Methoxychlor	UG/L	0.52	U	0.52	U	0.52	U	0.52	U		
Toxaphene	UG/L	5.2	U	5.2	U	5.2	U	5.2	U		

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 616		Seep 610		Seep 610 (DUP)		Seep 617		Seep 620	
Sample ID		NS1001		NS2001		NS2011		NS3001		NS4001	
EPA Sample ID		MND16--0206-0200		MND16--0903-0200		MND16--0903-1200		MND16--0317-0200		MND16--0408-0200	
Lab Sample ID		AA5358 REG		AA5363 REG		AA5369 REG		AA5374 REG		AA5379 REG	
Date Collected		3/29/94		3/29/94		03/29/94DUPE		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
Anions - Chloride	Units										
Anions - Chloride	MG/L	1026		75.9		76.2		357		191	
Anions - Fluoride	Units										
Anions - Fluoride	MG/L	0.14		0.17		0.15		0.15		0.18	
Anions - Sulfate	Units										
Anions -Sulfates	MG/L	144	J-H,C-	74.5	J-H,C-	74.5	J-H,C-	84	J-H,C-	83	J-H,C-
Anions - NO_2/NO_3	Units										
Anions - NO_2/NO_3	MG/L	1.7		0.59		0.6		0.3		0.02	U
MOUND NEW PROPERTY											
Mound Seep #		Seep 619		Seep 621		Seep 614		Seep 623			
Sample ID		NS5001		NS6001		NS7001		NS8001			
EPA Sample ID		MND16--0611-0200		MND16--1113-0200		MND16--1308-0200		MND16--0303-0200			
Lab Sample ID		AA5384 REG		AA5404 REG		AA5389 REG		AA5394 REG			
Date Collected		3/30/94		3/30/94		3/30/94		3/30/94			
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code		
Anions - Chloride	Units										
Anions - Chloride	MG/L	46.3		27.1		30.3		363			
Anions - Fluoride	Units										
Anions - Fluoride	MG/L	0.14		0.15		0.21		0.18			
Anions - Sulfate	Units										
Anions -Sulfates	MG/L	51.5	J-H,C-	54	J-H,C-	46	J-H,C-	92	J-H,C-		
Anions - NO_2/NO_3	Units										
Anions - NO_2/NO_3	MG/L	0.02	U	0.02	U	0.02	U	0.26			

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 616		Seep 610		Seep 610 (DUP)		Seep 617		Seep 620	
Sample ID		NS1001		NS2001		NS2011		NS3001		NS4001	
EPA Sample ID		MND16--0206-0200		MND16--0903-0200		MND16--0903-1200		MND16--0317-0200		MND16--0408-0200	
Lab Sample ID		REG		REG		REG		REG		REG	
Date Collected		3/29/94		3/29/94		03/29/94DUPE		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
Alkalinity	**Units**										
Alkalinity	MG/L	285		280		283		298		245	
MOUND NEW PROPERTY											
Mound Seep #		Seep 619		Seep 621		Seep 614		Seep 623			
Sample ID		NS5001		NS6001		NS7001		NS8001			
EPA Sample ID		MND16--0611-0200		MND16--1113-0200		MND16--1308-0200		MND16--0303-0200			
Lab Sample ID		REG		REG		REG		REG			
Date Collected		3/30/94		3/30/94		3/30/94		3/30/94			
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code		
Alkalinity	**Units**										
Alkalinity	MG/L	177		211		227		280			

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 616		Seep 610		Seep 610 (DUP)		Seep 617		Seep 620	
Sample ID		NS1001		NS2001		NS2011		NS3001		NS4001	
EPA Sample ID		MND16--0206-0200		MND16--0903-0200		MND16--0903-1200		MND16--0317-0200		MND16--0408-0200	
Lab Sample ID		REG		REG		REG		REG		REG	
Date Collected		3/29/94		3/29/94		03/29/94DUPE		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
Ammonia	Units										
Ammonia	MG/L	0.03	U	0.03	U	0.03	U	0.03	U	0.03	U
MOUND NEW PROPERTY											
Mound Seep #		Seep 619		Seep 621		Seep 614		Seep 623			
Sample ID		NS5001		NS6001		NS7001		NS8001			
EPA Sample ID		MND16--0611-0200		MND16--1113-0200		MND16--1308-0200		MND16--0303-0200			
Lab Sample ID		REG		REG		REG		REG			
Date Collected		3/30/94		3/30/94		3/30/94		3/30/94			
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code		
Ammonia	Units										
Ammonia	MG/L	0.03	U	0.03	U	0.03	U	0.03	U		

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 616		Seep 610		Seep 610 (DUP)		Seep 617		Seep 620	
Sample ID		NS1001		NS2001		NS2011		NS3001		NS4001	
EPA Sample ID		MND16--0206-0200		MND16--0903-0200		MND16--0903-1200		MND16--0317-0200		MND16--0408-0200	
Lab Sample ID		AA5355 REG		AA5360 REG		AA5366 REG		AA5371 REG		AA5376 REG	
Date Collected		3/29/94		3/29/94		03/29/94DUPE		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
Total Kjeldahl Nitrogen	Units										
Total Kjeldahl Nitrogen	MG/L	0.23	J-C-	0.31	J-C-	0.16	J-C-	0.15	J-C-	0.3	J-C-
MOUND NEW PROPERTY											
Mound Seep #		Seep 619		Seep 621		Seep 614		Seep 623			
Sample ID		NS5001		NS6001		NS7001		NS8001			
EPA Sample ID		MND16--0611-0200		MND16--1113-0200		MND16--1308-0200		MND16--0303-0200			
Lab Sample ID		AA5381 REG		AA5401 REG		AA5386 REG		AA5391 REG			
Date Collected		3/30/94		3/30/94		3/30/94		3/30/94			
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code		
Total Kjeldahl Nitrogen	Units										
Total Kjeldahl Nitrogen	MG/L	0.2	J-C-	0.1	UJ-C	0.15	J-C-	0.18	J-C-		

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 616		Seep 610		Seep 610 (DUP)		Seep 617		Seep 620	
Sample ID		NS1001		NS2001		NS2011		NS3001		NS4001	
EPA Sample ID		MND16--0206-0200		MND16--0903-0200		MND16--0903-1200		MND16--0317-0200		MND16--0408-0200	
Lab Sample ID		REG		REG		REG		REG		REG	
Date Collected		3/29/94		3/29/94		03/29/94DUPE		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
Total Phosphorus	**Units**										
Total Phosphorus	MG/L	0.05	U	0.05	U	0.05	U	0.07	U	0.42	
MOUND NEW PROPERTY											
Mound Seep #		Seep 619		Seep 621		Seep 614		Seep 623			
Sample ID		NS5001		NS6001		NS7001		NS8001			
EPA Sample ID		MND16--0611-0200		MND16--1113-0200		MND16--1308-0200		MND16--0303-0200			
Lab Sample ID		REG		REG		REG		REG			
Date Collected		3/30/94		3/30/94		3/30/94		3/30/94			
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code		
Total Phosphorus	**Units**										
Total Phosphorus	MG/L	0.19		0.07	U	0.37		0.05	U		

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 616		Seep 610		Seep 610 (DUP)		Seep 617		Seep 620	
Sample ID		NS1001		NS2001		NS2011		NS3001		NS4001	
EPA Sample ID		MND16--0206-0200		MND16--0903-0200		MND16--0903-1200		MND16--0317-0200		MND16--0408-0200	
Lab Sample ID		REG		REG		REG		REG		REG	
Date Collected		3/29/94		3/29/94		03/29/94DUPE		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
Total Dissolved Solids	**Units**										
Total Dissolved Solids	MG/L	2350		529		526		1130		684	
MOUND NEW PROPERTY											
Mound Seep #		Seep 619		Seep 621		Seep 614		Seep 623			
Sample ID		NS5001		NS6001		NS7001		NS8001			
EPA Sample ID		MND16--0611-0200		MND16--1113-0200		MND16--1308-0200		MND16--0303-0200			
Lab Sample ID		REG		REG		REG		REG			
Date Collected		3/30/94		3/30/94		3/30/94		3/30/94			
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code		
Total Dissolved Solids	**Units**										
Total Dissolved Solids	MG/L	320		302		371		1060			

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 616		Seep 610		Seep 610 (DUP)		Seep 617		Seep 620	
Sample ID		NS1001		NS2001		NS2011		NS3001		NS4001	
EPA Sample ID		MND16--0206-0200		MND16--0903-0200		MND16--0903-1200		MND16--0317-0200		MND16--0408-0200	
Lab Sample ID		4790-001 REG		REG		REG		REG		REG	
Date Collected		3/29/94		3/29/94		03/29/94DUPE		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
Total Organic Carbon	**Units**										
Total Organic Carbon	MG/L	5.7	J	4.5	J	3	J	4.6	J	2.2	J
MOUND NEW PROPERTY											
Mound Seep #		Seep 619		Seep 621		Seep 614		Seep 623			
Sample ID		NS5001		NS6001		NS7001		NS8001			
EPA Sample ID		MND16--0611-0200		MND16--1113-0200		MND16--1308-0200		MND16--0303-0200			
Lab Sample ID		REG		REG		REG		REG			
Date Collected		3/30/94		3/30/94		3/30/94		3/30/94			
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code		
Total Organic Carbon	**Units**										
Total Organic Carbon	MG/L	5.1	J	1.8	J	3.5	J	2.3	J		

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 616		Seep 610		Seep 610 (DUP)		Seep 617		Seep 620	
Sample ID		NS1001		NS2001		NS2011		NS3001		NS4001	
EPA Sample ID		MND16--0206-0200		MND16--0903-0200		MND16--0903-1200		MND16--0317-0200		MND16--0408-0200	
Lab Sample ID		4790-001 REG		REG		REG		REG		REG	
Date Collected		3/29/94		3/29/94		03/29/94DUPE		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
Total Suspended Solids	**Units**										
Total Suspended Solids	MG/L	26		15		8	U	25		317	
MOUND NEW PROPERTY											
Mound Seep #		Seep 619		Seep 621		Seep 614		Seep 623			
Sample ID		NS5001		NS6001		NS7001		NS8001			
EPA Sample ID		MND16--0611-0200		MND16--1113-0200		MND16--1308-0200		MND16--0303-0200			
Lab Sample ID		REG		REG		REG		REG			
Date Collected		3/30/94		3/30/94		3/30/94		3/30/94			
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code		
Total Suspended Solids	**Units**										
Total Suspended Solids	MG/L	139		8	U	330		27			

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY											
Mound Seep #		Seep 616		Seep 610		Seep 610 (DUP)		Seep 617		Seep 620	
Sample ID		NS1001		NS2001		NS2011		NS3001		NS4001	
EPA Sample ID		MND16--0206-0200		MND16--0903-0200		MND16--0903-1200		MND16--0317-0200		MND16--0408-0200	
Lab Sample ID		REG		REG		REG		REG		REG	
Date Collected		3/29/94		3/29/94		03/29/94DUPE		3/30/94		3/30/94	
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code
EXPLOSIVES	Units										
2-Amino-4,6-Dinitrotolu	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C
1,3-Dinitrobenzene	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C
2,4-Dinitrotoluene	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C
2,6-Dinitrotoluene	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C
HMX	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C
Nitrobenzene	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C
Pentaerythritol Tetrani	UG/L	3.4	J-C-	0.4	UJ-C	0.4	UJ-C	0.44	J-C-	1.6	J-C-
RDX	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C
Tetryl	UG/L	0.1	U	0.1	U-C	0.1	U-C	0.1	U-C	0.1	U-C
1,3,5-Trinitrobenzene	UG/L	0.16	J-C-	0.1	U-C	0.1	U-C	0.1	U-C	0.1	U-C
2,4,6-Trinitrotoluene	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C

MOUND NEW PROPERTY											
Mound Seep #		Seep 619		Seep 621		Seep 614		Seep 623			
Sample ID		NS5001		NS6001		NS7001		NS8001			
EPA Sample ID		MND16--0611-0200		MND16--1113-0200		MND16--1308-0200		MND16--0303-0200			
Lab Sample ID		REG		REG		REG		REG			
Date Collected		3/30/94		3/30/94		3/30/94		3/30/94			
		Result	Val. Code	Result	Val. Code	Result	Val. Code	Result	Val. Code		
EXPLOSIVES	Units										
2-Amino-4,6-Dinitrotolu	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C		
1,3-Dinitrobenzene	UG/L	0.11	J-C-	0.1	UJ-C	2.9	J-C-	0.1	UJ-C		
2,4-Dinitrotoluene	UG/L	0.34	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C		
2,6-Dinitrotoluene	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C		
HMX	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C		
Nitrobenzene	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C		
Pentaerythritol Tetrani	UG/L	11	J-C-	0.4	UJ-C	2.7	J-C-	0.4	UJ-C		
RDX	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C		
Tetryl	UG/L	0.1	U-C	0.1	U	0.1	U	0.1	U		
1,3,5-Trinitrobenzene	UG/L	0.1	U-C	0.1	U	1.8		0.1	U		
2,4,6-Trinitrotoluene	UG/L	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C	0.1	UJ-C		

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY													
Mound Seep #		Seep 616				Seep 610				Seep 610 (DUP)			
Sample ID		NS1001				NS2001				NS2011			
EPA Sample ID		MND16--0206-0200				MND16--0903-0200				MND16--0903-1200			
Lab Sample ID		65-000865.7 REG				65-000866.5 REG				65-000867.3 REG			
Date Collected		3/29/94				3/29/94				03/29/94DUPE			
		MDA	Result	UNC	Val. Code	MDA	Result	UNC	Val. Code	MDA	Result	UNC	Val. Code
Actinium-227	**Units**												
Actinium-227	pCi/L	0.11	0.090+/-	0.18	J-D	0.12	0.15+/-	0.2	J-D	0.11	0.063+/-	0.48	J-D
Americium-241	**Units**												
Americium-241	pCi/L	0.03	0.22+/-	0.24	J-D	0.04	0.009+/-	0.18	U-B	0.04	-0.081+/-	0.13	U-B
Gamma Scan	**Units**												
Bismuth-207	pCi/L	<17	<17	N.A.	U	<14	<14	N.A.	U	<13	<13	N.A.	U
Bismuth-210	pCi/L	<2.2	<2.2	N.A.	U	<9.6	<9.6	N.A.	U	<9.5	<9.5	N.A.	U
Cesium-137	pCi/L	<7.1	<7.1	N.A.	U	<10	<10	N.A.	U	<14	<14	N.A.	U
Cobalt-60	pCi/L	<15	<15	N.A.	U	<18	<18	N.A.	U	<18	<18	N.A.	U
Isotopic Plutonium	**Units**												
Plutonium-238	pCi/L	0.34	-0.036+/-	0.14	U-B	0.38	0.22+/-	0.35		0.28	0.000+/-	0.16	U-B
Plutonium-239/240	pCi/L	0.21	0.009+/-	0.13	U-B	0.24	-0.045+/-	0.038	U-B	0.17	-0.027+/-	0.025	U-B
Gamma Scan	**Units**												
Potassium-40	pCi/L	<100	<100	N.A.	U	<-25	<-25	N.A.	U	<16	<16	N.A.	U
RADIUM-226	**Units**												
Radium-226	pCi/L	0.024	0.39+/-	0.2	U-B	0.013	0.31+/-	0.13	J-LS	0.035	0.64+/-	0.29	J-LS
Strontium 90	**Units**												
Strontium-90	pCi/L	1.9	2.8+/-	1.3	J-L	2.5	1.5+/-	1.5	U-B	2.3	1.8+/-	1.5	U-B
Isotopic Thorium	**Units**												
Thorium-228	pCi/L	0.21	0.009+/-	0.1	UJ-SB	0.24	-0.036+/-	0.088	UJ-SB	0.22	-0.054+/-	0.082	UJ-SB
Thorium-230	pCi/L	0.18	0.027+/-	0.071	UJ-B	0.21	0.045+/-	0.12	UJ-B	0.19	0.15+/-	0.18	UJ-B
Thorium-232	pCi/L	0.14	-0.009+/-	0.012	UJ-BS	0.15	-0.018+/-	0.017	UJ-BS	0.14	-0.009+/-	0.012	UJ-BS
Tritium 3	**Units**												
Tritium	pCi/L	330	28+/-	170	U-B	330	-81+/-	160	U-B	330	-110+/-	160	U-B

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Isotopic Uranium	**Units**												
Uranium-234	**pCi/L**	**0.18**	**0.96+/-**	**0.53**		**0.32**	**0.32+/-**	**0.35**	**U-B**	**0.32**	**0.61+/-**	**0.48**	**U-B**
Uranium-235	**pCi/L**	**0.18**	**0.12+/-**	**0.17**	**U-B**	**0.24**	**0.081+/-**	**0.2**	**U-B**	**0.24**	**0.29+/-**	**0.29**	**U-B**
Uranium-238	**pCi/L**	**0.18**	**0.34+/-**	**0.29**		**0.3**	**0.14+/-**	**0.2**	**U-B**	**0.3**	**-0.027+/-**	**0.15**	**U-B**

APPENDIX E
Seep Sampling Results (1994)

MOUND NEW PROPERTY													
Mound Seep #		Seep 617				Seep 620				Seep 619			
Sample ID		NS3001				NS4001				NS5001			
EPA Sample ID		MND16--0317-0200				MND16--0408-0200				MND16--0611-0200			
Lab Sample ID		65-000902.5 REG				65-000903.3 REG				65-000904.1 REG			
Date Collected		3/30/94				3/30/94				3/30/94			
		MDA	Result	UNC	Val. Code	MDA	Result	UNC	Val. Code	MDA	Result	UNC	Val. Code
Actinium-227	Units												
Actinium-227	pCi/L	0.12	0.099+/-	0.14	J-D	0.1	0.15+/-	0.17	J-D	0.14	0.43+/-	0.31	J-D
Americium-241	Units												
Americium-241	pCi/L	0.01	0.22+/-	0.21	J-D	0.04	0.045+/-	0.21	U-B	0.03	0.40+/-	0.35	J-D
Gamma Scan	Units												
Bismuth-207	pCi/L	<8.3	<8.3	N.A.	U	<18	<18	N.A.	U	<0.14	<0.14	N.A.	U
Bismuth-210	pCi/L	<9.6	<9.6	N.A.	U	<18	<18	N.A.	U	<4.0	<4.0	N.A.	U
Cesium-137	pCi/L	<11	<11	N.A.	U	<6.2	<6.2	N.A.	U	<6.6	<6.6	N.A.	U
Cobalt-60	pCi/L	<20	<20	N.A.	U	<18	<18	N.A.	U	<17	<17	N.A.	U
Isotopic Plutonium	Units												
Plutonium-238	pCi/L	0.31	0.027+/-	0.24	U-B	0.3	0.027+/-	0.12	U-B	0.39	0.13+/-	0.26	
Plutonium-239/240	pCi/L	0.19	-0.027+/-	0.028	U-B	0.19	-0.018+/-	0.019	U-B	0.24	-0.054+/-	0.042	U-B
Gamma Scan	Units												
Potassium-40	pCi/L	<-7.7	<-7.7	N.A.	U	<98	<98	N.A.	U	<-15	<-15	N.A.	U
RADIUM-226	Units												
Radium-226	pCi/L	0.018	0.13+/-	0.13	U-B	0.02	0.81+/-	0.24	J-LS	0.027	0.52+/-	0.25	U-B
Strontium 90	Units												
Strontium-90	pCi/L	1.8	0.51+/-	1.1	U-B	2.2	1.1+/-	1.4	U-B	1.9	0.64+/-	1.2	U-B
Isotopic Thorium	Units												
Thorium-228	pCi/L	0.24	0.063+/-	0.12	UJ-SB	0.2	0.14+/-	0.16	J-S	0.28	0.50+/-	0.32	J-S
Thorium-230	pCi/L	0.21	0.054+/-	0.12	UJ-B	0.17	0.090+/-	0.15	UJ-B	0.24	0.39+/-	0.3	J-S
Thorium-232	pCi/L	0.16	0.045+/-	0.08	J-S	0.12	0.090+/-	0.11	J-S	0.18	0.13+/-	0.16	J-S
Tritium 3	Units												
Tritium	pCi/L	330	220+/-	170	J-LS	330	-62+/-	160	U-B	330	-120+/-	160	U-B

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Isotopic Uranium	**Units**												
Uranium-234	**pCi/L**	0.3	0.40+/-	0.41	U-B	0.24	0.96+/-	0.49		0.3	0.80+/-	0.48	
Uranium-235	**pCi/L**	0.23	0.11+/-	0.19	U-B	0.18	0.21+/-	0.21	U-B	0.23	0.11+/-	0.19	U-B
Uranium-238	**pCi/L**	0.28	0.045+/-	0.14	U-B	0.22	0.21+/-	0.21	U-B	0.28	0.11+/-	0.19	U-B

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Seep Sampling Results (1994)

MOUND NEW PROPERTY													
Mound Seep #		Seep 621				Seep 614				Seep 623			
Sample ID		NS6001				NS7001				NS8001			
EPA Sample ID		MND16--1113-0200				MND16--1308-0200				MND16--0303-0200			
Lab Sample ID		65-000905.0 REG				65-000906.8 REG				65-000907.6 REG			
Date Collected		3/30/94				3/30/94				3/30/94			
		MDA	Result	UNC	Val. Code	MDA	Result	UNC	Val. Code	MDA	Result	UNC	Val. Code
Actinium-227	**Units**												
Actinium-227	pCi/L	0.16	0.081+/-	0.16	J-D	0.11	0.22+/-	0.2	J-D	0.12	0.054+/-	0.11	J-D
Americium-241	**Units**												
Americium-241	pCi/L	0.04	0.32+/-	0.31	J-D	0.06	-0.12+/-	0.22	U-B	0.01	0.29+/-	0.24	J-D
Gamma Scan	**Units**												
Bismuth-207	pCi/L	<9.4	<9.4	N.A.	U	<11	<11	N.A.	U	<9.1	<9.1	N.A.	U
Bismuth-210	pCi/L	<2.5	<2.5	N.A.	U	<12	<12	N.A.	U	<4.0	<4.0	N.A.	U
Cesium-137	pCi/L	<22	<22	N.A.	U	<14	<14	N.A.	U	<10	<10	N.A.	U
Cobalt-60	pCi/L	<18	<18	N.A.	U	<16	<16	N.A.	U	<18	<18	N.A.	U
Isotopic Plutonium	**Units**												
Plutonium-238	pCi/L	0.34	0.090+/-	0.22		0.31	0.21+/-	0.31		0.28	0.018+/-	0.11	U-B
Plutonium-239/240	pCi/L	0.21	-0.054+/-	0.04	U-B	0.19	-0.027+/-	0.028	U-B	0.18	-0.009+/-	0.018	U-B
Gamma Scan	**Units**												
Potassium-40	pCi/L	<-74	<-74	N.A.	U	<-25	<-25	N.A.	U	<36	<36	N.A.	U
RADIUM-226	**Units**												
Radium-226	pCi/L	0.024	0.31+/-	0.19	J-LS	0.036	0.69+/-	0.3	J-LS	0.024	0.45+/-	0.21	U-B
Strontium 90	**Units**												
Strontium-90	pCi/L	2.1	0.81+/-	1.3	U-B	1.6	1.4+/-	1	U-B	1.9	0.48+/-	1.2	U-B
Isotopic Thorium	**Units**												
Thorium-228	pCi/L	0.24	-0.054+/-	0.12	UJ-SB	0.22	0.018+/-	0.13	UJ-SB	0.23	-0.018+/-	0.018	UJ-SB
Thorium-230	pCi/L	0.21	0.16+/-	0.2	UJ-B	0.18	0.19+/-	0.19	UJ-B	0.2	0.48+/-	0.28	J-S
Thorium-232	pCi/L	0.16	0.027+/-	0.081	J-S	0.14	0.063+/-	0.1	J-S	0.15	0.000+/-	0	UJ-BS
Tritium 3	**Units**												
Tritium	pCi/L	330	-59+/-	160	U-B	330	-150+/-	160	U-B	330	-130+/-	160	U-B

APPENDIX E
Seep Sampling Results (1994)

Isotopic Uranium	**Units**												
Uranium-234	**pCi/L**	0.27	0.62+/-	0.42	U-B	0.3	0.16+/-	0.3	U-B	0.3	0.47+/-	0.43	U-B
Uranium-235	**pCi/L**	0.21	0.12+/-	0.17	U-B	0.23	0.13+/-	0.19	U-B	0.23	-0.036+/-	0.032	U-B
Uranium-238	**pCi/L**	0.25	0.23+/-	0.24	U-B	0.28	0.32+/-	0.33		0.28	0.32+/-	0.3	

APPENDIX F

SURVEYOR'S REPORT

KUSMER & ASSOCIATES, INC.

ARCHITECTS • ENGINEERS • SURVEYORS

TO: Science Applications
International Corporation
ATTN: Mr. Thomas Tank
4031 Colonel Glenn Highway, Suite 300
Beavercreek, Ohio 45431-1600

DATE: February 23, 1994

Project: Surveying Services/Subcontract # 51-940271-42 Subproject #01-0513-01-2340-300

Job No: 94400-S1 (083)

ATTN: Mr. Tank

We are sending to you the following:

Three (3) copies of the site map dated 02/23/94.
Three (3) copies of the coordinate numbers.
One (1) copy of the field notes.
One (1) Diskette.

These are:

___ Submitted for your approval
_X_ For your use
___ For your review & comments
_X_ As you requested
___ To be returned
___ Other

Comments:

If you have any questions, please don't hesitate to call.
Thank you.

Sincerely,

KUSMER & ASSOCIATES, INC.

W Robert Kusmer

W. Robert Kusmer, P.S.
President

WRK/blk

622 West State Street • Fremont, Ohio 43420 • 419-332-1027

KUSMER & ASSOCIATES, INC.
622 West State Street
FREMONT, OHIO 43420
(419) 332-1027

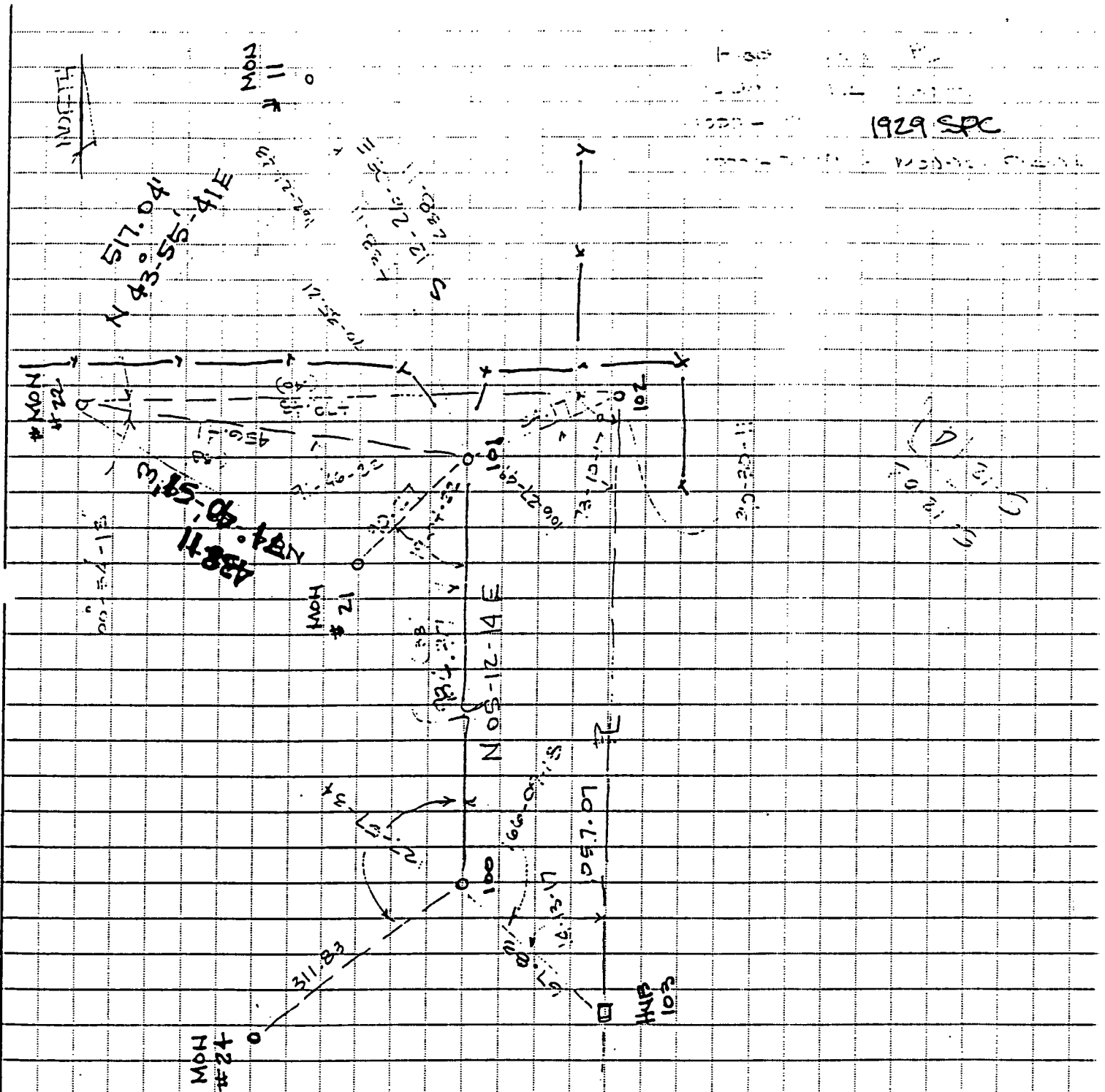
JOB GHAM-51 SAIC - MOUND

SHEET NO. _____ OF _____

CALCULATED BY Bob K. Fine DATE 1-24-94

CHECKED BY _____ DATE _____

SCALE _____

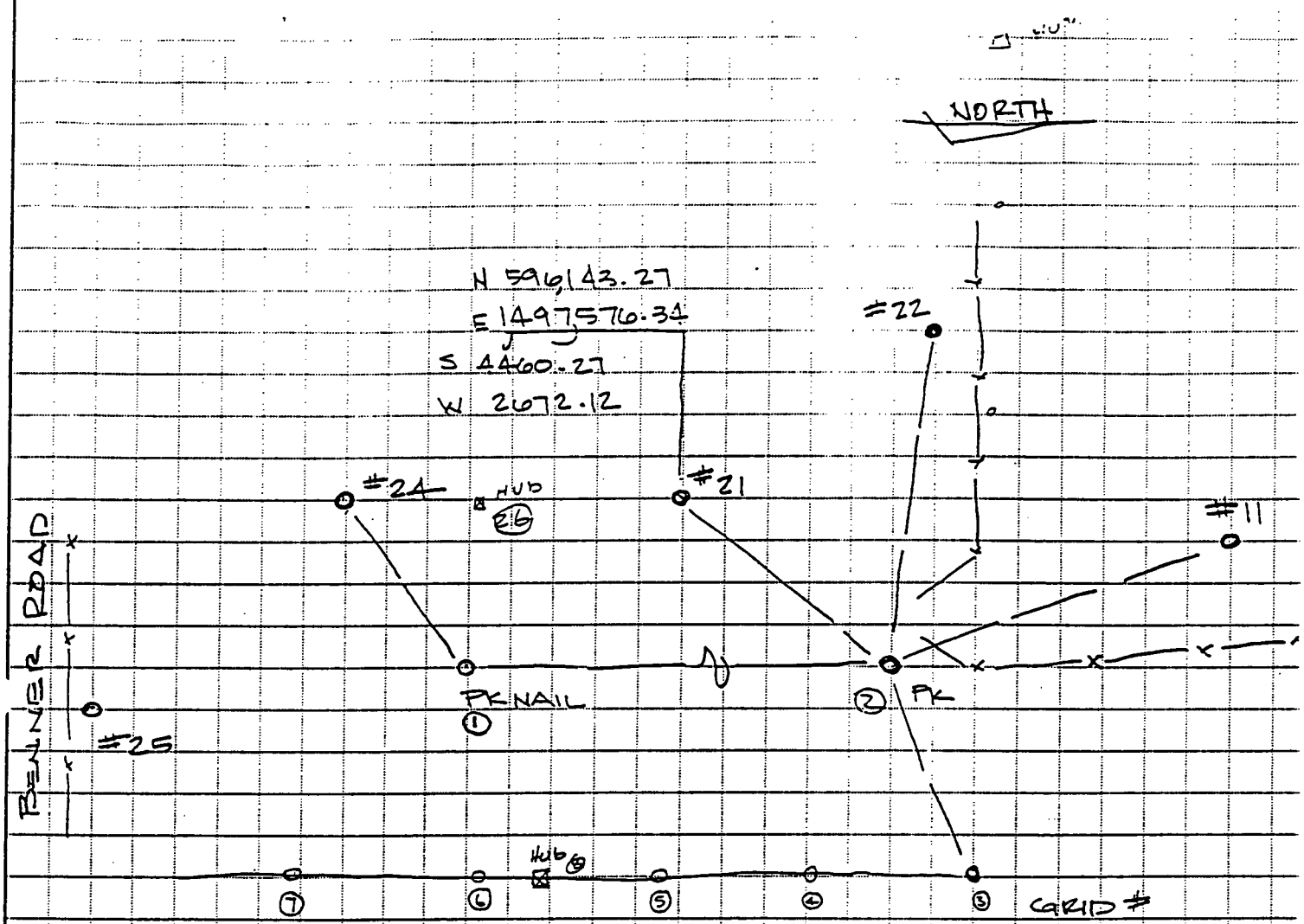


1606-09-18	—	1606-09-08
14-13-17	—	14-13-07
73-10-17	—	73-10-06
106-27-49		106-27-39
360-00-41		360-00-00

PRODUCT 204-1 (Single Sheets) 205-1 (Padded) NEBS Inc., Groton, Mass. 01471. To Order PHONE TOLL FREE 1-800-225-6380

KUSMER & ASSOCIATES, INC.
622 West State Street
FREMONT, OHIO 43420
(419) 332-1027

JOB SAIC-[illegible]
SHEET NO. [illegible] OF
CALCULATED BY [illegible] DATE [illegible]
CHECKED BY DATE
SCALE



PRODUCT 204-1 (Single Sheets) 205-1 (Padded) Adams Inc., Groton, Mass. 01471. To Order PHONE TOLL FREE 1-800-225-6380

KUSMER & ASSOCIATES, INC.
ARCHITECTS • ENGINEERS • SURVEYORS
622 WEST STATE FREMONT, OHIO 43420 PHONE 419-332-1027

E D M SHEETS

PRJECT SAIC
JOB NO.
CREW Bob & Yuki
DATE 1-24-94 SHEET 1 OF
WEATHER

COURSE	2-1			
HORIZ ∢	LINE			
HOR DIST.	984.38	.37	.37	.37
COURSE	2-21			
HORIZ ∢	1-2-21 ∡ 19° 04' 22"			
HOR DIST.	90.27	.27	.27	.27
COURSE	2-3			
HORIZ ∢	1-2-3 ∡ 253° 32' 11" 106-27-49			
HOR DIST.	24.18	.17	.18	.17
COURSE	2-22			
HORIZ ∢	1-2-22 ∡ 91 46 22			
HOR DIST.	456.41	.41	.41	.41
COURSE	2-11			
HORIZ ∢	1-2-11 ∡ 162° 21' 43"			
HOR DIST.	438.10	.11	.11	.10
COURSE	3-2			
HORIZ ∢	1106 (B)-3-2 ∡ 73° 10' 17"			
HOR DIST.				

KUSMER & ASSOCIATES, INC.
ARCHITECTS • ENGINEERS • SURVEYORS
622 WEST STATE FREMONT, OHIO 43420 PHONE 419-332-1027

E D M SHEETS

PRJECT
JOB NO.
CREW
DATE 1-24-94 SHEET 2 OF
WEATHER

COURSE	3-22			
HORIZ ∢	8-3-22 ∡ 90° 30' 10"			
HOR DIST.	479.43	.43	.43	.43
COURSE	22-2			
HORIZ ∢	LINE			
HOR DIST.	456.38			
COURSE	22-3			
HORIZ ∢	2-22-3 ∡ 359° 05' 47"			
HOR DIST.	479.42	40	40	.40
COURSE	1-2			
HORIZ ∢	LINE			
HOR DIST.	984.38			
COURSE	1-8			
HORIZ ∢	2-1-8 ∡ 166° 09' 18"			
HOR DIST.	67.83	.83	.83	.83
COURSE	1-24			
HORIZ ∢	2-1-24 ∡ 232° 02' 26"			
HOR DIST.	311.83	83	1.83	87

KUSMER & ASSOCIATES, INC.
ARCHITECTS • ENGINEERS • SURVEYORS
622 WEST STATE FREMONT, OHIO 43420 PHONE 419-332-1027

E D M SHEETS

PRJECT: SMIC
JOB NO.:
CREW:
DATE: 1-24-94. SHEET 3 OF
WEATHER:

COURSE	2-1			
HORIZ ∡	~~26 2-1 X1~~			
HOR DIST.				

COURSE	8-2			
HORIZ ∡	6-8-2 ∡ 165° 46' 43"			
HOR DIST.				

COURSE				
HORIZ ∡				
HOR DIST.				

COURSE				
HORIZ ∡				
HOR DIST.				

COURSE				
HORIZ ∡				
HOR DIST.				

COURSE				
HORIZ ∡				
HOR DIST.				

KUSMER & ASSOCIATES, INC.
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E D M SHEETS

COURSE	8-1				
HORIZ ∢	3-8-1 ∢ 345-46-38				
HOR DIST.	67.84	.83	.84	.84	
COURSE	8-25				
HORIZ ∢	38-25 ∢ 243-57-13				
HOR DIST.	290.82	290.82	.80	.81	
COURSE					400
HORIZ ∢					290.64
HOR DIST.	290.64	290.64	.63	.64	109.36
COURSE					
HORIZ ∢					
HOR DIST.					
COURSE					
HORIZ ∢					
HOR DIST.					
COURSE					
HORIZ ∢					
HOR DIST.					

PRJECT SAIC MOUND
JOB NO. 94100
CREW Bob K, Yuri A
DATE 1-25-94 SHEET ____ OF ____
WEATHER

KUSMER & ASSOCIATES, INC.
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E D M SHEETS

PRJECT SAIC - MOUND
JOB NO. 9940051
CREW Bob K Yuri A
DATE 1-25-94 SHEET ____ OF ____
WEATHER

COURSE	24-26			
HORIZ ∢				
HOR DIST.	1229.72	.72	.72	.72
COURSE	25-1			
HORIZ ∢	26-24-1 ∢ 177-53-30			
HOR DIST.	311.83	.83	.83	.83
COURSE	25-8			
HORIZ ∢	∢ 190-11-01			
HOR DIST.	290.79	.80	.80	.80
COURSE				
HORIZ ∢				
HOR DIST.				
COURSE				
HORIZ ∢				
HOR DIST.				
COURSE				
HORIZ ∢				
HOR DIST.				

KUSMER & ASSOCIATES, INC.
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E D M SHEETS

COURSE	0.0 S0'E - S00W (2)				400
HORIZ ∢	ON LINE				
HOR DIST.					
COURSE					
HORIZ ∢					
HOR DIST.	257.14	.13	.15	.13	
COURSE	0S0 — Hobson Rd				
HORIZ ∢					
HOR DIST.	1057.07				
COURSE					
HORIZ ∢					
HOR DIST.					
COURSE					
HORIZ ∢					
HOR DIST.					
COURSE					
HORIZ ∢					
HOR DIST.					

PRJECT SAK - MOUND
JOB NO. 94400
CREW Rodo K. Yuli
DATE 1-24-94 SHEET ____ OF ____
WEATHER ____

KUSMER, MUSTERIC & ASSOCIATES, INC.

ENGINEERING ARCHITECTURE SURVEYING PLANNING

PROJECT SAIC - [illegible]
JOB NO. OAWOO-S1 SHEET 1 OF 1
CREW BK - GE DATE Feb. 1, 199
WEATHER
CALCULATED BY DATE
CHECKED BY DATE

DESCRIPTION BENCH MARK ELEVATION

LEVEL CIRCUIT DATA

STATION	+ BS	HI	-FS/ROD	ELEV	DESCRIPTION
					MON #22
	4.41	885.41		881.00	
0S					
4			9.62	875.79	#112
0S					
8			15.10	870.31	#113
0S					
12			19.25	866.16	#122
					MON #22
	17.27	898.27			
0S					
0			2.58	895.69	#102
					MON #21 (891.48)
			6.78	891.49	
4S					
0			15.29	882.98	#104
8S					
0			14.64	883.63	#105
	11.50	874.33		862.83	MON #24
12S					
0			1.44	872.89	#106
12S					
TP			23.51	850.82	
	0.94	851.76			
16S					
0			7.75	844.01	#107
			22.63	829.13	MON #25

KUSMER, MUSTERIC & ASSOCIATES, INC.

ENGINEERING ARCHITECTURE SURVEYING PLANNING

PROJECT [illegible]
JOB NO. _____ SHEET 2 OF _____
CREW [illegible] DATE [illegible]
WEATHER _____
CALCULATED BY _____ DATE _____
CHECKED BY _____ DATE _____

BENCH MARK _____ ELEVATION _____

DESCRIPTION _____

LEVEL CIRCUIT DATA

STATION	+ BS	HI	-FS/ROD	ELEV	DESCRIPTION
xxx	3.72	707.17		698.45	
			[illegible]	[illegible]	

KUSMER & ASSOCIATES, INC.
622 West State Street
FREMONT, OHIO 43420
(419) 332-1027

JOB
SHEET NO. 04HM0-51 OF
CALCULATED BY DATE
CHECKED BY DATE
SCALE

136.85

40° 32' 54" 1501.26 -12.44 4.72

[illegible]

862.83

[illegible]

	(ELV)				HI	±
109	(836.47)	29-56-36		139.46	4.68	/ -26.8
110	(820.82)	106-24-30	HI 5.19	108.96	12.72	/ -34.4
115	(776.53)	71-45-39		[illegible]	6.00 / 12.10	/ -85.4
116	(747.80)	34-36-00		538.84	16.30 / [illegible]	/ -83.9
117	(730.23)	358-35-39		680.11	16.45	/ -91.3
118	(729.49)	12-21-25		1026.37	[illegible]	/ -125
119	(733.86)	35-17-28		955.75	12.72	/ 121
120	(767.20)	55-30-40	HI	1014.42	15.71	/ -85.
121	(806.49)	76-07-11	5.15	223.25	12.72	/ -48.6
122	~~(8[illegible])~~	37-[illegible]		511.50	10.69	/ +9.2
123		77-4[illegible]-57		787.60		
124		[illegible]		[illegible]		
125	(735.03)	52-15-[illegible]		3[illegible].52	9.95	/ -12
126	(720.58)	35-54-09	5.18	1[illegible].71	5.86	/ -14
127	(740.54)	18-59-15		1[illegible].55	4.72	/ -12
NU 128		22-47-21		1787.52		
→ 129	(713.90)	35.43-10		1738.69	4.72	/ -149.
→ +025 130	(725.57)	48-42-00		1780.68		
131		46-25-14	5.20	2172.96		
132		35-48-48		2138.68		
133		25-14-02		2178.56		
134	(724.11)	11-05-59		1920.27	8.72	/ -135.
135		1-16-10		2121.24		
136	(741.42)	4-52-46		1567.34	8.72	/ -117.8

13-11-11
1449.71

HI

73-26-13
91-51-06

14-23
10-13

44-59-04 19652

73° 26' 14" 1301.25
(ELV = 802.20)

KUSMER & ASSOCIATES, INC.
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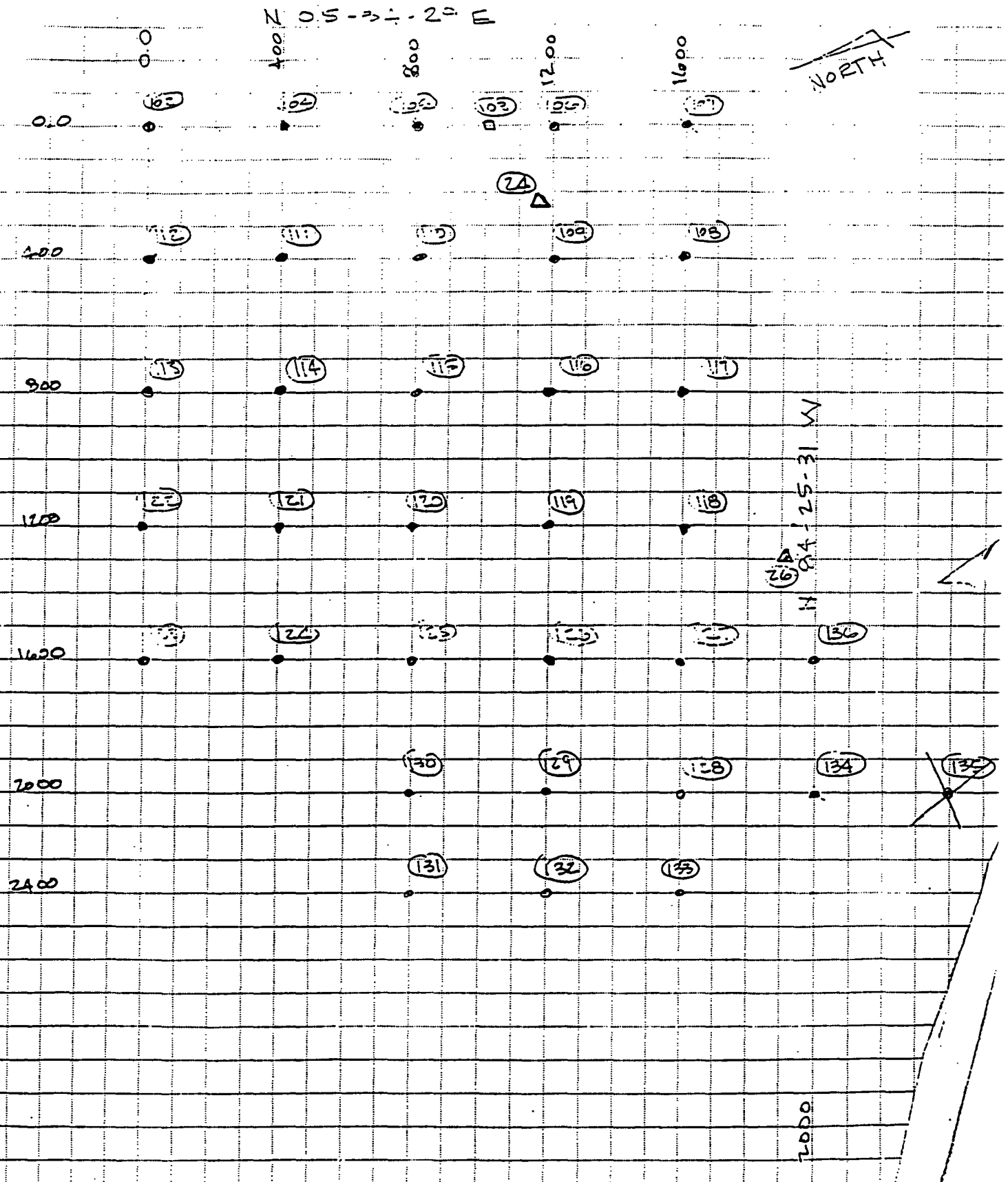
JOB
SHEET NO. OF
CALCULATED BY DATE
CHECKED BY DATE
SCALE



PRODUCT 204-1 (Single Sheets 205-1 (Padded)) NEBS Inc., Groton, Mass. 01471. To Order PHONE TOLL FREE 1-800-225-6380

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622 West State Street
FREMONT, OHIO 43420
(419) 332-1027

JOB 6-4480-S1
SHEET NO. ____ OF ____
CALCULATED BY ____ DATE ____
CHECKED BY ____ DATE ____
SCALE ____

		±	HI	
137 - 287°-41'-57"	822.76	-27.46 /	14.15	826.31
138 - 316°-17'-31"	792.80	-61.18 /	12.72	794.02
139 - 320°-48'-47"	948.75	-100.56 /	12.72	754.64
140 - 356°-26'-31"	1221.36'	-109.23 /	12.72	745.97

HI - 5.09
862.83-BM

125 286°51'37" -	758.89	-25.93 /	12.72	829.27 (829.13)

61 -24
133 - 288°-20'-27" 922.75 ~~156.89~~

#61 = (705.94) 705.64 AVG
xxx = 698.45 HI - 5.46 156.75 / 4.72
0.6 1.08

284°55'00"

PRODUCT 204-1 (Single Sheets) 205-1 (Padded) AMPAD © Inc., Gardner, Mass. 01-471. To Order PHONE TOLL FREE 1-800-225-6380

KUSMER & ASSOCIATES, INC.
ARCHITECTS • ENGINEERS • SURVEYORS
622 WEST STATE FREMONT, OHIO 43420 PHONE 419-332-1027

E D M SHEETS

COURSE	Mon # 26 – Mon # 25				Mon Elev 829.13
HORIZ ∢	26-24-25 ∢ 286-51-37				
HOR DIST.	758.89				
Vert Dist		-25.93	12.72	829.27 Elev	
COURSE	23 #124				
HORIZ ∢	121-23-124 ∢ 178°-14-37				
HOR DIST.	302.36				Elev 760.39
Vert. Dist	802.00/23	+ 5.09 –	16.72 –	30.28 +0.5	
COURSE					
HORIZ ∢					
HOR DIST.					
COURSE					
HORIZ ∢					
HOR DIST.					
COURSE					
HORIZ ∢					
HOR DIST.					
COURSE					
HORIZ ∢					
HOR DIST.					

PRJECT SAIC Mound
JOB NO.
CREW Bob K Gary E.
DATE 2-2-94 SHEET ____ OF ____
WEATHER

KUSMER & ASSOCIATES, INC.
ARCHITECTS • ENGINEERS • SURVEYORS
822 WEST STATE FREMONT, OHIO 43420 PHONE 419-332-1027

E D M SHEETS

PRJECT SATC-MOUND
JOB NO.
CREW RK+GG
DATE 2-2-94 SHEET 3 OF 3
WEATHER

COURSE	61-24				
HORIZ ∢	LINE				
HOR DIST.					
COURSE	HUBS (#70)				(694.30) (694.92)
HORIZ ∢	24-61-70 ∢ 284° 55' 00"				
HOR DIST.	923.13	.13	.13	.13	
	HI 5.46	PRISM 4.72	± -10.08		
COURSE	HUBS (#71)				(705.24) (703.86)
HORIZ ∢	24-61-70 ∢ 284° 55' 06"				
HOR DIST.	1277.41	.41	.41	.41	
	HI 5.46	PRISM 4.72	± -1.14		
COURSE	71-61				
HORIZ ∢	LINE				
HOR DIST.					
COURSE	HUBS (#72)				
HORIZ ∢	61-71-72 ∢ 263° 32' 38"				(706.23) ✓ (704.85)
HOR DIST.	HI 4.43	PRISM 0.45	± -2.99		
	425.39	.39	.39	.39	
COURSE	72-MON				
HORIZ ∢	71-72-MON 28 ∢ RT -130° 10' 28"				
HOR DIST.	206.47	.47	.47	.47	
	HI 4.79	PRISM 0.45	± -1.66		708.29

SAIC - MOUND PLANT, MIAMISBURG, OHIO

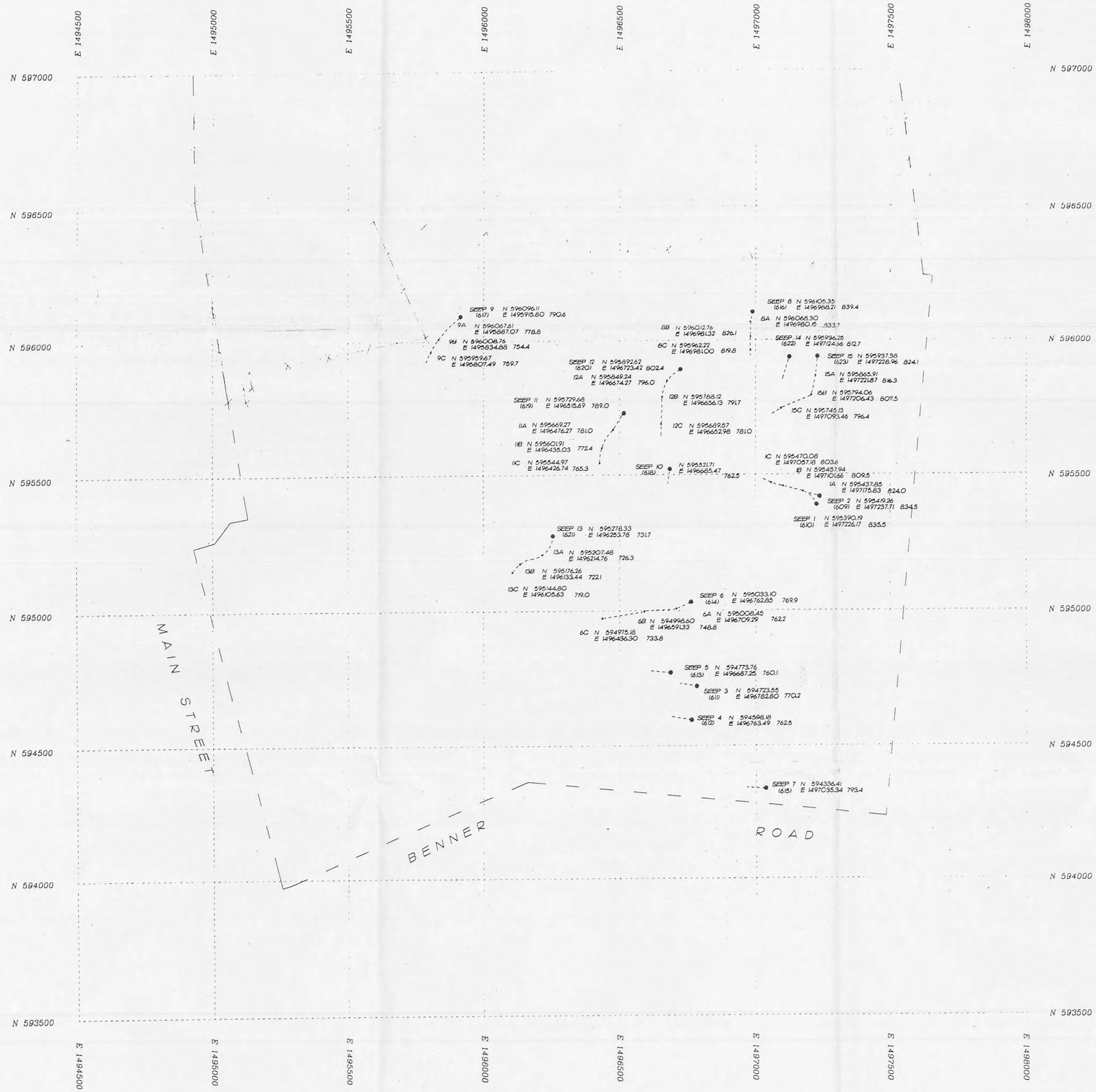
COOR #	SAIC #	STATE PLAN COORDINATES NORTH	EAST	PLANT COORDINATES SOUTH	WEST	ELEV.
1137	00-OS-19.6489	594274.78	1497446.01	6108.33	3562.30	826.2
1107	00-OS-16	594637.92	1497481.52	5792.22	3380.03	844.0
1106	00-OS-12	595036.00	1497520.44	5445.70	3180.22	872.9
1105	00-OS-08	595434.08	1497559.36	5099.18	2980.42	883.6
1104	00-OS-04	595832.15	1497598.29	4752.65	2780.61	883.0
1102	00-OS-00	596230.23	1497637.21	4406.13	2580.81	895.7
1112	04-OS-00	596269.13	1497239.13	4206.33	2927.33	875.8
1111	04-OS-04	595871.05	1497200.20	4552.85	3127.14	811.6
1110	04-OS-08	595472.97	1497161.28	4899.37	3326.94	820.6
1109	04-OS-12	595074.89	1497122.36	5245.89	3526.75	836.3
1108	04-OS-16	594676.81	1497083.43	5592.42	3726.55	813.1
1138	04-OS-19.6533	594313.23	1497047.88	5908.90	3909.04	793.9
1113	08-OS-00	596308.03	1496841.04	4006.52	3273.85	870.3
1114	08-OS-04	595909.95	1496802.12	4353.04	3473.66	806.7
1115	08-OS-08	595511.87	1496763.20	4699.57	3673.46	776.3
1116	08-OS-12	595113.79	1496724.28	5046.09	3873.27	767.6
1117	08-OS-16	594715.71	1496685.35	5392.61	4073.07	760.0
1139	08-OS-19.6578	594351.68	1496649.76	5709.49	4255.79	754.5
1122	12-OS-00	596346.92	1496442.96	3806.72	3620.38	866.2
1121	12-OS-04	595948.84	1496404.04	4153.24	3820.18	806.4
1120	12-OS-08	595550.76	1496365.12	4499.76	4019.99	767.0
1119	12-OS-12	595152.69	1496326.20	4846.28	4219.79	733.7
1118	12-OS-16	594754.61	1496287.27	5192.81	4419.60	729.3
1140	12-OS-19.6623	594390.14	1496251.64	5510.07	4602.53	745.8
1123	16-OS-00	596385.82	1496044.88	3606.91	3966.90	828.5
1124	16-OS-04	595987.74	1496005.96	3953.43	4166.70	760.2
1125	16-OS-08	595589.66	1495967.04	4299.96	4366.51	734.8
1126	16-OS-12	595191.58	1495928.11	4646.48	4566.31	720.4
1127	16-OS-16	594793.50	1495889.19	4993.00	4766.12	740.3
1136	16-OS-20	594395.42	1495850.27	5339.52	4965.92	741.2
1129	20-OS-12	595230.48	1495530.03	4446.67	4912.84	713.7
1128	20-OS-16	594832.40	1495491.11	4793.20	5112.64	722.6
1134	20-OS-20	594434.32	1495452.19	5139.72	5312.45	723.9
1132	24-OS-12	595269.37	1495131.96	4246.87	5259.36	703.1
1133	24-OS-16	594871.29	1495093.04	4593.39	5459.16	697.4
1130	20-OS-08	595628.56	1495568.96	4100.15	4713.03	725.4
1131	24-OS-08	595667.45	1495170.88	3900.35	5059.55	701.4

SAIC - MOUND PLANT, MIAMISBURG, OHIO

COOR #	SAIC #	STATE PLAN COORDINATES NORTH	EAST	PLANT COORDINATES SOUTH	WEST	ELEV.
1137	00-OS-19.6489	594274.78	1497446.01	6108.33	3562.30	826.2
1107	00-OS-16	594637.92	1497481.52	5792.22	3380.03	844.0
1106	00-OS-12	595036.00	1497520.44	5445.70	3180.22	872.9
1105	00-OS-08	595434.08	1497559.36	5099.18	2980.42	883.6
1104	00-OS-04	595832.15	1497598.29	4752.65	2780.61	883.0
1102	00-OS-00	596230.23	1497637.21	4406.13	2580.81	895.7
1112	04-OS-00	596269.13	1497239.13	4206.33	2927.33	875.8
1111	04-OS-04	595871.05	1497200.20	4552.85	3127.14	811.6
1110	04-OS-08	595472.97	1497161.28	4899.37	3326.94	820.6
1109	04-OS-12	595074.89	1497122.36	5245.89	3526.75	836.3
1108	04-OS-16	594676.81	1497083.43	5592.42	3726.55	813.1
1138	04-OS-19.6533	594313.23	1497047.88	5908.90	3909.04	793.9
1113	08-OS-00	596308.03	1496841.04	4006.52	3273.85	870.3
1114	08-OS-04	595909.95	1496802.12	4353.04	3473.66	806.7
1115	08-OS-08	595511.87	1496763.20	4699.57	3673.46	776.3
1116	08-OS-12	595113.79	1496724.28	5046.09	3873.27	767.6
1117	08-OS-16	594715.71	1496685.35	5392.61	4073.07	760.0
1139	08-OS-19.6578	594351.68	1496649.76	5709.49	4255.79	754.5
1122	12-OS-00	596346.92	1496442.96	3806.72	3620.38	866.2
1121	12-OS-04	595948.84	1496404.04	4153.24	3820.18	806.4
1120	12-OS-08	595550.76	1496365.12	4499.76	4019.99	767.0
1119	12-OS-12	595152.69	1496326.20	4846.28	4219.79	733.7
1118	12-OS-16	594754.61	1496287.27	5192.81	4419.60	729.3
1140	12-OS-19.6623	594390.14	1496251.64	5510.07	4602.53	745.8
1123	16-OS-00	596385.82	1496044.88	3606.91	3966.90	828.5
1124	16-OS-04	595987.74	1496005.96	3953.43	4166.70	760.2
1125	16-OS-08	595589.66	1495967.04	4299.96	4366.51	734.8
1126	16-OS-12	595191.58	1495928.11	4646.48	4566.31	720.4
1127	16-OS-16	594793.50	1495889.19	4993.00	4766.12	740.3
1136	16-OS-20	594395.42	1495850.27	5339.52	4965.92	741.2
1129	20-OS-12	595230.48	1495530.03	4446.67	4912.84	713.7
1128	20-OS-16	594832.40	1495491.11	4793.20	5112.64	722.6
1134	20-OS-20	594434.32	1495452.19	5139.72	5312.45	723.9
1132	24-OS-12	595269.37	1495131.96	4246.87	5259.36	703.1
1133	24-OS-16	594871.29	1495093.04	4593.39	5459.16	697.4
1130	20-OS-08	595628.56	1495568.96	4100.15	4713.03	725.4
1131	24-OS-08	595667.45	1495170.88	3900.35	5059.55	701.4

SAIC - MOUND PLANT, MIAMISBURG, OHIO

COOR #	SAIC #	STATE PLAN COORDINATES NORTH	EAST	PLANT COORDINATES SOUTH	WEST	ELEV.
1137	00-OS-19.6489	594274.78	1497446.01	6108.33	3562.30	826.2
1107	00-OS-16	594637.92	1497481.52	5792.22	3380.03	844.0
1106	00-OS-12	595036.00	1497520.44	5445.70	3180.22	872.9
1105	00-OS-08	595434.08	1497559.36	5099.18	2980.42	883.6
1104	00-OS-04	595832.15	1497598.29	4752.65	2780.61	883.0
1102	00-OS-00	596230.23	1497637.21	4406.13	2580.81	895.7
1112	04-OS-00	596269.13	1497239.13	4206.33	2927.33	875.8
1111	04-OS-04	595871.05	1497200.20	4552.85	3127.14	811.6
1110	04-OS-08	595472.97	1497161.28	4899.37	3326.94	820.6
1109	04-OS-12	595074.89	1497122.36	5245.89	3526.75	836.3
1108	04-OS-16	594676.81	1497083.43	5592.42	3726.55	813.1
1138	04-OS-19.6533	594313.23	1497047.88	5908.90	3909.04	793.9
1113	08-OS-00	596308.03	1496841.04	4006.52	3273.85	870.3
1114	08-OS-04	595909.95	1496802.12	4353.04	3473.66	806.7
1115	08-OS-08	595511.87	1496763.20	4699.57	3673.46	776.3
1116	08-OS-12	595113.79	1496724.28	5046.09	3873.27	767.6
1117	08-OS-16	594715.71	1496685.35	5392.61	4073.07	760.0
1139	08-OS-19.6578	594351.68	1496649.76	5709.49	4255.79	754.5
1122	12-OS-00	596346.92	1496442.96	3806.72	3620.38	866.2
1121	12-OS-04	595948.84	1496404.04	4153.24	3820.18	806.4
1120	12-OS-08	595550.76	1496365.12	4499.76	4019.99	767.0
1119	12-OS-12	595152.69	1496326.20	4846.28	4219.79	733.7
1118	12-OS-16	594754.61	1496287.27	5192.81	4419.60	729.3
1140	12-OS-19.6623	594390.14	1496251.64	5510.07	4602.53	745.8
1123	16-OS-00	596385.82	1496044.88	3606.91	3966.90	828.5
1124	16-OS-04	595987.74	1496005.96	3953.43	4166.70	760.2
1125	16-OS-08	595589.66	1495967.04	4299.96	4366.51	734.8
1126	16-OS-12	595191.58	1495928.11	4646.48	4566.31	720.4
1127	16-OS-16	594793.50	1495889.19	4993.00	4766.12	740.3
1136	16-OS-20	594395.42	1495850.27	5339.52	4965.92	741.2
1129	20-OS-12	595230.48	1495530.03	4446.67	4912.84	713.7
1128	20-OS-16	594832.40	1495491.11	4793.20	5112.64	722.6
1134	20-OS-20	594434.32	1495452.19	5139.72	5312.45	723.9
1132	24-OS-12	595269.37	1495131.96	4246.87	5259.36	703.1
1133	24-OS-16	594871.29	1495093.04	4593.39	5459.16	697.4
1130	20-OS-08	595628.56	1495568.96	4100.15	4713.03	725.4
1131	24-OS-08	595667.45	1495170.88	3900.35	5059.55	701.4



NORTH — PLANT

NORTH — SPC-GRID

0 200 400 600
SCALE FEET

SCALE 1" = 200'

LEGEND

SEEP 1 (610)	●	SEEP LOCATION
A1	•	DOWNSTREAM SURVEY POINT
N 595419.26 E 1497237.71 834.5		COORDINATES AND ELEVATION 1927 STATE PLANE COORDINATE SYSYEM
	- - - -	DOWNSTREAM DRAINAGE

STATE OF OHIO
W. ROBERT KUSMER
6754
REGISTERED
SURVEYOR

W Robert Kusmer 6-3-94
W. ROBERT KUSMER P.S. #6754 DATE

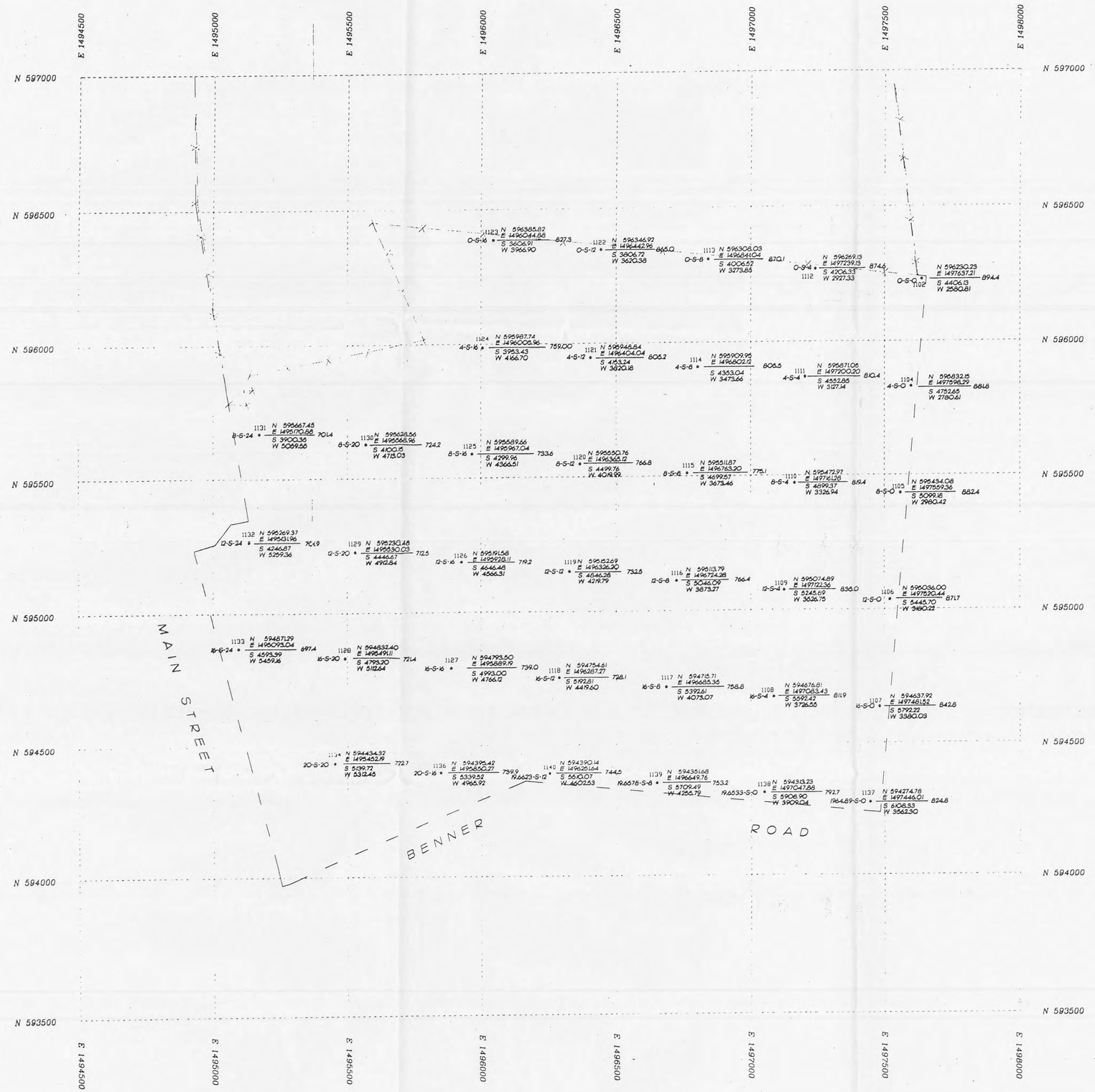
KUSMER & ASSOCIATES, INC.
ARCHITECTS • ENGINEERS • SURVEYORS
622 WEST STATE FREMONT, OHIO 43420 PHONE 419-332-1027

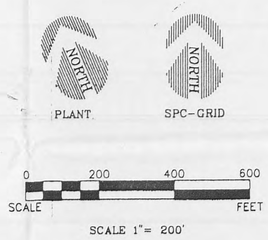
EG&G MOUND NEW PROPERTY,
PHASE 1 FIELD INVESTIGATIONS
SEEP MAP

EST. DATE	PROPOSED
DRAWN	DRAWN
CHECKED	CHECKED
INITIAL - DATE	REVISIONS

1/1

94400S1
MF #083





STATE PLAN COORDINATES OF 1927

SAIC GRID NUMBER — 0-S-0

N 594637.92
E 1497481.52 — 824.8 — ELEVATION
S 5792.22
W 3380.03

PLANT COORDINATE SYSTEM

W Robert Kusmer 3-29-94
W. ROBERT KUSMER P.S. #6754 DATE

MAY 02 1994

KUSMER & ASSOCIATES, INC.
ARCHITECTS • ENGINEERS • SURVEYORS
622 WEST STATE FREMONT, OHIO 43420 PHONE 419-332-1027

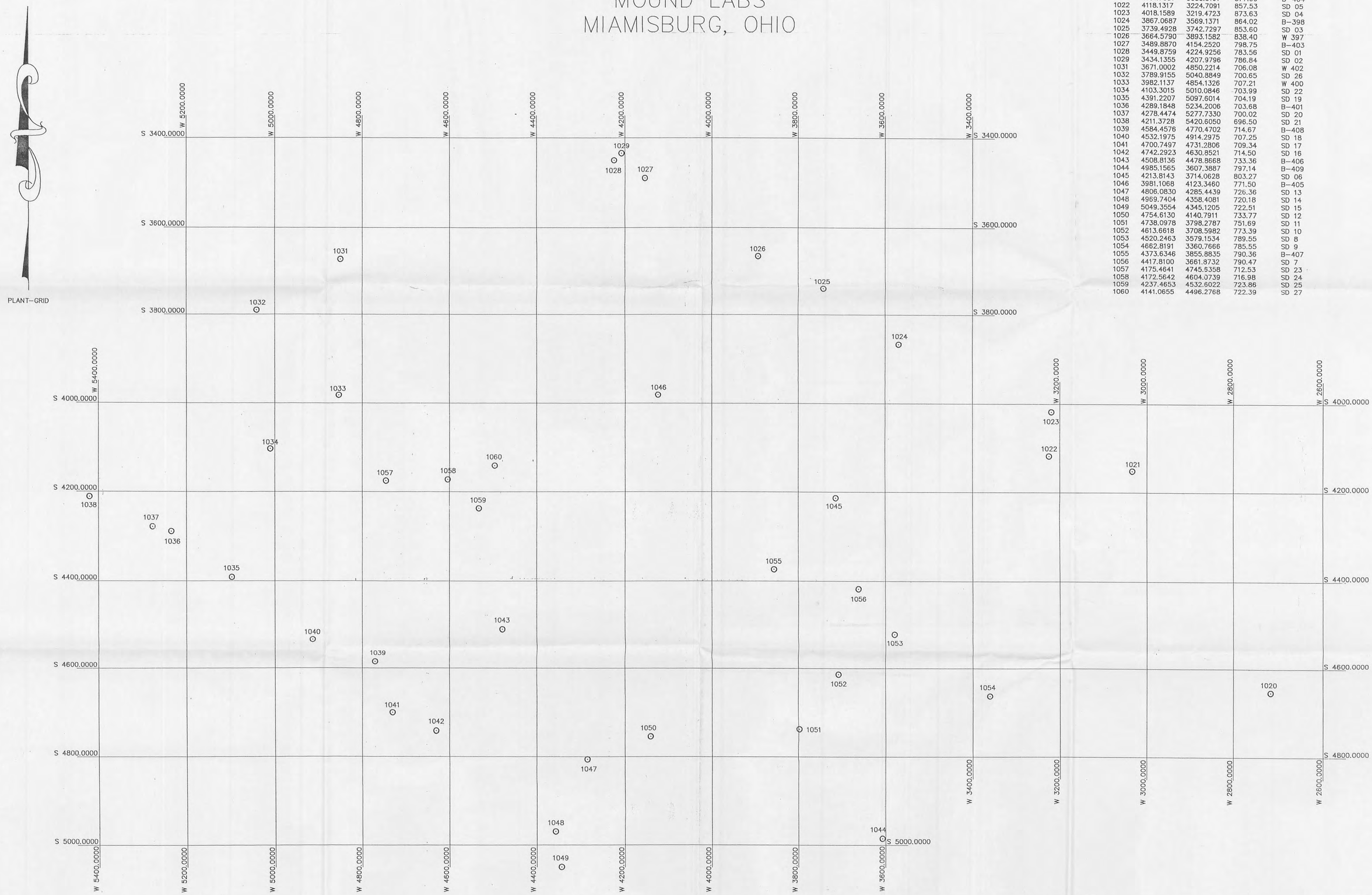
SAIC - MOUND PLANT
EG&G MOUND APPLIED TECHNOLOGIES, INC
MIAMISBURG, OHIO

1/1

94400S1

NEW PROPERTY
MOUND LABS
MIAMISBURG, OHIO

POINT	SOUTH	WEST	ELEVATION	DESCRIPTION
1020	4653.3514	2716.4548	889.67	W 399
1021	4151.7881	3033.5161	877.99	B-404
1022	4118.1317	3224.7091	857.53	SD 05
1023	4018.1589	3219.4723	873.63	SD 04
1024	3867.0687	3569.1371	864.02	B-398
1025	3739.4928	3742.7297	853.60	SD 03
1026	3664.5790	3893.1582	838.40	W 397
1027	3489.8870	4154.2520	798.75	B-403
1028	3449.8759	4224.9256	783.56	SD 01
1029	3434.1355	4207.9796	786.84	SD 02
1031	3671.0002	4850.2214	706.08	W 402
1032	3789.9155	5040.8849	700.65	SD 26
1033	3982.1137	4854.1326	707.21	W 400
1034	4103.3015	5010.0846	703.99	SD 22
1035	4391.2207	5097.6014	704.19	SD 19
1036	4289.1848	5234.2006	703.68	B-401
1037	4278.4474	5277.7330	700.02	SD 20
1038	4211.3728	5420.6050	696.50	SD 21
1039	4584.4576	4770.4702	714.67	B-408
1040	4532.1975	4914.2975	707.25	SD 18
1041	4700.7497	4731.2806	709.34	SD 17
1042	4742.2923	4630.8521	714.50	SD 16
1043	4508.8136	4478.8668	733.36	B-406
1044	4985.1565	3607.3887	797.14	B-409
1045	4213.8143	3714.0628	803.27	SD 06
1046	3981.1068	4123.3460	771.50	B-405
1047	4806.0830	4285.4439	726.36	SD 13
1048	4969.7404	4358.4081	720.18	SD 14
1049	5049.3554	4345.1205	722.51	SD 15
1050	4754.6130	4140.7911	733.77	SD 12
1051	4738.0978	3798.2787	751.69	SD 11
1052	4613.6618	3708.5982	773.39	SD 10
1053	4520.2463	3579.1534	789.55	SD 8
1054	4662.8191	3360.7666	785.55	SD 9
1055	4373.6346	3855.8835	790.36	B-407
1056	4417.8100	3661.8732	790.47	SD 7
1057	4175.4641	4745.5358	712.53	SD 23
1058	4172.5642	4604.0739	716.98	SD 24
1059	4237.4653	4532.6022	723.86	SD 25
1060	4141.0655	4496.2768	722.39	SD 27



GRAPHIC SCALE

100 0 50 100 200 400

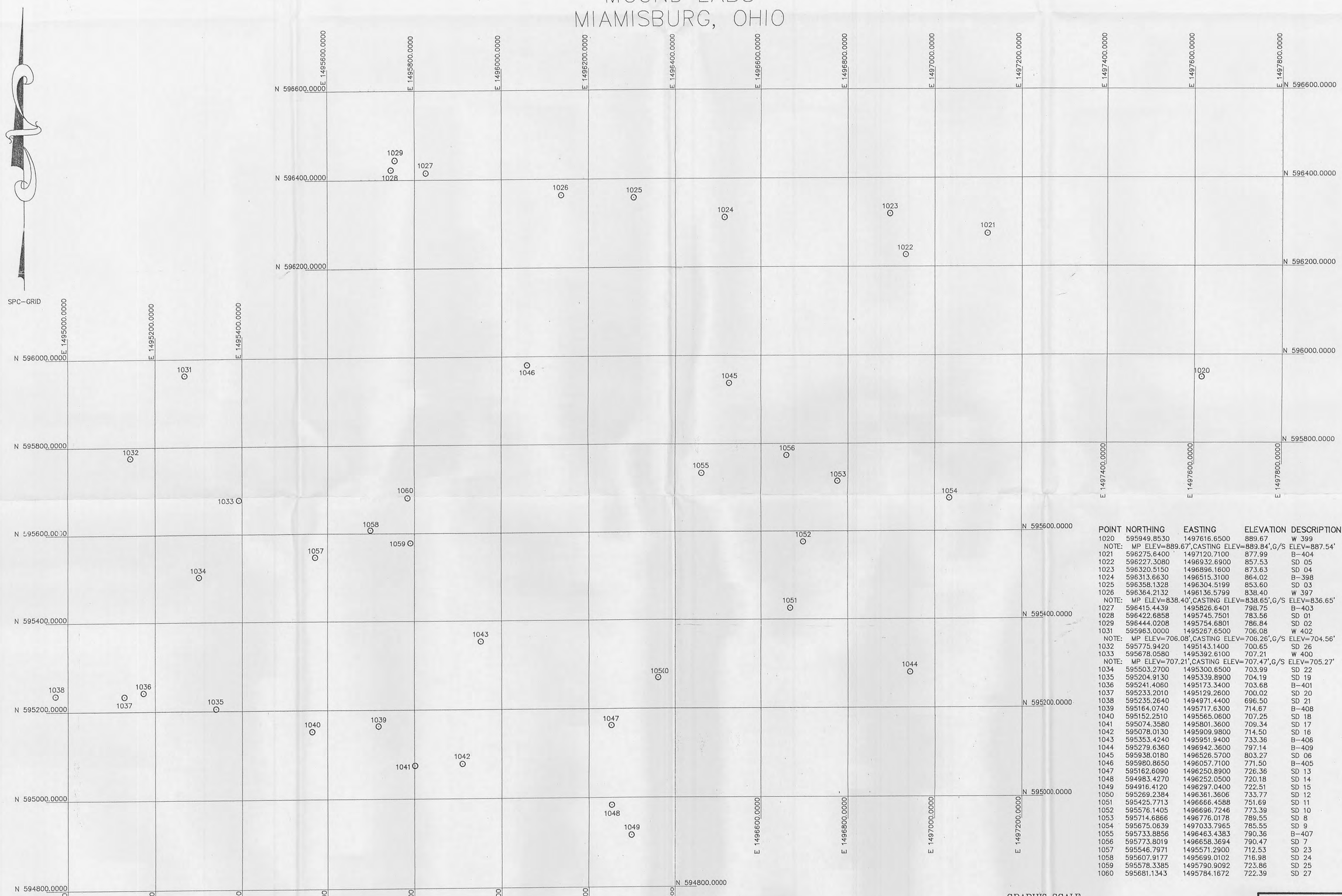
(IN FEET)
1 inch = 100 ft.

Shaw Weiss & DeNaples
Engineers & Environmental Scientists
14 West First Street • Dayton, Ohio 45402

SCALE 1"=100'	DRAWN SBM	CHECKED JPH	
DATE 8/29/94	JOB NO. L2952-A		

T-296

NEW PROPERTY
MOUND LABS
MIAMISBURG, OHIO



POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1020	595949.8530	1497616.6500	889.67	W 399
NOTE:	MP ELEV=889.67',CASTING ELEV=889.84',G/S ELEV=887.54'			
1021	596275.6400	1497120.7100	877.99	B-404
1022	596227.3080	1496932.6900	857.53	SD 05
1023	596320.5150	1496896.1600	873.63	SD 04
1024	596313.6630	1496515.3100	864.02	B-398
1025	596358.1328	1496304.5199	853.60	SD 03
1026	596364.2132	1496136.5799	838.40	W 397
NOTE:	MP ELEV=838.40',CASTING ELEV=838.65',G/S ELEV=836.65'			
1027	596415.4439	1495826.6401	798.75	B-403
1028	596422.6858	1495745.7501	783.56	SD 01
1029	596444.0208	1495754.6801	786.84	SD 02
1031	595963.0000	1495267.6500	706.08	W 402
NOTE:	MP ELEV=706.08',CASTING ELEV=706.26',G/S ELEV=704.56'			
1032	595775.9420	1495143.1400	700.65	SD 26
1033	595678.0580	1495392.6100	707.21	W 400
NOTE:	MP ELEV=707.21',CASTING ELEV=707.47',G/S ELEV=705.27'			
1034	595503.2700	1495300.6500	703.99	SD 22
1035	595204.9130	1495339.8900	704.19	SD 19
1036	595241.4060	1495173.3400	703.68	B-401
1037	595233.2010	1495129.2600	700.02	SD 20
1038	595235.2640	1494971.4400	696.50	SD 21
1039	595164.0740	1495717.6300	714.67	B-408
1040	595152.2510	1495565.0600	707.25	SD 18
1041	595074.3580	1495801.3600	709.34	SD 17
1042	595078.0130	1495909.9800	714.50	SD 16
1043	595353.4240	1495951.9400	733.36	B-406
1044	595279.6360	1496942.3600	797.14	B-409
1045	595938.0180	1496526.5700	803.27	SD 06
1046	595980.8650	1496057.7100	771.50	B-405
1047	595162.6090	1496250.8900	726.36	SD 13
1048	594983.4270	1496252.0500	720.18	SD 14
1049	594916.4120	1496297.0400	722.51	SD 15
1050	595269.2384	1496361.3606	733.77	SD 12
1051	595425.7713	1496666.4588	751.69	SD 11
1052	595576.1405	1496696.7246	773.39	SD 10
1053	595714.6866	1496776.0178	789.55	SD 8
1054	595675.0639	1497033.7965	785.55	SD 9
1055	595733.8856	1496463.4383	790.36	B-407
1056	595773.8019	1496658.3694	790.47	SD 7
1057	595546.7971	1495571.2900	712.53	SD 23
1058	595607.9177	1495699.0102	716.98	SD 24
1059	595578.3385	1495790.9092	723.86	SD 25
1060	595681.1343	1495784.1672	722.39	SD 27

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

Shaw Weiss & DeNaples
Engineers & Environmental Scientists
14 West First Street • Dayton, Ohio 45402

SCALE 1"=100'	DRAWN SBM	CHECKED JPH
DATE 8/29/94	JOB NO. L2952-A	

APPENDIX G

VERIFICATION SOIL SAMPLING

DATA QUALIFIERS

The primary data qualifiers to be applied, as described in the CLP Functional Guidelines and in Section 4.0 and 5.0 of Appendix H, of the QAPjP (DOE 1993c).

U	-	The material was analyzed, but was not detected. The associated numerical value is the sample quantitation limit.
J	-	The associated numerical value is an estimated quantity.
R	-	The data are unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.
N	-	Presumptive evidence of presence of material.
NJ	-	Presumptive evidence of the presence of the material at an estimated quantity.
UJ	-	The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

Subqualifiers are used to assist in data assessment by indicating the source of the primary qualifier. These subqualifiers are attached to the primary qualifier, separated by a hyphen. The following is a list of allowable subqualifiers.

SUBQUALIFIERS - ORGANICS

B	-	Qualified due to method blank or a field blank
C	-	Qualified due to calibration
H	-	Holding time exceeded
K	-	Qualified due to surrogate recovery
S	-	Qualified due to matrix spike recovery
I	-	Qualified due to internal recovery
P	-	Pesticide/PCB results have >25% difference on two different columns
(+)	-	Potential positive bias (added after subqualifier with a parentheses)
(-)	-	Potential negative bias (added after subqualifier with a parentheses)

SUBQUALIFIERS - INORGANICS

B	-	Qualified due to method blank of field blank
C	-	Qualified due to calibration
H	-	Holding time exceeded
S	-	Qualified due to matrix spike recovery
I	-	Interference (ICP serial dilution, ICS, or GFAA spike recovery)
D	-	Duplicate (replicate limits exceeded)

L	-	Qualified due to LCS
(+)	-	Potential positive bias (added after subqualifier with a parentheses)
(-)	-	Potential negative bias (added after subqualifier with a parentheses)

Examples of final qualification might be J-C, UJ-S(+), UJ-BC(-), etc.

APPENDIX G
Verification Soil Sampling Data

MOUND NEW PROPERTY													
SAIC Sample ID		NPS001		NPS002		NPS003		NPS004		NPS005		NPS006	
Lab Sample ID		F4364 REG		D3286 REG		F4366 REG		D3287 REG		D3288 REG		D3289 REG	
Sample Collection Date		5/5/94		5/5/94		5/5/94		5/5/94		5/5/94		5/5/94	
		Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier
Volatile Organics	**Units**												
1,1,2-Trichloroethane	UG/KG	11	U	12	U	13	U	12	UJ	11	UJ	12	UJ
Trichloroethene	UG/KG	11	U	12	U	13	U	12	U	11	U	12	U
1,1,2-Trichlorotrifluoroethane	UG/KG	9	R	12	U	11	R	12	U	11	U	12	U
Vinyl Acetate	UG/KG	11	U	12	U	13	U	12	U	11	U	12	U
Vinyl Chloride	UG/KG	11	U	12	U	13	U	12	U	11	U	12	U
Xylene, Total	UG/KG	11	U	12	U	2.1	J	12	U	11	U	12	U
Tentatively Identified Compounds		1						8		3			

APPENDIX G
Verification Soil Sampling Data

MOUND NEW PROPERTY													
SAIC Sample ID		NPS001		NPS002		NPS003		NPS004		NPS005		NPS006	
Lab Sample ID		B9961 REG		B9962 REG		B9963 REG		B9964 REG		B9965 REG		B9966 REG	
Sample Collection Date		5/5/94		5/5/94		5/5/94		5/5/94		5/5/94		5/5/94	
		Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier
Semi-volatile Organics	**Units**												
Acenaphthene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Acenaphthylene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Anthracene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Benzo(a)anthracene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Benzo(a)pyrene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Benzo(b)fluoranthene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Benzo(g,h,i)perylene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Benzo(k)fluoranthene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Benzoic Acid	UG/KG	350	UJ	410	UJ	420	U	410	U	370	U	410	UJ
Benzyl Alcohol	UG/KG	350	UJ	410	UJ	420	U	410	U	370	U	410	UJ
o-Benzyl-p-Chlorophenol	UG/KG	350	UJ	410	UJ	420	U	410	U	370	U	410	UJ
bis(2-Chloroethoxy)methane	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
bis(2-Chloroethyl)ether	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
bis(2-Ethylhexyl)phthalate	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
4-Bromophenyl-phenylether	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Butylbenzylphthalate	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Carbazole	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
4-Chloro-3-methylphenol	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
4-Chloroaniline	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
2-Chloronaphthalene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
2-Chlorophenol	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
4-Chlorophenyl-phenylether	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Chrysene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Di-n-butylphthalate	UG/KG	350	UJ	410	UJ	240	J	180	J	420		410	UJ
Di-n-octylphthalate	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Dibenzo(a,h)anthracene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Dibenzofuran	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
1,2-Dichlorobenzene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
1,3-Dichlorobenzene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
1,4-Dichlorobenzene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
3,3'-Dichlorobenzidine	UG/KG	350	UJ	410	UJ	410	UJ	400	UJ	360	UJ	410	UJ
2,4-Dichlorophenol	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Diethylphthalate	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
2,4-Dimethylphenol	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ

APPENDIX G
Verification Soil Sampling Data

MOUND NEW PROPERTY													
SAIC Sample ID		NPS001		NPS002		NPS003		NPS004		NPS005		NPS006	
Lab Sample ID		B9961 REG		B9962 REG		B9963 REG		B9964 REG		B9965 REG		B9966 REG	
Sample Collection Date		5/5/94		5/5/94		5/5/94		5/5/94		5/5/94		5/5/94	
		Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier
Semi-volatile Organics	**Units**												
Dimethylphthalate	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
4,6-Dinitro-2-methylphenol	UG/KG	840	UJ	990	UJ	1000	U	980	U	880	U	990	UJ
2,4-Dinitrophenol	UG/KG	840	UJ	990	UJ	1000	U	980	U	880	U	990	UJ
2,4-Dinitrotoluene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
2,6-Dinitrotoluene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Fluoranthene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Fluorene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Hexachlorobenzene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Hexachlorobutadiene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Hexachlorocyclopentadiene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Hexachloroethane	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Indeno(1,2,3-c,d)pyrene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Isophorone	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
2-Methylnaphthalene	UG/KG	350	UJ	410	UJ	410	UJ	400	UJ	360	UJ	410	UJ
2-Methylphenol	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
4-Methylphenol	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
N-Nitroso-di-n-propylamine	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
N-Nitrosodiphenylamine	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Naphthalene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
2-Nitroaniline	UG/KG	840	UJ	990	UJ	1000	U	980	U	880	U	990	UJ
3-Nitroaniline	UG/KG	840	UJ	990	UJ	1000	U	980	U	880	U	990	UJ
4-Nitroaniline	UG/KG	840	UJ	990	UJ	1000	U	980	U	880	U	990	UJ
Nitrobenzene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
2-Nitrophenol	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
4-Nitrophenol	UG/KG	840	UJ	990	UJ	1000	U	980	U	880	U	990	UJ
2,2'-oxybis(1-Chloropropane)	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Pentachlorophenol	UG/KG	840	UJ	990	UJ	1000	UJ	980	UJ	880	UJ	990	UJ
Phenanthrene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Phenol	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Pyrene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
1,2,4-Trichlorobenzene	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
2,4,5-Trichlorophenol	UG/KG	840	UJ	990	UJ	1000	U	980	U	880	U	990	UJ
2,4,6-Trichlorophenol	UG/KG	350	UJ	410	UJ	410	U	400	U	360	U	410	UJ
Tentatively Identified Compounds		5		11		7		8		10		11	

APPENDIX G
Verification Soil Sampling Data

MOUND NEW PROPERTY													
SAIC Sample ID		NPS001		NPS002		NPS003		NPS004		NPS005		NPS006	
Lab Sample ID		CF07471 REG		CF07467 REG		CF07468 REG		CF07469 REG		CF07470 REG		CF07628 REG	
Sample Collection Date		5/5/94		5/5/94		5/5/94		5/5/94		5/5/94		5/5/94	
		Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier
Pesticides and PCBs	**Units**												
Aldrin	UG/KG	1.8	UJ	2	UJ	2.1	UJ	2	UJ	1.8	UJ	2	UJ
alpha-BHC	UG/KG	1.8	UJ	2	UJ	2.1	UJ	2	UJ	1.8	UJ	2	UJ
alpha-Chlordane	UG/KG	1.8	UJ	2	UJ	2.1	UJ	2	UJ	1.8	UJ	2	UJ
Aroclor-1016	UG/KG	35	UJ	40	UJ	41	UJ	41	UJ	37	UJ	40	UJ
Aroclor-1221	UG/KG	70	UJ	80	UJ	82	UJ	81	UJ	73	UJ	80	UJ
Aroclor-1232	UG/KG	35	UJ	40	UJ	41	UJ	41	UJ	37	UJ	40	UJ
Aroclor-1242	UG/KG	35	UJ	40	UJ	41	UJ	41	UJ	37	UJ	40	UJ
Aroclor-1248	UG/KG	35	UJ	40	UJ	41	UJ	41	UJ	37	UJ	40	UJ
Aroclor-1254	UG/KG	35	UJ	40	UJ	41	UJ	41	UJ	37	UJ	40	UJ
Aroclor-1260	UG/KG	35	UJ	40	UJ	41	UJ	41	UJ	37	UJ	40	UJ
beta-BHC	UG/KG	1.8	UJ	2	UJ	2.1	UJ	2	UJ	1.8	UJ	2	UJ
4,4'-DDD	UG/KG	3.5	UJ	4	UJ	4.1	UJ	4.1	UJ	3.7	UJ	4	UJ
4,4'-DDE	UG/KG	3.5	UJ	4	UJ	4.1	UJ	4.1	UJ	3.7	UJ	4	UJ
4,4'-DDT	UG/KG	3.5	UJ	4	UJ	4.1	UJ	4.1	UJ	3.7	UJ	4	UJ
delta-BHC	UG/KG	1.8	UJ	2	UJ	2.1	UJ	2	UJ	1.8	UJ	2	UJ
Dieldrin	UG/KG	3.5	UJ	4	UJ	4.1	UJ	4.1	UJ	3.7	UJ	4	UJ
Endosulfan I	UG/KG	1.8	UJ	2	UJ	2.1	UJ	2	UJ	1.8	UJ	2	UJ
Endosulfan II	UG/KG	3.5	UJ	4	UJ	4.1	UJ	4.1	UJ	3.7	UJ	4	UJ
Endosulfan Sulfate	UG/KG	3.5	UJ	4	UJ	4.1	UJ	4.1	UJ	3.7	UJ	4	UJ
Endrin	UG/KG	3.5	UJ	4	UJ	4.1	UJ	4.1	UJ	3.7	UJ	4	UJ
Endrin Aldehyde	UG/KG	3.5	UJ	4	UJ	4.1	UJ	4.1	UJ	3.7	UJ	4	UJ
Endrin Ketone	UG/KG	3.5	UJ	4	UJ	4.1	UJ	4.1	UJ	3.7	UJ	4	UJ
gamma-BHC (Lindane)	UG/KG	1.8	UJ	2	UJ	2.1	UJ	2	UJ	1.8	UJ	2	UJ
gamma-Chlordane	UG/KG	1.8	UJ	2	UJ	2.1	UJ	2	UJ	1.8	UJ	2	UJ
Heptachlor	UG/KG	1.8	UJ	2	UJ	2.1	UJ	2	UJ	1.8	UJ	2	UJ
Heptachlor Epoxide	UG/KG	1.8	UJ	2	UJ	2.1	UJ	2	UJ	1.8	UJ	2	UJ
p,p'-Methoxychlor	UG/KG	18	UJ	20	UJ	21	UJ	20	UJ	18	UJ	20	UJ
Toxaphene	UG/KG	180	UJ	200	UJ	210	UJ	200	UJ	180	UJ	200	UJ

APPENDIX G
Verification Soil Sampling Data

MOUND NEW PROPERTY													
SAIC Sample ID		NPS001		NPS002		NPS003		NPS004		NPS005		NPS006	
Lab Sample ID		3209318 REG		3209319 REG		3209320 REG		3209321 REG		3209322 REG		REG	
Sample Collection Date		5/5/94		5/5/94		5/5/94		5/5/94		5/5/94		5/5/94	
		Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier
Anions - Chloride	**Units**												
CHLORIDE	MG/KG	50	U	60	U	60	U	60	U	60	U	60	U
Anions - Fluoride	**Units**												
FLUORIDE	MG/KG	50	U	60	U	60	U	60	U	60	U	60	U
Anions - Sulfate	**Units**												
SULFATE	MG/KG	50	U	60	U	60	U	60	U	50	U	60	U
Anions - Nitrate/Nitrite	**Units**												
NITRATE/NITRITE	MG/KG	10.1		15.6		7.73		15.3		20.4		18.5	

APPENDIX G
Verification Soil Sampling Data

MOUND NEW PROPERTY													
SAIC Sample ID		NPS001		NPS002		NPS003		NPS004		NPS005		NPS006	
Lab Sample ID		3209318 REG		3209319 REG		3209320 REG		3209321 REG		3209322 REG		3209323 REG	
Sample Collection Date		5/5/94		5/5/94		5/5/94		5/5/94		5/5/94		5/5/94	
		Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier	Result	DV Qualifier
Inorganics	**Units**												
Aluminum	MG/KG	3230		11300		13400		9340		3530		9870	
Antimony	MG/KG	1	U	1.2	U	1.2	U	1.1	U	1.1	U	1.2	U
Arsenic	MG/KG	1.7	J	5.5	J	10	J	7.3	J	3.7	J	4.9	J
Barium	MG/KG	49.6		63.1		94.3		73.4		20.5		100	
Beryllium	MG/KG	0.21	U	0.7		0.82		0.54		0.22	U	0.6	
Cadmium	MG/KG	0.41	UJ	0.5	UJ	0.47	UJ	0.46	UJ	0.44	UJ	0.53	J
Calcium	MG/KG	175000		77100		4670		2420		81400		20200	
Chromium	MG/KG	5.7		13.1		16.4		12.8		5.7		14	
Cobalt	MG/KG	2		9.5		10.4		9.8		3.9		8.9	
Copper	MG/KG	3.5	J	15.6	J	21.8	J	13.3	J	12.5	J	23.6	J
Iron	MG/KG	7080		20800		25400		17900		10500		17100	
Lead	MG/KG	2.9		15.8		15.3		9		5.1		23.6	
Lithium	MG/KG	8.4		15.9		12		7		7.9		11.6	
Magnesium	MG/KG	52400		14800		4020		2010		40600		7430	
Manganese	MG/KG	241		712		609		695		219		551	
Mercury	MG/KG	0.08	UJ	0.09	UJ	0.1	UJ	0.08	UJ	0.07	UJ	0.42	J
Molybdenum	MG/KG	0.88	U	1.8		3.1		2.3		2.5		1.9	
Nickel	MG/KG	4.7		19.3		21.6		13.1		11		15.7	
Potassium	MG/KG	111	U	218		127	U	124	U	118	U	134	U
Selenium	MG/KG	0.21	UJ	0.29	J	0.4	J	0.43	J	0.21	UJ	0.42	J
Silver	MG/KG	0.62	U	0.74	U	0.71	U	0.69	U	0.66	U	0.74	U
Sodium	MG/KG	180		81.1		43.3		35.7		120		57.9	
Thallium	MG/KG	0.41	U	0.35	U	0.25	U	0.35	U	0.21	U	0.3	U
Tin	MG/KG	2.9	U	3.5	U	3.3	U	3.2	U	3.1	U	3.9	
TOTAL CYANIDE	MG/KG	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Vanadium	MG/KG	0.62	U	1.7		0.71	U	1.6		1.9		1.8	
Zinc	MG/KG	14.3		55.5		70		47.5		39		60.9	

APPENDIX G
Verification Soil Sampling Data

MOUND NEW PROPERTY										
SAIC Sample ID		NPS001			NPS002			NPS003		
Lab Sample ID		3209318 REG			3209319 REG			3209320 REG		
Sample Collection Date		5/5/94			5/5/94			5/5/94		
		Result	UNC	DV Qualifier	Result	UNC	DV Qualifier	Result	UNC	DV Qualifier
Gamma Scan	Units									
AM-241	PCI/G	2.07E-02+/-	NA	U	4.05E-02+/-	NA	U	3.71E-02+/-	NA	U
BI-207	PCI/G	3.81E-03+/-	NA	U	7.54E-03+/-	NA	U	6.73E-03+/-	NA	U
BI-210M	PCI/G	4.90E-03+/-	NA	U	9.60E-03+/-	NA	U	8.65E-03+/-	NA	U
CO-60	PCI/G	4.84E-03+/-	NA	U	9.82E-03+/-	NA	U	8.78E-03+/-	NA	U
CS-137	PCI/G	4.57E-03+/-	NA	U	1.73E-01+/-	1.96E-02		2.27E-01+/-	2.62E-02	
Tritium 3	Units									
H-3	PCI/G	2.69E-02+/-	2.23E-02	U	1.85E-01+/-	1.01E-01		1.13E-01+/-	9.89E-02	U
Gamma Scan	Units									
K-40	PCI/G	6.58E+00+/-	6.54E-01		2.19E+01+/-	2.11E+00		2.04E+01+/-	2.03E+00	
Isotopic Plutonium	Units									
PU-238	PCI/G	9.40E-02+/-	NA	R	9.38E-03+/-	NA	U	1.76E-02+/-	NA	UJ
Pu-239	PCI/G	1.94E-02+/-	NA	R	7.44E-03+/-	NA	U	4.42E-03+/-	NA	UJ
PU-242	PCI/G	1.94E-02+/-	NA	R	2.73E-03+/-	NA	U	4.42E-03+/-	NA	UJ
Gamma Spec	Units									
Radium-226	PCI/G	8.30E-01	NA		2.54E-01	NA	U	2.39E-01	NA	U
Strontium 90	Units									
SR-90	PCI/G	2.09E-01+/-	4.94E-01	U	3.69E-01+/-	6.63E-01	U	0.00E+00+/-	4.85E-01	U
Isotopic Thorium	Units									
TH-228	PCI/G	1.95E-01+/-	7.86E-02		1.05E+00+/-	2.86E-01	J	9.57E-01+/-	1.68E-01	
Th-230	PCI/G	5.36E-01+/-	1.27E-01	U	1.48E+00+/-	3.50E-01	J	1.70E+00+/-	2.59E-01	J
TH-232	PCI/G	1.98E-01+/-	7.42E-02		1.12E+00+/-	2.91E-01	J	1.11E+00+/-	1.88E-01	
Isotopic Uranium	Units									
U-234	PCI/G	4.09E-01+/-	8.72E-02		9.18E-01+/-	1.54E-01		1.00E+00+/-	1.62E-01	
U-235	PCI/G	1.90E-02+/-	1.57E-02		4.87E-02+/-	2.93E-02		7.06E-02+/-	3.16E-02	
U-238	PCI/G	3.77E-01+/-	8.24E-02		1.11E+00+/-	1.79E-01		1.13E+00+/-	1.78E-01	

APPENDIX G
Verification Soil Sampling Data

MOUND NEW PROPERTY										
SAIC Sample ID		NPS004			NPS005			NPS006		
Lab Sample ID		3209321 REG			3209322 REG			3209323 REG		
Sample Collection Date		5/5/94			5/5/94			5/5/94		
		Result	UNC	DV Qualifier	Result	UNC	DV Qualifier	Result	UNC	DV Qualifier
Gamma Scan	Units									
AM-241	PCI/G	3.51E-02+/-	NA	U	2.34E-02+/-	NA	U	3.79E-02+/-	NA	U
BI-207	PCI/G	6.55E-03+/-	NA	U	4.78E-03+/-	NA	U	6.42E-03+/-	NA	U
BI-210M	PCI/G	8.26E-03+/-	NA	U	5.88E-03+/-	NA	U	8.08E-03+/-	NA	U
CO-60	PCI/G	8.11E-01+/-	NA	U	6.38E-03+/-	NA	U	8.10E-03+/-	NA	U
CS-137	PCI/G	2.42E-01+/-	2.92E-02		5.73E-03+/-	NA	U	1.12E-01+/-	1.37E-02	
Tritium 3	Units									
H-3	PCI/G	3.09E-01+/-	1.20E-01		6.62E-02+/-	3.76E-02		1.39E-01+/-	1.03E-01	U
Gamma Scan	Units									
K-40	PCI/G	1.55E+01+/-	1.49E+00		1.05E+01+/-	1.02E+00		1.83E+01+/-	1.78E+00	
Isotopic Plutonium	Units									
PU-238	PCI/G	1.98E-02+/-	1.42E-02	U	2.21E-02+/-	NA	UJ	8.98E-03+/-	NA	UJ
Pu-239	PCI/G	1.53E-02+/-	NA	UJ	4.97E-03+/-	NA	UJ	1.32E-03+/-	NA	UJ
PU-242	PCI/G	4.46E-03+/-	NA	UJ	1.71E-02+/-	NA	UJ	1.13E-02+/-	NA	UJ
Gamma Spec	Units									
iRadium-226	PCI/G	2.28E-01	NA	U	1.68E-01	NA	U	2.42E+00	NA	
Strontium 90	Units									
SR-90	PCI/G	8.01E-01+/-	5.40E-01	U	1.58E+00+/-	7.01E-01		1.39E-01+/-	6.19E-01	U
Isotopic Thorium	Units									
TH-228	PCI/G	9.46E-01+/-	2.26E-01	J	4.94E-01+/-	1.20E-01		1.06E+00+/-	2.42E-01	J
Th-230	PCI/G	1.29E+00+/-	2.74E-01	J	9.91E-01+/-	1.88E-01		1.47E+00+/-	2.99E-01	J
TH-232	PCI/G	1.04E+00+/-	2.38E-01	J	3.47E-01+/-	9.44E-02		1.01E+00+/-	2.31E-01	J
Isotopic Uranium	Units									
U-234	PCI/G	9.29E-01+/-	1.51E-01		9.18E-01+/-	1.62E-01		8.86E-01+/-	1.51E-01	
U-235	PCI/G	5.28E-02+/-	2.67E-02		6.09E-02+/-	3.64E-02		4.30E-02+/-	2.57E-02	
U-238	PCI/G	9.44E-01+/-	1.53E-01		8.76E-01+/-	1.57E-01		9.21E-01+/-	1.55E-01	

NA = Not Applicable

F. OU5

NEW PROP

EG&G MOUND APPLIED TECHNOLOGIES

P.O. BOX 3000 MIAMISBURG, OHIO 45343-3000 • TEL (513) 865-4020

Mr. Arthur W. Kleinrath
Project Engineer,
Team Leader, MB
U. S. Department of Energy
Miamisburg Area Office
P.O. Box 66
Miamisburg, OH 45343

DEC 1 3 1994

Dear Mr. Kleinrath:

Attached for your review are two copies of the [redacted]. This document incorporated the resolution to the regulator comments on the Draft submittal. The comments with responses are also attached. With your concurrence, copies have been forwarded to Mr. Tim Fischer (U.S. EPA), Ms. Regina Bayer (Ch2M Hill), Mr. Brian Nickel (Ohio EPA), Ms. Jenifer Kwasniewski (Ohio EPA), Mr. John Sands (DOE/EM-40), Mr. George Rael (DOE/AL) and Mr. Doug Draper (MMES/HAZWRAP).

If you require additional information, please contact me at (513) 865-3859.

Sincerely,

S. Alan Spesard
OU-5 Manager

Approved: ORIGINAL SIGNED BY
Charles S. Friedman
Vice President
ER & WM

cc w/o enclosure:

Charles S. Friedman	(EG&G)
Monte Williams	(EG&G)
Jim Zahora	(EG&G)

cc w/ enclosure:

Tim Fischer	(U.S. EPA) - 2 copies
Brian Nickel	(Ohio EPA) - 3 copies
Regina Bayer	(Ch2M Hill)
Jenifer Kwasniewski	(Ohio EPA)
John Sands	(DOE/EM-40)
George Rael	(DOE/AL)
Doug Draper	(MMES/HAZWRAP)

OhioEPA
State of Ohio Environmental Protection Agency

Southwest District Office
40 South Main Street
Dayton, Ohio 45402-2086
(513) 285-6357
FAX (513) 285-6404

George V. Voinovich
Governor

F - OU5
NEW PROP

January 3, 1995

RE: US DOE MOUND
MONTGOMERY COUNTY
OU5 NEW PROPERTY PHASE I
FIELD REPORT

Arthur Kleinrath
US DOE Miamisburg Area Offic e
1 Mound Road
P.O. Box 66
Miamisburg, Ohio 45343-0066

Dear Mr. Kleinrath:

The Ohio Environmental Protection Agency has received the responses to its comments on the draft [redacted] The Ohio Environmental Protections Agency finds the responses to be adequate. It is the Agency's understanding that the document will be made available to the public with regulatory comment.

Should there be any questions concerning the above, please contact Kathy Lee Fox at (513) 285-6441 or me at (513) 285-6468.

Sincerely,

Brian Nickel
Mound Project Manager
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