SITE ASSESSMENT FOR PROPOSED COKE POINT DREDGED MATERIAL CONTAINMENT FACILITY AT SPARROWS POINT

BALTIMORE COUNTY, MARYLAND

APPENDIX A

Boring Logs and Field Notes

Prepared for:



Maryland Port Administration 2310 Broening Highway Baltimore, Maryland 21224

Under Contract to:



Maryland Environmental Service 259 Najoles Road Millersville, MD 21108

Prepared by:



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OFFSHORE INVESTIGATION PHOTOLOG



Photographic Record

Offshore at the Sparrows Point Coke Point Peninsula Baltimore County, Maryland February-March, 2009



Figure 1. Drill rig on barge at offshore location 08



Figure 3. Drilling sediment cores



Figure 2. Drill rig and core processing area (in front of the drill rig)



Figure 4. 2-foot sediment core sections



Figure 5. Logging 2-foot core sections on the barge



Photographic Record

Offshore at the Sparrows Point Coke Point Peninsula Baltimore County, Maryland February-March, 2009



Figure 6. Fill material (right) on top of tan/dark tan sand (left)



Figure 8. Twenty-two (22) feet below the sediment surface. Fine sands and hydrocarbon odor.



Figure 7. Fill material from offshore location 3A, 12-14 feet below the sediment surface



Figure 9. Piece of slag (center of core) in dark clay



Photographic Record

Offshore at the Sparrows Point Coke Point Peninsula Baltimore County, Maryland February-March, 2009



Figure 10. Sheen present in core, negative Sudan IV test for NAPL



Figure 11. Sediment sampling equipment: Terra core for VOCs (center), sediment collection bottles with preservative (right).

OFFSHORE INVESTIGATION FIELD LOGBOOK

100xt 2008	12 FFR 2009
Sediment field cluplicate subtipled from CIEE-318-SED tox bucket 8 of 10. CIEE-318-SED DUP	14534. 06 VRARROWS AT RERA
CIEE-318-SED tox bucket 8 of 10.	OFFSHORE SAMPLING - STTE WATER
CLEE-318-SED DUP	
	0935 - depart from Hanbon Hospital
	On board - T. Ward, & Ballandin
	Weather runny, wind & 5 knots
	1 Akin de Junes flat
	1053-A-rive @ BH-W-01 Deput= 22.5
	Janale Time Dept (FA)
	BH-W-01-5 1105 Supare
	-01-M 1/10 +076 11
	V -01-8 1115 22
	1124 - wat. guel. @ BH-W-01 (WTW) TEMP. (°C) Sal (yn) DO 79/2 JA Turk
	Surf. 3,6000 9.71 12.10 8.44 6,6
	Mid 1.84 12.97 12.17 8.34 5.3
	Btm 2.10 113.34 11.99 17.95 4.8
1	

2 FEB. 2009 Site Water (Slag on btm)	2 FE8. 2009
1146-andres es 84-W-02 D=8.1ft	1324 - anchor @ BH-W-08B D=11.5A
821 - W-02 - 5 Sinf 1150	BH-W-038-5 Scap. 1330
-M 4A 1175	BH-W-538-M 5,8 H 1335
-D 1 ft 1200	-038-D 11.5 At 1340
1203 - west. qual. @ BH-W-02	
Temp Sal Da PH Turb	1334 West, gual @ BH-W-038
Surf 3.07 9.53 14.0 8.38 5.3	Temp. Sal D.o. pH Tub.
Mid 7.17 978 14 1 8 11 1	Say. 2.45 9.28 14.3 8,43 4.3
Btm 2 5016 11.36 14.0 8.38 7.5	
1222 - anchora @ BH-W-03A	B+m 2,14 110,98 14.13 8,37 7,9
Do 4, 3 contrate	11355 1 1 1 2 2 1 1 2 2 1
on-show offert 605 H N TW	1355 grelned @ BH-W-03C D= HOA BH-W-03C-5 Sad 400
Variabling cond. N 562857.6 Ha	
MB WAD 83 E 1453854.06 TW	78 1405
B-104239 12 1 1 0 0 3 0 7 7 0 19	-B 14 G 140
BN: W-03A-5 Suf. 1225	
- M Ty 1,5 1230	1405 - wat goal @ BM-W-03C
-D 3.0 1235	Tema Sal. Da pH Turk
	Suy 2.66 9.35 13.9 3.52 5.0
1236 - unt. qual. @ BH - W- 03A Temp. Sal. DO pH Turt.	Mid 2.28 19.50 13.9 8.47 4.5
	Btm 1.91 11.34 13.8 841 50
Suf. 3.26 9.53 14.4 8.40 7178.0	
Mid 3.00 9.65 14.5 8.38 7472.7	
Btm 2.46 10.01 14.8 8.44 4.0	
and the second s	

2 FEB 2009 Sik Water 2 FEB. 2009 1 @ BH-00-05 1430 - anchon @ BH-W-04 Temp Sel. DO PH Turb D= 10 A 8,57 7. 939 BH-W-04-5 Sinface 1440 13.8 8.61 L) DUP-1 Mid 2.82 7.38 13.8 5.44 8 m 2.74 BH-W-04-M 5 \$ 1445 LDUP-2 BH-W-04-D 16A 1450 1730 - dock a Bald LO DUP 3 1443 - wat qual @ BH - W 04 Temp. | Sal. Feb 2009 + 51A Da PH Tout. 2.78 9.34 14.0 8.43 4.5 Sing 2.60 9.45 13 7 8, 56 4.8 Mid 2.18 16.28 13.6 8.60 8.0 Bhm 1516- anchor @ BH-W-0= D=4.0# BN-64-06 D A 0753.000 BH-W-05-5 Sul 1510 BH- W-05-5-45 1510 1510 -5- MSA 1000 1005 BH-W-05-M 2,0H 15/5 -05-M MS 1515 -05-M M5D 1515 BH-W-04-D 4, Off 1520 -08-D MS 1526 -04-B MSB 1520

3 Feb. 2009	3 FEB 2009
1007 - wat good & BN - W. OC	1108 - sent good @ BH-W-08
Temp Sail Da py Tunk	Temp Pap 1 DO AH Turb
Suf 2.11 107 12.8 839 58	SorA 2,18 10,78 13,1 8,43 6,2
nid 2 10 10.97 12 8 8.45 5.9	Md 2,19 10,77 13.0 843 8.6
Btm 2.21 13.22 12.4 (8.26) 7.5	Btm 2118 111.11 V3.2 844 9.1
1024 - ancha & BH-W-07 D=13.00	1125-ancha & BH-W-09 D=10A
BH-W-07-5 Surface 1030	BH-W-09-5 1130 Saulas
BH-W-07-M 6,5 1035	La Dup-4
BH-W-07-D 13 1040	BH-W-09-M 1135 5 P
	14 DUP-5
1035 - west qual @ BH - W- 07	BH-W-59-D 1140 10 F4
Temp Sal DO pH Tent	La DUP G
Suf. 2.09 10.93 132 8.41 6.0	
M.d 2.08 10.99 13.1 8.44 6.5	1141 wat gird @ BH-W-09
Bin. 2.11 11.29 12.9 8,397,3	Temp. Sal. Do pt Tuel.
1051	Senf 2.2 11.06 12.9 8.39 7.2
1054 - ancha 0 BH - W-08	Mid 2,2 11.12 12,9 3,44 7.1
P = 13.2'	Brm 2,19 11.28 12.8 18.46 19.6
BH-W-08-5 Sinforce 1100	1217- anchon @ BH-W-10 D=8.0A
-M 1105	BH-W-10-5 Sud 1225
-D ///0	BH-W-10-M 4 123 a
	BH-W-10-M 4 123 a 34 - W-10-D & 1235

3 FEE. 2009 Site Wakes	3 FEB, 2009
1232 - waf. qual. @ BH - W - 10 Temp Val DO PH Tunt. Sinf 2.12 10.44 13.1 8.41 5.5 Mid 2.11 10.46 13.1 8.5 5.4 Btm 2.13 10.67 13.0 8.5 6.0	1325 - wat qual & BH - W - 12 Temp Val DO PH Tuck. Sind 2.21 10.80 13.6 8 37 11.1 Mid 2.17 10.75 13.6 8.48 7.0 Bfm 2.18 13.08 13.1 8.23 6.3
1250 - anchorde BH-W-11 Depth= 13,5 Ft BH-W-11-5 Sinf. 1300 BH-W-11-M 6 1305	1336 - anchored & BH-W-13A D=6,8° BH-W-13A-5 Sent 1345 BH-W-13A-M 3.4 1350 BH-W-13A-D 6.8 1355
BH-W-11-D 13.5 1310 1300-wat, qual. © BH-W-11 Temp. Sal. DO PH Turb. Surf 2,17 10.46 13.8 8.41 5.0 Mid 2.22 10.83 13.7 8.44 5.5	1349 - wat gast @ 84 - W-13A Temp (Sal. DO pH Turl- Sinf (2.25 10.91 13.8 8.31 10.0 Mid 2.19 10.91 13.7 8.52 6.8 Btm (2.17 10.92 113.7 8.55) 8.8
Btm 2.28 11.25 13.5 8.4 6.3 1313 - ancher @ BH-W-12 D=1962 BH-W-12-5 Sixf. 1320 BH-W-12-M 9.5 1325 BH-W-12-D 19 1330	1401 - anchor & BH-W-128 D=20A BH-W-138-5 Sanface 1405 BH-W-138-M 10A 1416 BH-W-138-D 20A 1415
BH-W-12-D 19 1330	

Spanous Pt.	
3 FEB 2009 Site Water	3 FEB. 2009
1419 - wet and @ BH-10-130	1515 - cont. goal @ BH-W-14
1419 - Wat good @ BH - W - 13 8 Tem, Val DO PH Tunt.	Temp. Val. DO PH Tent.
Sung 2.17 10.87 13.7 8.41 5.7	Jul 2, 26 10.95 13.4 8.55 6.4
Mid 2.14 11.52 13.4 8.32 5.6	Mid 2.15 11.74 13.2 8,34 5.8
Btm 2.19 13.10 12.6 8.08 5.7	Btm 2.27 14.03 12.8 8.01 4.9
65m 2.11 17.10 112 10.30 10.4	Bfm (2, 27 1 / 10 / 12 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 /
1435- anchon @ BH - W-13c D= 32.5"	1625 - dock a ByB
BH-W-13C-5 Sanf. 1445	-
-M 16H 1450	4 FEB. + 5 FEB NO SAMPLING DUE TO
V - D 32.5 H 14.55	HIGH WINDS
1444 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	16 FEB 2009 SURFACE SEDIMENT
1446 - unt qual @ BH-W-13C	
Temp Sal. DO pH Turb.	On Sund - R. Ballantine, E. Mondows,
Surf. 2.18 10.97 13.1 8,53 14.2	
Mid 2 10 13,59 12.9 8.24 8.4	Takend 1 Color
Blm 2.62 15.07 10.5 7.73 8-1	Weather - vinny, wind & 563,
	conver 4 FA.
1500 - anchon @ BH-W-14 D=24,5	
BH-W-14-5 Surface 1510	0956-anchon @ BA- SED-01
BH-W-14-M 12' 1515	1015- BH-SED-01-00
BH-W-14-D 24.5' 1520	N 543 445, 1 A MD NAD 83
	E 1455 268, 7 K
	D = 23 H
	1 32 02 jan, 1802 yas, 1402 yas
	2 40ml vial to DT 420 / 40ml vial at moderate
	for VOCT
	101 0001

Le FEB 2009 Sparrows Pt. Surface Sed. 1050 - Wit gard & BH - SED - Ci Temp Sel De pH Tunt Sind 3 07 12 46 13 9 8.03 7.3 Mid 2.08 14.90 13.3 7.88 9.2 Birn 2.21 15, Co 11.8 7.74 42.8 1110 - anchon & BH - SED - O2 N 563 027.9 1t E 145 4157.2 1t D = 8.0 Pt Vight hydrocar bon odar 1115 - BH - SED - O2 - OO 1123 - wint, qual & BH - SED - O2 Temp Vil D o. pH Tunt Surf 1 & 1374 13.1 7.90 6.0 Mid 1 66 14.71 12.1 8.09 7.1 Birn 1.66 14.88 12.9 8.03 7.1 1155 - anchon & BH - SED - O3A N 502 254, of H E 145 3742, 3 M Abandan location, and setting 1200 - RH - SED - O3O/ A SED - O3O/ A Sead of Many	L FEB. 2009 11221 - re par x, a	A SED -03 B BH - SED -03 B CO F H Tunk- CO S 41 F.
Abandon location, cobole/debriv 1200 - BH - SED - OSA - OO + 4 07 yar for Meta - PAH Engaprinting	14,11.49 14,69 13	.6 8 41 7 5

Lo FEB. 2009 Sparrows Pt. Surf. Sed	6 FEB, 2009
1325 anchar @ BH- SED - 03C	430 - ancha @ BH-JED-05
N 562184, 3A	N 56151811A
E 1453 486, 8 PA	E 1454 980 1 CA
1 D: 15.0 ft	0:5,74
1330-BH-SED-03C-00	1430-BH-SED-05-00
1224	
- 1334 - wat qual @ BH-SED - 030	1434- west qual a BH-5ED-05
Temp Val. Do CH Tent.	Tamp Val Do pH Trust
- Sinf 1.75 14.76 139 8.3 6.7	Nul 11.45 14.65 14.3 8-28 8.7
Mid 1. 58 14.55 13 8 8.19 7.3	Md 1,59 14.74 14.1 8.32 8.5
Btm 1.57 14.56 13 4 8-19 7.2	BAM 1.48 14.69 14.1 8,32 8,5
1351 - anchar & BH- SED 34	1521 - dole a manna
N 561559.64	
E 1454 108,6 A	9 FEB. 2009
D= 9.4/x	0930-depart from dock
Strong hydro carbon	On bora 1 - T. ale & R. Ballantine
1400 - BH - SED - 04 - 00 oda	Allina Barre Vacabr
BH-SED-04-00 MS	Weather - range wind & htt.
BH-550-04-00 M50	waves < 1.14
1402 wat quel @ BH-5FD-04	
Temp Sal DO JAH Tunk	1010-and on @ BH-SED-06
Sunf 1.85 14.78 14.2 8.27 7.3	
Mid 1 82 14.62 14.1 8.26 8.5	
Btm 1.72 14.94 13.8 8,14 9.7	

9 FEB. 2009 Sparrows Pt Surface Sed	
1015 - rample lac. @ BH-SED -06	9 FEB. 2009
N 560632,0A	N 559372, G LA
E 1454363,6 A	E 1455 401 4 St
D 12.2 G	D 12.0 A
1015 - BH - SED -06-00	1110-13N-5ED-08-00
1023 - ant qual a BH-SED ax	1112 - crat. qual @ BH SED-08 Tamp Val. D.O PH Tunt-
Temp Sal. D.O. PH 1 Turk	Jul 2.08 9.00 14.2 8.56 4.7
Sent 2.00 9.70 14.2 8.42 5.2	4 2.03 9.56 14.2 8.81 5.4
1 Mid 2.00 11 18 14.4 8.41 5.4	2,08 11.02 14.1 8.74 7.5
Btm 2.04 11,38 142 841 7.5	
	1140 - anchon @ BH-SED 09
1043 - prolon @ BH-SED-07	N 559658,9 JA
N 560004 5 Ft	E 1456424.0 St
E 1454829.1 FL	D 9 2 4+
D 10,44	
	1155-BN-5ED-09-00
1045-BH-SED-07-00	1153-wat good a BU 550-09
1649. was qual, @ BH. SED= 07	Tong Val Do RH Tant
Temp Sal. DO PH Turb	Sand 2.24 8.88 14.5 8.40 4.5
Vay 2. 17 9.57 14,2 8.42 53	Md 2 08 9.97 14.7 8.55 6.3
Mid 2,09 10.20 14.2 8,50 5.4	Btn 120/1056 14.8 8.54 7.3
Blm 2.19 13.32 14 0 8,33 8.1	
_	

9 FEB. 2009 Sparrows Pt. Surf. Sed.	THE CONTROLLED
1211 - ancha a SED-10	FEB. 2009
N 559670.3A	258-anchor @ BH-SED-12
E 1457565,3A Slight	N 56120421
D 7,4 ft hydro Carton	E 145834136 Hydracaston oda
1215- BH-SED-10-00	D 15.7 H
1217-wat. qual @ BH-5ED-10	305-BH-SED-12-00
leme la De 1	1305 - wat qual @ BH-SED-12
Sail 245 9 11 Turbo	Temp Val DO PH Trul
Mid 2 of land	W 2.33 8.74 14.4 8.55 4.5
01 12 12	11. 1. 98 10,97 14.4 8,56 5.9
DIm 2.02 10.08 14.4 8.58 6.4	42 1.94 14.12 13.5 8.19 7.1
1222	
1232- anchor @ BH- SED-11	1349-anchor @ BH-SED-13A
N 540114.5A	N 562009.0A
E 1458360, 9 Ft Hydro carton	5 95 74 145 944 2 9A Saud
orian	10 10 10 Cobble, 6 miles
1240 - BH-SED-11-00	1355 - BN- SED - 13A - BD
1243 - wat, good & BH- SED-11	to two Aydrocales
remp Jal DO OH T	1421 - wet good & B4- SED-13A
Vart 2.27 8.80 14.4 8 59 111	Temp Sal. DO 1 pH Turb
Mid 2.13 9.12 14.4 8,59 40	
Btm 2.04 14.21 14.0 8,17 10.5	
	Btm 11, 93 411-63 114.7 8,51 18.2

- 1

Janes (17

N 562048,0 PX Black SUN N 562280 PX E 1458214.7 FX D 22.2 PX 1440 - BH-SED-138-00 + DUP-2 525 BH-SED-14 Temp Sul DO AN TWILL TOND VIN DO AN TWILL Suf 2.71 8 BY 14 6 8 60 4.5 W/ 2.85 9.03 14.5 8,58 4.9 Hid 1-71 13.87 14 3 8.36 6.2 W/ 2.38 16.88 14 5 8.43 7.49 Bhm 2.07 15 25 13 0 7 89 9.0 M/ 2.07 14.80 13.07 B,02 10.6 1456 On do BH-SED-13C 400 and Defended to BH-SED-13C N 562094 9 PX E 1458372.3 PX D 29.2 PX 1505 BH-SED-13C -00 1607 REFERENCE 1503- wat quad D BH-SED-13C 1607 REFERENCE 1503- wat quad D BH-SED-13C 1607 West 1 ANN Programmer Named Note 2.87 19. By	9 FEB 2009 Sparrows Pt Surf. Sed.	9 FEB. 2009
N 562048,0 PX Black SIN N 562430,4 PX E 1458214,7 PA D 22,2 PA 1440- BH-SED-13B-00 + DUP-2 525 BH-SED-14-00 1438- and qual. a BH-SED-13B Teng Sid. Do RH Tub. Suf 271 8 BY 14. 6 860 4.5 Suf 2.35 9.03 14.5 8.58 4.9 Hid 1-91 13.87 14.3 8.36 6.2 412,38 6.88 14.5 8.43 7.4 Blm 2.07 15 25 13.0 7 89 17.0 81,207 14.80 13.0 JP 8.02 10.6 1456- and a a BH-SED-13C N 562094 9 PH E 1458372.3 PH D 29.2 PH 1505- BH-SED-13C-00 1610- REFERENCE 1503. wat qual a BH-SED-13C 1602- and a b Reference 1503. wat qual a BH-SED-13C 1602- and a b Reference 1503. wat qual a BH-SED-13C 1602- and a b Reference 1503. wat qual a BH-SED-13C 1602- and a b Reference 1503. wat qual a BH-SED-13C 1602- and a c Reference 1503. wat qual a BH-SED-13C 1602- and a c Reference 1602- and a c Reference 1602- and a c Reference 1603- and a c Reference 1603- and a c Reference 1703- and a c Reference 1803- and a c Reference 1804- and a c Reference 180	1431 - anches @ BH-SED-138	
E 1458214.7 FL D 22.2 FL 1440 - BH-SED - 138 - 00 + DUP - 2 525 - BH - SED - 14 - 90 1436 - ant qual & BH-SED - 138	N 562048,0A Black with	
D 22.2 H 1440 - BH-SED-138-00 + DUP-2 1438-conf qual. & BH-SED-138 Temp Sal. Do RH Turb Temp Sal BD PH Turb Suf 2.71 8.84 14.3 8.36 4.2 41.5 2.38 16.88 14.5 8.43 7.4 Bbm 2.07 15.25 13.0 7.89 9.0 4m, 2.07 14.80 13.07 8.02 10.6 1456-000000000000000000000000000000000000	E 1458214.7A	劉・尹
1440 - BH-SED - 13B-QO + DUP-2 1438- cost qualice BH-SED-13B Temp Sal. DO BH Turb Temp Sal DO BH Turb Suf 2.71 8.84 14.3 8.36 6.2 4.5 24.2 8.8 14.5 8.43 7.44 Bim 2.07 15.25 13.0 7.89 9.0 8th 2.07 14.80 13.0 7.4 1456- and a @ BH-SED-13C N S102094 9.6 E 1458372.3 At Collect 1 Part fringerprint Gamels D 29.2 H 1505- BH-SED-13C - OO 1503- wat qual @ BH-SED-13C 1503- wat qual @ BH-SED-13C 1503- wat qual @ BH-SED-13C 1503- Wat gual @ BH-SED-13C 1603- Wat gual @ BH-SED		
Temp Sal. DO PH Turk Temp Val DO PH Turk 1438- auxt quality BH-SED-138 Suf 2.71 8.89 14 6 8 60 4.5 Jul 2.85 9.03 14.5 8.58 4.9 Hid 1.91 13.87 14.3 8.36 6.2 41.4 2.38 16.88 14.5 8.43 7.49 Blm 2.07 15.25 13.0 7.89 9.0 8/m 2.07 14.80 13.02 8.02 10.6 1456- anchor & BH-SED-13C 480-anchor & reference tracking N 562094 9 ft republication of the following bridge E 1458372.3 ft Collect 1 Pan Aingeophic Famely D 29.2 ft follows BH-SED-13C 1602 4.00 18.00	1440 - BH-SED-138-00 + DUR 2	
Tany Sal. Do RH Turb: Temp Sal Do RH Turb: Suf 2 71 8.84 14 6 860 4.5 Jul 2.85 9.03 14.5 8.58 4.9 Hid 1-91 13.87 14.3 8.36 6.2 41.2 38 16.88 14.5 8.43 7.49 Blm 2.07 15.25 13.0 7.89 9.0 8/m 2.07 144.80 13.070 8.02 10.6 1456 - anchor & BH-SED-13C 1600- anchor & reference location. N 5/02094 9 ft 1458372.3 ft 1458372.3 ft 1458372.3 ft 1600- anchor & reference location. D 29.2 ft 1505- BH-SED-13C 1600- anchor & reference location. N 5/02094 9 ft 1458372.3 ft 1600- anchor & reference location. N 5/02094 9 ft 1600- anchor & reference location. N 5/02094 9 ft 1600- anchor & reference location. N 5/02094 9 ft 1600- anchor & reference location. N 5/02094 9 ft 1600- anchor & reference location. N 5/02094 9 ft 1600- anchor & reference location. N 5/02094 9 ft 1600- anchor & reference location. N 5/02094 9 ft 1600- anchor & reference location. N 5/02094 9 ft 1600- anchor & reference location. N 5/02094 9 ft 1600- anchor & reference location. N 5/02094 9 ft 1600- anchor & reference location. N 5/050- anchor & re	1438 - wat qual @ BH-SED-138	525 877 - 500 - 77 - 500 - 77 - 500 - 77 - 500 - 77 - 500 - 77 - 500 - 77 - 500 - 77 - 70 - 70
Suf 2.71 8.84 14.6 8.60 4.5 MJ 2.85 9.03 14.5 8.58 4.9 Mid 1.91 13.87 14.3 8.36 6.2 MJ 2.85 9.03 14.5 8.43 7.4 Bhm 2.07 15.25 13.0 7.89 9.0 8th 2.07 14.80 13.07 8.02 10.6 1456 and a BH-SED-13C 1600- and an a reference location. N 562094 9 H E 1458372.3 H D 29.2 H 1505- BH-SED-13C-00 1610- REFERENCE 1503- wat qual & BH-SED-13C 1602- was qual & Beference 1503- wat qual & BH-SED-13C 1602- was qual & Beference 1603- was qual & BH-SED-13C 1602- was qual & Beference 1603- was qual & BH-SED-13C 1602- was qual & Beference 1603- was qual & BH-SED-13C 1602- was qual & Beference 1603- was qual & BH-SED-13C 1602- was qual & Beference 1603- was qual & BH-SED-13C 160		530 day, 7456 & 077 149 17 11 Tank
Bim 2. 07 15.25 13.0 7.89 9.0 8th 2.38 10.88 14.5 8.43 7.4 Bim 2. 07 15.25 13.0 7.89 9.0 8th 2.07 14.60 13.070 8.02 10.6 1456 - and on & BH-SED-13C N 5/62094 9 A- E 1458372.3 A- D 29.2 H 1505 - BH-SED-13C - 00 1503- wat qual & BH-SED-13C Temp. Val DO PH Tunt. Juf 2. 81 8.84 14.6 8.58 4.5 10.6 10.8 14.3 8.51 3.7 HId 2. 03 14.35 13.6 8.05 9.6 14.5 81 12.47 14.60 13.7 7.06 16.2 N 5/65 840.7 A- N 5/65 8		
Blm 2.07 15.25 13.0 7.89 9.0 8tm 2.07 14.80 13.00 8.02 10.6 1456-ancho @ BH-SED-13C 400-ancho @ reference location N 562094 9 H E 1458372.3 H D 29.2 H 1505-BH-SED-13C-00 1503-wat qual @ BH-SED-13C Temp. Val DO pH Tuntr Sinf 2.81 8.84 14.6 8.58 4.5 Curf 3 11 6.88 14.3 8.57 3.7 Hid 2.03 14.35 13.6 8.05 9.6 Mid 2.88 13.41 14.6 8.45 4.8 N 565 840 7 Fd N 565 840 7 Fd E 1448015.6 A		
1456 - anchon @ BH-SED-13C N 562094 9 A E 1458372.3 A D 29.7 A 1505 - BH-SED-13C - OO 1503- wat, qual @ BH-SED-13C Temp. Val. DO PH Tunt. Sinf 2.81 8.84 14.6 8.58 4.5 Curf 3 11 10.88 14.3 8.54 3.7 Mid 2.03 14.35 13.6 8.05 9.6 Mid 2.88 13.41 14.6 8.45 4.7 Dim 2.38 16.08 10.3 7.60 14.5 BA 2.47 14.80 13.7 7.06 16.2 N 565 840.7 A N 565 840.7 A N 565 840.7 A	BI 12 07 10 and 1	Wid 2. 38 18 38 17 3 8 75 17. 7
N 562094 9 ft E 1458372.3 ft D 29.2 ft 1505 - BH-SED-13C-00 1503- wat. qual @ BH-SED-13C Temp. Val. DO PH Turb. Suf 2.81 8.84 14.4 8.58 4.5 Curf 3.11 10.88 14.3 8.57 3.7 Hid 2.03 14.35 13.4 8.05 9.6 Mid 2.88 13.41 14.6 8.45 14.7 Bom 2.38 16.08 10.3 7.60 14.5 Bfm 2.47 14.80 13.7 7.06 16.2	1.077730	8/h 12.07 1/4, 80 1/2, 3 1 0, 02 1 0 0
N 562094 9 ft E 1458372.3 ft D 29.2 ft 1505 - BH-SED-13C-00 1503- wat. qual @ BH-SED-13C Temp. Val. DO PH Turb. Suf 2.81 8.84 14.4 8.58 4.5 Curf 3.11 10.88 14.3 8.57 3.7 Hid 2.03 14.35 13.4 8.05 9.6 Mid 2.88 13.41 14.6 8.45 14.7 Bom 2.38 16.08 10.3 7.60 14.5 Bfm 2.47 14.80 13.7 7.06 16.2	1456 - ancho @ BH-SED-130	
E 1458372,3 ft D 29,2 ft ISOS - BH-SED-13C-00 1503 - wat qual @ BH-SED-13S Temp. Sal DO PH Turb. Sixf 2.81 8.84 14.6 8.58 4.5 Surf 3 11 16.88 14.3 8.51 3.7 Mid 2.03 14.35 13.6 8.05 9.6 Mid 2.88 13.41 14.6 8.45 4.7 Bom 2,38 16.08 10.3 7.60 14.5 Bbm 2.47 14.80 13.7 7.06 16.2 N 565840,7 ft		1400 anchor a reference reaction
D 29.7 H 1505 - BH-SED-J3C-00 1503 - wat, qual @ BH-SED-13C Temp. Val. DO PH Tunt. Sinf 2. B1 8, 84 14, 6 8.58 4.5 Sunf 3. 11 10.88 14.3 8.51 3.7 Mid 2. 03 14.35 13.6 8,05 9.6 Mid 2.88 13.41 14.6 8.45 4.7 Bim 2, 38 16.08 10.3 7.60 14.5 Btm 2.47 14.80 13.7 7.06 16.2 N 565 840.7 ft		hear Rey 37 rage Virill Vale of 1 age
1505 - BH-SED-13C - 00 1503 - wat, qual @ BH-SED-13C Temp. Val. DO PH Tunt. Sinf 2. 81 8,84 14. 4 8.58 4.5 Mid 2. 03 14.35 13. 4 8.05 9. 6 Mid 2. 88 13,41 14. 6 8.45 4.7 Dom 2. 38 16.08 10.3 7.60 14.5 Btm 2.47 14.80 13.7 7.06 16.2		
1503- wat, qual. @ BH-SED-13C Temp. Val DO pH Tunt. Sinf 2. 81 8,84 14,6 8.58 4.5 Curf 3 11 10.88 14.3 8.51 3.7 Mid 2. 03 14.35 13.6 8.05 9.6 Mid 2.88 13.41 14.6 8.45 4.7 Bon 2.38 16.08 10.3 7.60 14.5 8tm 2.47 14.80 13.7 7.06 16.2		
Temp. Val. DO pH Tunt. Sinf 2. 81 8. 84 14. 6 8.58 4.5 Cunf 3.11 10.88 14.3 8.51 3.7 Mid 2. 03 14.35 13.6 8.05 9.6 Mid 2.88 13.41 14.6 8.45 4.7 Bon 2.38 16.08 10.3 7.60 14.5 Btm 2.47 14.80 13.7 7.06 16.2	1503- wat and @ 84 55 13-	1610 - REFERENCE
Juy 2. 81 8. 84 14. 6 8.58 4.5 Garf 3.11 16.88 14.3 8.51 3.7 4.6 14.5 Bdm 2. 38 16.08 10.3 7.60 14.5 Bdm 2.47 14.80 13.7 7.06 16.2		No 02 that shall will be the tende
Mid 2.03 14.35 13.6 8.05 9.6 Mid 2.88 13.41 14.6 8.45 14.7 Bom 2.38 16.08 10.3 7.60 14.5 Bbm 2.47 14.80 13.7 7.06 16.2 N 565 840 7 64 E 1448015.6 A	Sinf 2. 81 8 84 14 850 11	
130m 2,38 16.08 10.3 7.60 14.5 Btm 2.47 14.80 13.7 7.06 16.2 N 565 840 7 H E 1448015.69	Mid 2, 03 14.35 13 4 9 5 9	
N 565 840 7 FX E 1448015.6A	Bon 2,38 16.08 103 71	
E 1448015.4A	179.3 17.60 174, 5	Btn 12.47 119.88 13, 7 17.86 116.2
E 1448015.4A		
		
Dock @ 1640		Dock @ 1640

11.

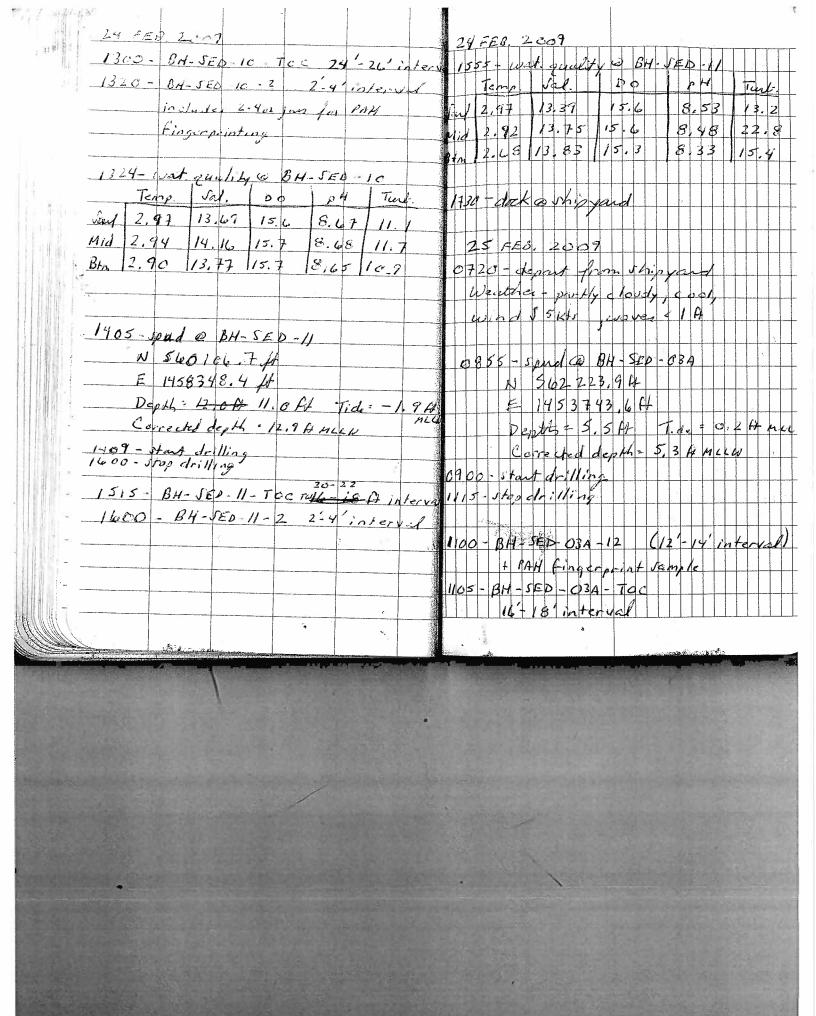
3 FEB. 2009 Ft. McHenry Tidal Datum MLLW + O A MLW = 0,22 Ft leather wind work 15-2014 wanter 2 Pt in Patagore Rive 13 FEBRUARY 2009 1312 - 54. At Gage to record boring 0700 - meet Findling drill crew N 541185.0 H E 1458344.3 H and lapt. Keyin Sanish & Smith's Shipgard Death = 14,7 Tibe = - O. 1 MLLW Congeled depth = 14, 8 miller 0814 - conducted safely meeting with Findling erras. Analytical sample and be polon Findling . Tany Olerzczyk before sed, surface John Amiet Sample collected & Blake Strateng BH-SED-12-4=1410 EA - T. Ward, R. Ballandine 0825 - depart from Smith's 4, 26 12.27 13.4 8,35 1010 - Spud & 84-5AD-12 12.35 13.5 8,34 N 361186, OF MD NAD 83, feet E 1458355.7 A 8/m 3.88 12.57 13.3 8,24 7.2 mg/4 00 Depth = 14,5" - 0,6 f mccu Corrected Dapth - 13,9 MLLW

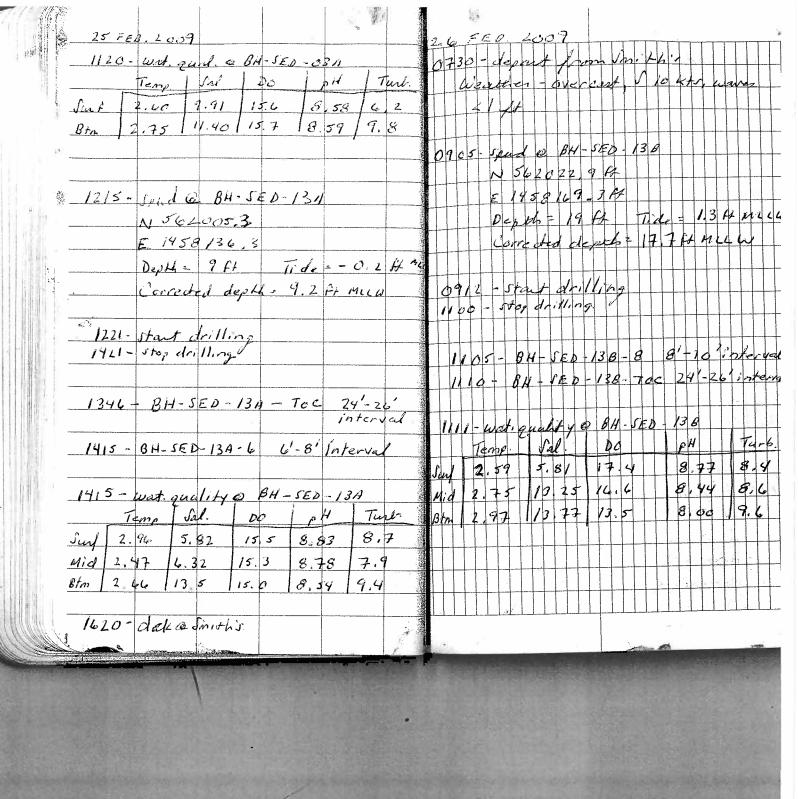
13 FEB. 2009 Sub-surger Ved. 16 FEB. 2009 1343 shift to 350 baring hale @ BH-JED N 56/184.03 A Del E 1458372,08A 10.18 1207 13.25 8,27 D=15.3 Tide = - 0.12 MCU 13-7 135 Corrected depth = 15.4 4660 13 26 4.21 1420 Head for dock 1609- 1h. A bringe " 5 At no 1615 - dak a Smith's 1630 - BH-5ED-01 Sample as 8'- 10' delon 14 FEB. 2001 Weather-suny, cool, and weeker 1030 - and 0 BN-5ED-01 N 563423.1 FL 17 AEB. 2009 E 1455 326,4 P DF 25 - depart Depth = 22.5 Tide = 0. 8 new Corrected depth = 21.7 A MINW 1034- start drilling 08 5 - 5pc d @ BH . SED 03C N 562 223,3 M E 1453537 6 R Dark = 14. 75 12 Tid = 0, 18 M

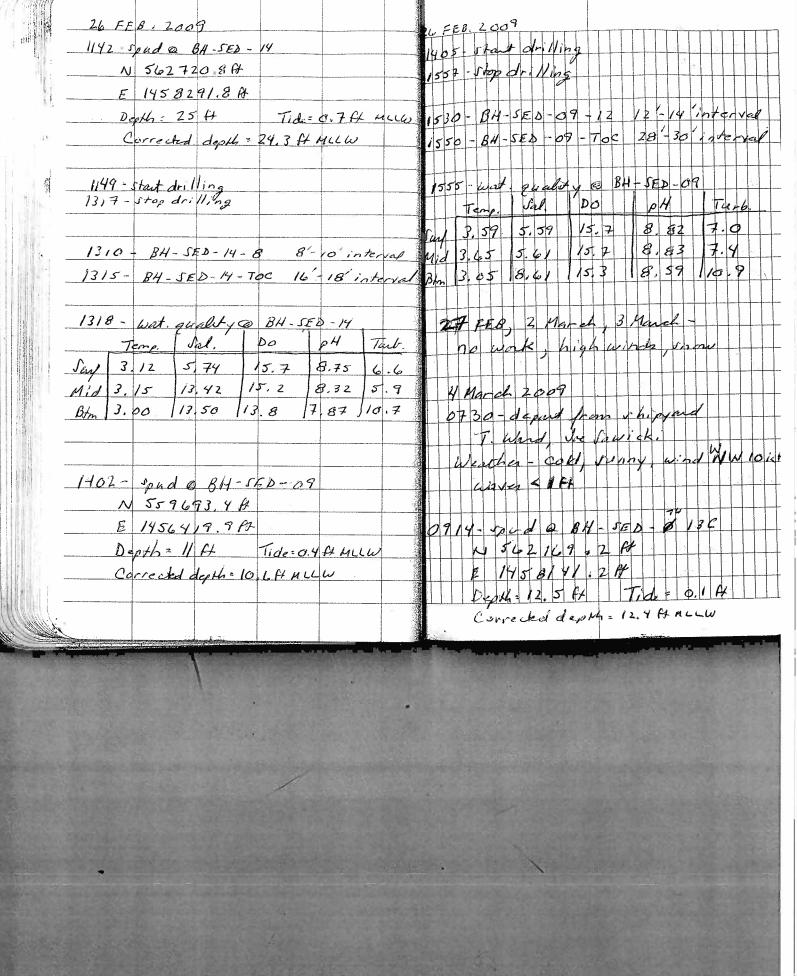
17 FED LOOP 17 FEB, 2009 0820 - start drilling 0955 - stop drilling Suy 6.20 12.99 offset to allest 13.4 1030 - BH-SED-03C-0Z 8 7 13.9 Sample taken from upper 7.9 13.9 2 ft of boring v. 1327 - spund & BH-SED-06 1015 wat wellty a BH-SED-036 N 560619.9 H Temp | Sal Do Turk. E 1454343.1 Ft Suf 4.72 12,92 Depth = 15,5 Tid = 1.1 MLC Tid = 1.1 mean 6.6 8 44 Mid 4.13 13.22 14.2 8,45 7.3 Bbn 4, 13 13.52 14.0 8.37 1330 - start drilling 1510 - stop drilling 1054 - Spud @ BH-SED-03B N 562217,2 A 1450 - BN-SED.06-6 E 1453680.5 FX D=11.5A Tid=0.8AMLLW Corrected dept = 10.7 A MILLE 1458 - west good as BH- SED-06 Turk Temp Sal. DO 1120 - stop drilling 3.4 9.93 15.3 to 8.60 10.03 Offset to 13.02 1250- BH-JED-03B-2 Sample collected @ 2-4 ft interval.

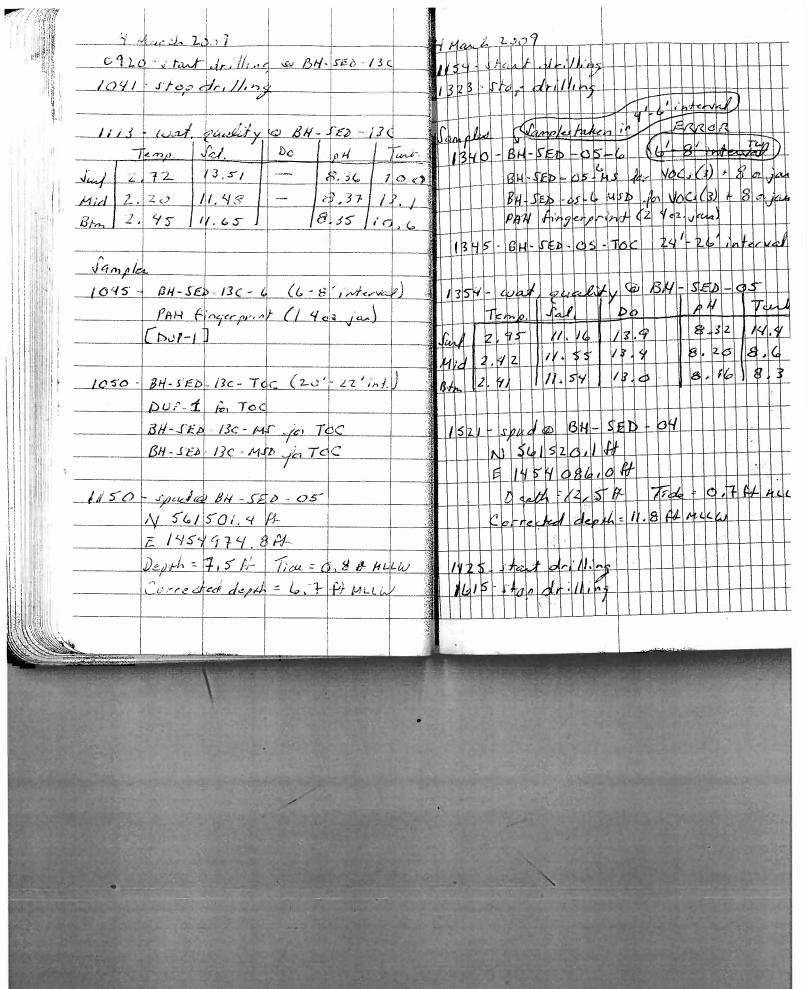
ti iii

17 FEB. 2009 1532 - head back to shippand High words war 3+ pr) 19 FEB. 2009 Pill of water head to ship yours 0700 - load Sange fuel tug 1415- dock @ whipya JOJAPALINE EN 20123 FEB. MIEN WIN 0820 - depat from shippard Weather evercent, drizzle, 24 FEB. 2009 (Tuesday) 0700 - an ved Vm26 0945-5pade BH-SED-02 N 563024 563017.7 A = 145 4165, 9 FL D: 8.75A Tid = O. GH 1 Corrected depole = 8,15 A MILW 11 23 S, CA & BH- SED-10 8,37 HALL N 559624 1A 1457583.54 0950 . Start drilling Tide= +1.9 Ana Corrected depth: 8. 8 A MILEN 1150 - end drilling 1150- BH-SED-02-4 4-6' interval 1120 standarilling Metals, examile, total volid, PAH, Grain 1325 - Stop Arillia 1155 - BH-SED-02-TOC 22'-24 interval

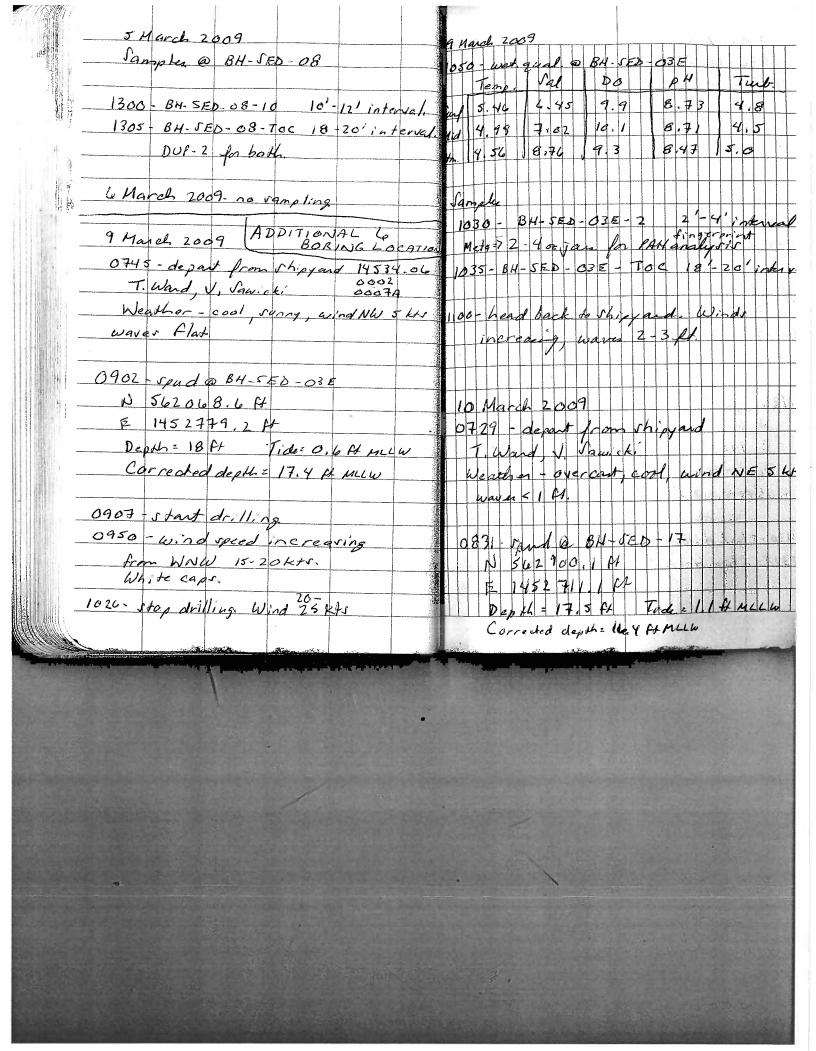


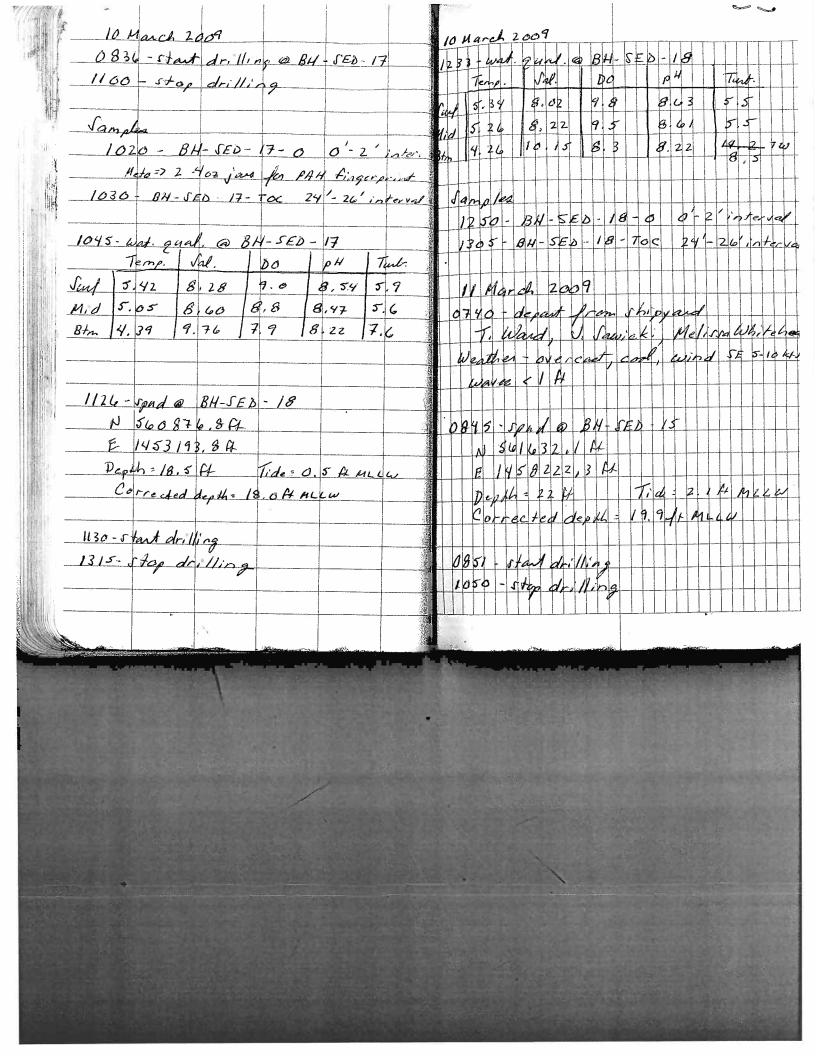






	4 March 2007 1605 wat qual. @ BH-SED-OY Temp. Sal. Do pH Tul: Say 3,48 11.28 12.8 8.59 6.7 Mid 2.57-11.38 12.9 8.39 10.2 Btm 2.39 11.50 12.1 841 9.5	5 March 2009 0858 - start drilling 1025 - Start drilling 1025 - SH-SED-07-G 6-8'interest 1030 - BH-SED-07-TOC 18-20'interest
	1555 - 8H-SED-04-8 8-10'int. 1600-8H-SED-04-TOC 22'-24'int.	1035 - west good. © BH-SED-07 Teng. Val. DO PH Turb. Pul 2,10 7,46 14,5 8.46 6.3
	5 March 2009 0730 - depart from shippand T. Ward and V. Sawicki Weather: Sunny cold,	Hid 2,57 10,23 13.7 8.40 4.5 Bln 2.56 10.56 13.5 8,39 7.5 1105 5pml @ BH SED OB
-	Wind 5 3.5 kJs, waves flat 0750 = EQBLINER (5 5Hs) water	E 1455394.6FF Depth= 10,5 FF Tid= 1,0 FF MLCW Corrected depth= 9,5 FF MLCW
ā _	0805 - EQBSPLIT (56+10) water 0852 - Spud @ BH-SED-97 N 569977, L. A.	1110-stand drilling 1250-stop drilling due to ware! wind condition. Barge maving making drilling difficult
	E 1454827.4 Pt Depth = 13.5 Pt Tide = 0.3 ft MLLW Corrected depth - 13.2 ft MLLW	No waterquality @ BH-SED 08.





1105- BH-SED-15 1056- Wat. 1056- Wat. Temp. Junt 5,75 Mid 5,38 Btm 3.40 11 1135-spud@B N 56216 E 145329 Depth=17 Carrected 1140-Start a 1303-Stop drii Samples: 1300 BH DUF 1305- BH- DUF	BH-SED-15 SED-15-2 S cont. The SED-15-2 S cont. ED-15-2MS & 4 cont. S-TOC, MS, and MSD (1 coch) Gual. @ BH-SED-15 Val. DO PH 6.42 9.1 8.76 7 7.58 9.0 8.72 6 3.08 5.9 7.80 15 H-OSED. O3D 8,5 ft 13,3 ft ft Tido=1.4 ft MLL w depth=15.6 ft MLL w depth=15.6 ft MLL w Cilling increasing, moved strong drilling day for augusta - SED-03D-2 5 cont. to ED-03D-TOC cant.	Test. 11600 - EQBGRAB - Jaguignes A 6/anta 7.3 1615 - EQBWAT Jaguignes A 6/anta 9

	Second Second
12 March 2009	CURVE TABLES
BH- SED-16	HOW TO USE CURVE TABLES
Jample 1005-BH-SED-16-0 0'-2';,t.	Table I. contains Tangents and Externals to a 1° curve. Tan. and Ext. to any other radius may be found nearly enough, by dividing the Tan. or Ext. opposite the given Central Angle by the given degree of
10:0-8H-SED 16-TOC 4-6' int 1020-wat gand & 8H-SED-16 Temp. Val. DO pH Tunt. Sim/ 5-08 8.33 8.1 8.53 18.1 M.d 5.24 9.22 7.9 8.32 14.5 Bin 4.93 7.82 7.1 8.07 /3.0 1030-head back to shippard. Wind/wave to hazardone In safe drilling.	Tan. of Ext. opposite the given Central Arigie by the given degree of curve. To find Deg. of Curve, having the Central Angle and Tangent: To find Deg. of Curve, having the Central Angle and External: Divide Tan. opposite the given Central Angle by the given External: To find Deg. of Curve, having the Central Angle and External: Divide Ext. opposite the given Central Angle by the given External: To find Nat. Tan. and Nat. Ex. Sec. for any angle by Table I.: Tan. or Ext. of twice the given angle divided by the radius of a 1° curve will be the Nat. Tan. or Nat. Ex. Sec. EXAMPLE Wanted a Curve with an Ext. of about 12 ft. Angle of Intersection or I. P. = 23° 20′ to the R. at Station 542+72. Ext. in Tab. I opposite 23° 20′ = 120.87 120.87 ÷ 12 = 10.07. Say a 10° Curve. Tan. in Tab. I opp. 23° 20′ or a 10° Cur. = 0.16 118.31 + 0.16 = 118.47 = corrected Tangent. (If corrected Ext. is required find in same way) Ang. 23° 20′ = 23.33° ÷ 10 = 2.3333 = L. C. 2° 19½′ = def. for sta. 4° 49½′ = " " + 50 Tan. = 1.18.47 B. C. = sta. 542+72 Tan. = 2.33.33 Sy 49½′ = " " + 50 Tan. = 543 B. C. = sta. 541+53.53 L. C. = 2.33.33 E. C. = Sta. 543+86.86 100-53.53 = 46.47 × 3′ (def. for 1 ft. of 10° Curve. Def. for 50 ft. = 2° 30′ for a 10° Curve. Def. for 36.86 ft. = 1° 50½′ for a 10° Curve.

OFFSHORE INVESTIGATION BORING LOGS

	A °		EA Eng	ineerir	ng, Scien	ıce,		Job. No. 14534.06	Client: Sparrow's Poir	nt Peninsula		Location: Sparrow's Poi	nt. MD			
EA Engineer	ring, Science	e,	and T	echno	logy, Inc	-		Drilling Method: Hollow Stem Auger - 6 1/4 in. diameter CME-75 with 14 lbs. auto hammer BH-SED-01								
EA Engineering, Science, and Technology, Inc. LOG OF SOIL/ROCK BORING								Sampling Method: Continuous split spoon sampling								
Coordinates: 563445.1 N 1455268.7 E								with 3 in. diamete				Sheet 1 c	of 2			
Surface	Elevatior	າ:	0 ft MLW									Dri	lling			
Casing E	Casing Below Surface: N/A								22.5	0.8 ft	21.7 ft	Start	Finish			
Reference			N/A					Time	1030	MLLW	MLLW	16-Feb-09	16-Feb-09			
Reference	ce Desc:		N/A					Date	02/16/09	tide	elev	1036	1600			
KEY: RBS	(River Bot	tom Sed.); S	SF (Slag/Fi	ll Mat.);	PLD (Pleis	stocene L	owland Deposit	Reference	N/A							
Sample	Inches	Sample	Sudan	PID		Depth	Stratigraphic	Surface Cond								
Type	Drvn/In.	No.	IV	ppm		in Feet	Determination	Offset: 1 offset	to collect sam	ple volume at 8	3-10 ft (belov	v sed surface) interval			
	Recvrd				6 in.	(MLW)	Botomination	KEY: WOR (w	eight of rod)	; WOH (weig	ht of hamm	ier)				
						0		Water column								
						21.9	WC									
					WOR			Black, wet silt		ined sand						
					WOR	22.9		Slight hydrocarbon odor								
	24/7				WOR			No plasticity								
	29.2%			0.4	WOR	23.9	RBS									
					WOR			Black, wet silt		ined sand						
					WOR	24.9		Slight hydrocarbon odor								
	24/12				WOR			No plasticity								
	50%			0.0	WOR	25.9		Sample taken at 1630 Black, wet silt with fine-grained sand								
					WOH											
					WOH	26.9		Small slag at b	oottom with s	slight hydroca	rbon odor					
	24/24			0.0	WOH	07.0										
	100%			0.0	WOH	27.9		Plack wat silt on ton								
					4	20.0		Black, wet silt on top								
	24/42				5	28.9		Black coal sludge with very slight hydrocarbon odor								
	24/13 54.2%		positive	0.0	6 10	29.9		Sudan IV = Re	ad alabular							
	34.2 /0	-	positive	0.0	6	29.9	SF	Black, wet coa		il+						
					10	30.9	51			III.						
	24/20	BH-SED			12	30.9		Hydrocarbon odor Small sheer observed								
Comp.	83.3%	-01-8		0.0	6	31.9				me at 8-10 ft (halow sad s	urface) interv	al at 1630			
Comp.	00.070	010		0.0	8	01.0		1 offset to collect sample volume at 8-10 ft (below sed surface) interval at 1630 Black, wet coal slag								
					10	32.9		Hydrocarbon of								
	24/23				14	02.0		Small sheer of								
	95.8%		positive	0.0	15	33.9		Sudan IV = Re								
	55.575		,		20	30.0		Black, wet coa		dark grav firr	m-grained	sand (5-7.5")			
					35	34.9		Dark tan fine s					,			
	24/24				38			Slight hydroca		/· U U J	(•	,				
	100%			0.0	50/3"	35.9		<u> </u>								
					10			Light gray fine	-grained san	d with dark g	ray sand le	nses				
					12	36.9		<u> </u>	J	<u> </u>						
	24/20				20											
	83.3%			0.0	52	37.9										
					25		PLD	Light gray fine	-grained san	ıd						
					34	38.9										
	24/15				41											
	62.5%			0.0	50/4"	39.9										
					39			Light to mediu	m gray fine-g	grained sand						
					50/4"	40.9										
	24/24															
	100%			0.0		41.9										

16-Feb-2009

Tony Oleszczyk

Date:

Driller:

Logged by:

Drilling Contractor:

Todd Ward (EA)

Findling Drilling

EA Engineering, Science,								14534.06	Client: Sparrow's Poi			Location: Sparrow's Poin	t. MD			
EA Engineer	ring, Science logy, Inc.	e,			0,7			Drilling Method: Hollow Stem Auger - 6 1/4 in. diameter CME-75 with 14 lbs. auto hammer BH-SED-01					SED-01			
LOG OF SOIL/ROCK BORING								Sampling Met			mpling	Shoot 2 -				
Surface		٦.	563445. 0 ft MLW		1455268.	<i>i</i> E		with 3 in. diameter	spoons with a	icetate iiners		Sheet 2 of	illing			
	Below Su		N/A					Water Level	22.5	0.8 ft	21.7 ft	Start	Finish			
Reference			N/A					Time	1030	MLLW	MLLW	16-Feb-09	16-Feb-09			
Referen	ce Desc:		N/A					Date	02/16/09	tide	elev	1036	1600			
							owland Depos		N/A							
		Sample				Depth in Feet	Stratigraphic	Surface Condi	itions:		at 0 10 ft /	h ala a a d a	wfo.co\intow.col			
	Drvn/In. Recvrd	No.	IV	ppm		(MLW)	Determination	Offset: 1 offset KEY: WOR (w	reight of rod	ampie volume	tht of hamr	<u>ner)</u> ner)	nace) interval			
	rtoovia				8	(IVIEVV)		Medium gray f		, ,						
					14	42.9		g.a.		an gram can						
	24/24				50/3"											
	100%			0.0		43.9										
					82 50/4"	44.9		Medium gray f	ine-to-medi	um grain sand	<u> </u>					
	24/24				30/4	44.9										
	100%			0.0		45.9										
					12			Dark gray medium-to-coarse sand								
	10 46.9 P						PLD	Coal tar odor								
	24/10 41.7%															
	41.7%			0.0	10	47.9		Dark gray med	Dark gray medium-to-coarse sand							
					16	48.9		Coal tar odor	ardin to ood	100 04114						
	24/23				24											
	95.8%			0.0	50/2"	49.9										
					23	50.0		No recovery								
	24/0				50/2"	50.9										
	0%					51.9										
						0.110										
Logged b	y:		Todd V	Vard (EA)			.	Date:	16-Feb-2009		-				
Drilling C	ontracto	r:	Findlin	g Drilli	ng				Driller:	Tony Oleszcz	zyk					

	△ ®		F		. Coion			Job. No.	Client:	. De de la		Location:	MD			
			_		ng, Scien				Sparrow's Poir			Sparrow's Poir	nt. Mid			
EA Foreign		_	and T	ecnno	logy, Inc.	•		Drilling Method			n. diameter	Boring No.	ED 00			
EA Engineer and Technol	ing, Science logy, Inc.	e,	0= 05:	. /8	W B = = :			CME-75 with 14 lb				BH-S	ED-02			
		LOG			K BORI			Sampling Meth			ımpling	01				
Coordina			563027.4		1454157.	2 E		with 3 in. diamete	r spoons with a	cetate liners			f 2			
Surface			0 ft MLW										ling			
Casing E			N/A					Water Level	8.75 ft	0.6 ft	8.15 ft	Start	Finish			
Reference		tion:	N/A					Time	0945	MLLW	MLLW	19-Feb-09				
Reference		4 OI \. C	N/A	:!! \$4=4 \.	DID (DI-:-			Date	02/19/09	tide	elev.	0950	1150			
							owland Deposit		N/A							
Sample		Sample			Blows	Depth	Stratigraphic	Surface Condi	itions:							
	Drvn/In.	No.	IV	ppm		in Feet	Determination	Oliset: none	المحادث المحادث	. \\(\O\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	h	\				
	Recvrd				6 in.	(MLW)		KEY: WOR (w		; won (weig	nt of namm	ner)				
						0	14/0	Water column								
						8.37	WC	D	(611)							
					4			Black, wet slag		al. Coarse-g	rain sand ir	ı slag.				
	0.4/0				4	9.37		Slight hydroca	rbon odor.							
	24/3			0.0	3	40.07										
	12.5%			3.6	3	10.37		N								
					WOH	44.07		No recovery								
	0.4/0				WOH	11.37										
	24/0				WOH	40.07										
	0%				WOH	12.37		Plack wat agares fill material								
					6	40.07		Black, wet coarse fill material Strong hydrocarbon odor and sheen visible in fill material								
	24/42	BH-SED			<u>8</u> 9	13.37		to tan/dark tan medium-to-coarse grain sand								
Comp	54.2%	02-4	positive	8.4	11	14.37		Sample interval at 1150. Grain size sample from 12.37-16.37 interval								
Comp.	34.2 /0	02-4	positive	0.4	12	14.37		Dark tan medi			npie nom i	2.37-10.37 1	illeivai			
					26	15.37		Slight hydroca			note at ton	of interval				
	24/19				35	13.57	SF	Slight Hydroca	ibori odor, s	man sheen s	oots at top	or interval				
	79.2%		positive	14.2	31	16.37	O.									
	10.270		poortivo		21	10.01		Top 8": Rundo	wn of fill ma	terial (sheen/	hydrocarb	on odor)				
					25	17.37		Dark tan medi	um-to-coars	e sand	Trydrocarb	Carbon odor)				
	24/22				41			Dank tarr mour	ann to ocaro	o darra						
	91.7%			24.0	50	18.37		PID measured i	n sand							
					45			Top 2" = Runc		aterial (sheer	n/hvdrocarb	on odor)				
					50/3"	19.37		Dark tan, mois			,	,				
	24/9					1		,								
	37.5%			21.8		20.37		PID measured i	n sand							
					9			Core liner sha								
					12	21.37		Coarse sand r	nixed with bl	ack, wet fil m	aterial					
	24/24				23			Hydrocarbon o	odor and she	en (4" sand a	at bottom o	f interval)				
	100%			20.0	28	22.37		PID measured i								
					5			Small amount								
					7	23.37		Dark gray, wet			lium-to-coa	rse sand>				
	24/10				8			light gray lens.		y clay						
	41.7%			2.6	6	24.37		PID measured i								
					9			Small amount								
					12	25.37	PLD	medium gray o				clay>				
	24/15				14			medium gray f	ine sand wit	h small lens g	gray clay					
	62.5%			57.0	17	26.37										
					9	o= o=		Dark gray, wet								
					7	27.37		light gray fine		-> medium gr	ay, wet coa	rse sand>				
				440 -	7	00.0=		light gray, wet								
			positive	112.0	12	28.37		PID measured	at bottom							

Logged by:	Todd Ward (EA)	Date:	19-Feb-2006
Drilling Contractor:	Findling Drilling	Driller:	Tony Oleszczyk

								JOD. NO.	Client:			Location:		
			EA Eng	gineer	ing, Scie	nce,		14534.06	Sparrow's Poi	nt Peninsula		Sparrow's Poi	nt. MD	
				-	ology, In			Drilling Method			n diameter	Boring No.		
FA Engineer	ring, Scienc	e	and	. 551111	۰.۰ ₉ ۶, ۱۱۱						diamotoi		ED-02	
and Technology, Inc. LOG OF SOIL/ROCK BORING								CME-75 with 14 lbs. auto hammer BH-SED-02						
		LOG						Sampling Method: Continuous split spoon sampling						
Coordina	ates:		563027.4	4 N	1454157.	2 E		with 3 in. diameter spoons with acetate liners Sheet 2 of 2						
Surface	Elevation	n:	0 ft MLW	1								Dri	lling	
Casing E	Relow Su	ırface.	N/A					Water Level	8.75 ft	0.6 ft	8.15 ft	Start	Finish	
Reference			N/A					Time	0945	MLLW	MLLW	19-Feb-09	19-Feb-09	
Referen			N/A					Date	02/19/09	tide	elev.	0950	1150	
KEY: RBS	(River Bot	tom Sed.); S	SF (Slag/F	-ill Mat.)); PLD (Ple	istocene l	owland Deposi	Reference	N/A					
Sample	Inches	Sample	Sudan	PID	Blows	Depth		Surface Condi	itions:					
Туре	Drvn/In.	No.	IV	ppm		in Feet	Stratigraphic	NO OFFSET						
. , , , ,	Recvrd	110.		ΡΡ	6 in.	(MLW)	Determination	KEY: WOR (w	veight of rad	I): WOH (wei	nht of hami	mer)		
	Necviu					(IVILVV)								
					10		1	Light gray, mo		and> light (gray, moist	sandy clay		
					10	29.37		hydrocarbon o	odor					
	24/14				9									
	58.3%			30.2	9	30.37	PLD							
					9			Dark gray fine	sand> lin	ht gray fine s	andy clay -			
					12	31.37		pink/gray hard						
	04/04	DLLOES				31.37				nasticity, flydi	ocarbon o	uUI		
_		BH-SED			14			TOC Sample a						
Comp.	100%	-02-TOC		13.0	14	32.37		PID measuren	nent at botto	om				
							SF							
							O.							
		.												
<u> </u>														
		_												
Logged b	y:		Todd V	Vard (EA)			_	Date:	19-Feb-2006)	=		

Drilling Contractor:

Findling Drilling

Job. No.

Client:

Tony Oleszczyk

Driller:

Location:

	\bigwedge		EA Engi		-			14534.06	Client: Sparrow's Poi			Location: Sparrow's Poi	nt. MD				
EA Engineer	ing. Science	a.	and Te	echnol	ogy, Inc			Drilling Method CME-75 with 14 lb			in. diameter	Boring No.	ED-03A				
and Technol	ogy, Inc.		OF SOIL	/ROC	K BORI	NG		Sampling Met			ampling	211 02	22 00/1				
Coordina	ates:		562236.4		1453695.			with 3 in. diameter			ampiing	Sheet 1 c	of 2				
Surface	Elevatio	n:	0 ft MLW										lling				
Casing E			N/A					Water Level	5.5 ft	0.2 ft	5.3 ft	Start	Finish				
Reference			N/A					Time	0855	MLLW	MLLW		25-Feb-09				
Reference			N/A					Date	02/25/09	tide	elev.	0900	1115				
KEY: RBS	(River Bot	tom Sed.); S	F (Slag/Fill	Mat.); F	PLD (Pleist	tocene Lo	wland Deposit)	Reference	N/A								
Sample	Inches	Sample	Sudan	PID	Blows	Depth	Ctratiaranhia	Surface Cond	itions: conc	rete slabs, irc	n slabs gra	avel,					
	Drvn/In.	No.	IV	ppm	per	in Feet	Stratigraphic Determination	cobble on sed	liment surfa	ce							
	Recvrd				6 in.	(MLW)	Botorrimation	Offset: none									
						0		Water column									
						5.5	WC										
					17			No recovery									
	0.4/0				18	6.5		Augers having	difficulty d	rilling into bot	tom						
	24/0				10	7.5											
	0%				5 4	7.5		Dark brown m	adium to a	parco cand a	raval nice	oc of claa					
					3	8.5		Coal tar odor (ravei, piec	es or slag					
	24/8				4	0.5		Coartai odor ((парпилалет	16:)							
	33.3%			0.0	8	9.5											
	00.070			0.0	10	0.0		Black slag, gravel, coarse sand									
					12	10.5		Coal tar/naphthalene odor									
	24/23				17			•									
	95.8%		negative	0.0	20	11.5											
					2			Dark brown m			arge pieces	of slag					
					2	12.5		Hard gray clay									
	24/3				2		SF	Coal tar/napht	thalene odd	or							
	12.5%			0.0	7	13.5		D	201 1		1 276 1						
					7	115		Dark gray slag		-> Dark gray,	ary stiff cia	ay with peat	iens				
	24/24				6 7	14.5		High plasticity Strong odor at		,							
	100%			0.0	9	15.5		Strong odor at	t top of clay								
	10070			0.0	2	10.0		Dark grav we	t soft clay w	ith fine grain	sand grav	rel>					
					1	16.5		Dark gray, wet soft clay with fine grain sand, gravel> medium gray, moist clay, slight plasticity									
	24/18				2			Slight coal tar/			-,						
	75%			0.0	16	17.5		·	•								
					26			Dark gray fill n	naterial (gra	avel, coarse s	and), hard	, tightly pacl	ked				
					50/3"	18.5		with gray clay									
	24/18	BH-SED						Coal tar/napht									
Comp.	75%	-03A-12		0.0		19.5		PAH fingerprint				iterval) taken	at 1100				
					2	00.5		Dark gray grav	vel/coarse s	sand with clay	/						
	24/10				2	20.5		Slight odor									
	41.7%			0.0	2	21.5											
	41.7 /0			0.0	2	21.5		Medium gray,	moist clay	with shell has	h near hott	tom					
					2	22.5		Medium plasti		with Shell has	ii iicai boti	.0.11					
	24/23	BH-SED			3	0	RBS	No odor	,								
Comp.		03A-TOC		0.0	3	23.5	1	Sample taken	at 1105								
					3			Medium gray,		slight plastici	ty>						
					4	24.5		medium gray,									
	24/15				6		PLD	Slight odor									
	62.5%			0.0	9	25.5											

 Logged by:
 Todd Ward (EA)
 Date:
 25-Feb-2009

 Drilling Contractor:
 Findling Drilling
 Driller:
 Tony Oleszczyk

	A		EA Eng	gineeri	ng, Scie	nce,			Client: Sparrow's Poin	t Peninsula		Location: Sparrow's Poi	nt. MD
EA Enginee	ring, Science logy, Inc.	e,		_	ology, Ind			Drilling Method CME-75 with 14 lb	d: Hollow Stem	Auger - 6 1/4 ir	n. diameter	Boring No.	ED-03A
and Techno	logy, Inc.	LOG	OF SO	IL/RO	CK BOR	ING		Sampling Meth	nod: Continuou	s split spoon sa	mpling		
Coordina			562236.4	4 N	1453695.3	3 E		with 3 in. diamete	r spoons with ac	etate liners		Sheet 2 o	
Surface	Elevation	า:	0 ft MLW	l								Dri	ling
Casing I	Below Su	rface:	N/A				<u> </u>	Water Level	8.75 ft	0.6 ft	8.15 ft	Start	Finish
	ce Elevat	tion:	N/A					Time	0945	MLLW	MLLW		19-Feb-09
	ce Desc:		N/A					Date	02/19/09		elev.	0950	1150
							Lowland Deposit		N/A				
Sample		Sample				Depth	Stratigraphic	Surface Condi	itions: concre	te slabs, iror	ı slabs grav	/el,	
Type	Drvn/ln.	No.	IV	ppm		in Feet	Determination	cobble on sed	iment surface	9			
	Recvrd					(MLW)		Offset: none					
					4			Medium gray,	moist clay wi	th gravel, sh	ell hash		
	0.4/0.4				4	26.5		Slight odor					
	24/24				4			Medium plasti	city				
	100%			0.0	4	27.5	DI D	h 4 - 1'		241 12			
					6	00.5	PLD	Medium gray,	moist soft cla	iy with medic	ım sand, sr	ieli, gravel	
	04/04				4	28.5		Slight odor					
	24/24			0.0	6	00.5		Slight plasticity	У				
	100%			0.0	6	29.5							
								-					

25-Feb-2009

Tony Oleszczyk

Date:

Driller:

Logged by:

Drilling Contractor:

Todd Ward (EA)

					. .			JOD. NO.	Client:			Location:	
EA Engineering, Science,									Sparrow's Poir			Sparrow's Poir	nt. MD
			and Te	echnol	ogy, Inc.			Drilling Metho	d: Hollow Ster	m Auger - 6 1/4 i	n. diameter	Boring No.	
EA Engineer	ing, Science	e,						CME-75 with 14 lb				BH-SI	ED-03B
and Technol	ogy, Inc.	LOG	OF SOII	/ROC	K BORIN	IG		Sampling Met	hod: Continue	us solit sooon s	ampling		
Coordina	ates.		562235.9		1453617.7			with 3 in. diameter			anipinig	Sheet 1 c	of 1
		. .		11	1400017.7			with 5 in. diameter	i spooris with a	cetate inters			
Surface			0 ft MLW										lling
Casing E			N/A					Water Level	11.5 ft	0.8 ft	10.7 ft	Start	Finish
Reference	ce Eleva	tion:	N/A					Time	1100	MLLW	MLLW	17-Feb-09	17-Feb-09
Reference			N/A					Date	02/17/09	tide	elev.	1100	1220
KEY: RBS	(River Bot	tom Sed.); S	F (Slag/Fill	l Mat.); F	PLD (Pleisto	cene Low	land Deposit)	Reference	N/A				
Sample	Inches	Sample	Sudan	PID	Blows	Depth		Surface Cond	itions:				
	Drvn/In.		IV	ppm	per	in Feet	Stratigraphic	Offset: 1 offset		mnle volume a	t 2-4 ft (hel	low sad surf	ace) interval
турс	Recvrd	140.	1 V	РРПП	6 in.	(MLW)	Determination	KEY: WOH (w	veight of ha	mmer)	11 2 4 11 (DC	ow sca. sum	acc) interval
	Necviu				O III.					illilei)			
						0		Water column					
						10.9	WC						
					WOH			Black, wet fine				aterial	
					WOH	11.9	SF	Black, moist s	ilty clay, slig	ht plasticity (5-13")		
	24/13				WOH			Coal tar odor					
	54.2%			8.6	WOH	12.9							
					WOH/12"			Dark gray, mo	ist clav with	very fine gra	in sand. SI	ight plasticit	tv
					1	13.9		Coal tar odor	io constant	· · · · · · · · · · · · · · · · · · ·			-9
	24/20	BH-SED			1	10.0		Sudan IV = re	d alahular				
Comp	83.3%		positive	0.4	ı	140		Sample taken a					
Comp.	03.3%	-U3D-Z	positive	0.4	WOLL	14.9							
					WOH	45.0		Dark gray, mo					
					WOH	15.9		Slight plasticity	У				
	24/20				WOH			Coal tar odor					
	83.3%			11.0	WOH	16.9							
					WOH		RBS	Dark gray, mo	ist clay with	very fine gra	in sand. Sl	ight plasticit	ty
					WOH	17.9		Coal tar odor	•				
	24/23				WOH	1							
	95.8%			1.5	WOH	18.9							
	00.070				WOH			Dark gray to m	nedium grav	moist clay	shell mater	ial	
					WOH	19.9		Slight/medium		, molecolay, c	onon mater	iai	
	24/21				WOH	13.5		Coal tar odor	Plasticity				
				1.0		20.0		Coai tai odoi					
	87.5%			1.0	WOH	20.9		B.4. II	f: 1 ':1				
					WOH	04.0		Medium gray s		n some shells	;		
					WOH	21.9		Slight plasticity	у				
	24/24				WOH			No odor					
	100%			0.0	WOH	22.9							
					WOH/12"			Dark gray, we	t clayey fine	sand, shell n	naterial		
					3	23.9		No odor					
	24/11				4								
	45.8%			0.8		24.9							
					3			Dark gray, me	dium grain	sand, shell m	aterial, 1 la	arge rock	
					3	25.9		Dark gray, me				30 . 3011	
	24/19				3	25.9		Daik glay, Ille	diuiti giaiii	Jiayey Sanu a	ii bolloiii		
				0.0		26.0							
	79.2%			0.0	3	26.9		Dorle arress re-	dium	2024			
					6	o o	PLD	Dark gray, me	aium grain :	sand			
					7	27.9							
	24/21				7								
	87.5%			0.0	8	28.9							
					7			Dark gray/darl	k tan mediu	m-to-coarse o	rain sand		
					8	29.9							
	24/14				8	1							
58.3% 0.0 9 30.9													
						30.0							

17-Feb-2009

Tony Oleszczyk

Date:

Driller:

Logged by:

Drilling Contractor:

Todd Ward (EA)

And Technology, Inc. Log OF SOIL/ROCK BORING COordinates: 522184.3 N 14534858.8 E Dit MLW NA Reference Desc: Reference Desc: Type Divrvlin, No, Reference Sample Inches Sample Inches Sample Inches Reference Inches Reference Sample Reference Inches Refer		\bigwedge°		EA Engi		-				Client: Sparrow's Poi			Location: Sparrow's Poi	nt. MD
Coordinates: Section	EA Engineer	ing, Science	e,	and 1	ecnnoi	ogy, inc	·					n. diameter	Boring No. BH-SE	D-03C
Surface Elevation:	and Technol	ogy, Inc.	LOG	OF SOIL	_/ROC	K BORI	NG		Sampling Met	hod: Continue	ous split spoon s	ampling		
Casing Below Surface: N/A				562184.3	N	1453486.	8 E		with 3 in. diameter	r spoons with a	cetate liners			
Time	Surface	Elevatio	n:	0 ft MLW										ling
Reference Desc: NA KEY: R88 (IRWe plotten Sed.): SE (SlagFill Mat.): PLD (Pleistocene Lowland Deposit) Reference NA KEY: R88 (IRWe plotten) Recvid No. IV PiD Blows Depth Pop														
Ker's RBs (River Bottom Sed.); SF (Slag)Fill Mexi.); PLD (Pleiatocenes Lowland Depondence in Federal Sample Durnylin, Recvid No. IV ppm Bit Durnylin, Recvid No. IV ppm Single paper Stratigraphic Other Medium gray soft silty clay Slight plasticity 13-87 1														
Sample Inches Sample Sudan PID Blows Depth Pype Depth Pype											tide	elev.	0820	0955
Type														
No.						Blows	Depth	Stratigraphic	Surface Cond					
Water column			No.	IV	ppm	per	in Feet	Dotormination	Offset: 1 offset					ce) interval
14.87 WC WOR		Recvra				ь in.	(101200)		11=11 11011 (1	_	i); WOH (wei	gnt of nam	ner)	
WOR WOR WOR 15.87								WC	Water column					
Comp. WOR 15.87 WOR 29.2% -03C-02 5.0 WOR 17.87 WOH 17.87 WOH 25% WOH 37.5% WOH WOH 20.87 WOH 37.5% WOH 20.87						WOD	14.87	WC	Disale wet silt	with fine ar	oin oond			
Sheen visible Sample taken at 1030 Samp							15 07			with line gr	am sano			
Comp. 29.2% -03C-02 5.0 WOR 16.87 WOH 17.87 WOH 24/6 25% 0.0 WOH 18.87 WOH 37.5% 0.0 WOH 20.87 WOH 37.5% 0.0 WOH 20.87 WOH 75% 0.0 WOH 22.87 WOH 100% 0.0 WOH 24.87 WOH 20.87 WOH 100% 0.0 WOH 24.87 WOH 24/24 100% 0.0 WOH 26.87 WOH 26.87 WOH 26.87 WOH 26.87 WOH 24/24 100% 0.0 WOH 26.87 WOH 26.		24/7					15.67							
WOH WOH 17.87	Comp				5.0		16.87			at 1030				
WOH 17.87 WOH 17.87 WOH 25.87 WOH WOH 19.87 WOH WO	Comp.	29.270	-030-02		3.0		10.07				ain sand			
24/6							17 87			with fine gr	airi saria			
25% 0.0 WOH 18.87 WOH 19.87 WOH 24.87 WOH 25.87 WOH 100% 0.0 WOH 25.87 WOH 100% 0.0 WOH 26.87 WOH 100% 0.0 28.87 24/24 0.0 2 2 2 7.87 24/24 0.0 2 2 31.87 24/24 0.0 2 31.87 24/24 0.0 2 31.87 24/24 0.0 2 31.87 24/26 2 2 31.87 24/26 2 31.87 2 31.87 24/26 2 31.87 2 3		24/6					17.07	SF						
WOH 19.87 WOH 24/9 37.5% 0.0 WOH 20.87 WOH 75% 0.0 WOH 22.87 WOH 100% 0.0 WOH 24.87 WOH 100% 0.0 WOH 25.87 WOH 100% 0.0 WOH 25.87 WOH 100% 0.0 WOH 26.87 24/24 100% 0.0 WOH 26.87 24/24 100% 0.0 28.87 24/24 100% 0.0 28.87 24/24 100% 0.0 26.87 24/24 100% 0.0 26.87 24/24 100% 0.0 25.87 24/24 100% 0.0 25.87 24/24 100% 0.0 25.87 24/24 100% 0.0 25.87 24/24 100% 0.0 28.87 24/24 100% 0.0 28.87 24/24 100% 0.0 28.87 24/24 100% 0.0 28.87 24/24 100% 0.0 28.87 24/24 100% 0.0 28.87 24/24 100% 0.0 28.87 25/26 25/26 0.0 9 30.87 25/26 25/26 0.0 9 32.87 24/16 25/26 0.0 9 32.87 24/16 25/26 25/26 0.0 9 32.87 24/16 25/26 25/26 0.0 9 32.87 24/16 25/26 25/26 0.0 9 32.87 24/16 25/26 25/26 0.0 9 32.87 24/16 24/16 25/26					0.0		18.87	G.	Citedit violate					
Second part of the properties of the propertie		2070			0.0				Black, wet silt	with fine ar	ain sand			
No sheen							19.87							
37.5% 0.0 WOH 20.87 Black, wet silt. Coal tar odor (0-13*) Medium gray soft silty clay. Slight plasticity (13-18*)		24/9												
24/18					0.0		20.87							
24/18														
T5%							21.87		Medium gray s	soft silty cla	y. Slight plast	icity (13-18	5")	
WOH WOH 100% WOH 1		24/18												
WOH 23.87 WOH 24.87 WOH 24.87 WOH WOH WOH WOH WOH 100% WOH 25.87 WOH 100% WOH 26.87 WOH 27.87 24/24 100% 27.87 24/24 100% 0.0 28.87 7 8 29.87 24/16 66.7% 0.0 9 30.87 24/6 25% 0.0 9 32.87 7 8 33.87 24/13 9 9 Slight plasticity 1 small rock in bottom of interval Medium gray, moist soft silty clay Slight plasticity Slight plasticity 1 small rock in bottom of interval Medium gray, moist soft silty clay Slight plasticity Slight plasticity 1 small rock in bottom of interval Medium gray, moist soft silty clay Slight plasticity Slight plasticity 1 small rock in bottom of interval Medium gray, moist soft silty clay Slight plasticity Slight plasticity 1 small rock in bottom of interval Medium gray, moist soft silty clay Slight plasticity 1 small rock in bottom of interval Medium gray, moist soft silty clay Slight plasticity 1 small rock in bottom of interval Medium gray, moist soft silty clay Slight plasticity 1 small rock in bottom of interval Medium gray, moist soft silty clay Slight plasticity Slight plasticity 1 small rock in bottom of interval 1 small rock		75%			0.0		22.87							
24/24											lay, shell ma	terial		
100% 0.0 WOH 24.87 WOH WOH 25.87 WOH 100% 0.0 WOH 26.87 WOH 100% 0.0 WOH 27.87 24/24 100% 0.0 28.87 24/24 100% 0.0 28.87 8 29.87 24/16 66.7% 0.0 9 30.87 24/6 25% 0.0 9 32.87 7 8 24/13 9 9 8 33.87 PLD Dark gray to dark tan medium-to-coarse sand, gravel and cobble		0.4/0.4					23.87							
WOH WOH 25.87 WOH 100% 0.0 WOH 26.87 WOH 100% 0.0 WOH 26.87 WOH 100% 0.0 WOH 27.87 24/24 100% 0.0 28.87 24/16 66.7% 0.0 9 30.87 24/16 66.7% 0.0 9 30.87 24/6 25% 0.0 9 32.87 7 8 33.87 PLD							04.07		Slight coal tar	odor at top	of interval			
WOH 25.87 Slight plasticity 1 small rock in bottom of interval 1 small rock		100%			0.0		24.87	DDC	N.A 12		26			
24/24							25.07	KBS			siity ciay			
100% 0.0 WOH 26.87		24/24					25.67				ntorval			
WOH/12" Medium gray, moist soft silty clay Slight plasticity					0.0		26.87		1 SITIALI TOCK II	i bolloiii oi	illervai			
2 27.87 Slight plasticity		10070							Medium gray	moist soft s	ilty clay			
24/24											mry oldy			
100% 0.0		24/24							Chight plaction	,				
Dark gray to tan medium sand Shell layer					0.0		28.87							
Shell layer Very slight coal tar odor Very slight coal tar odor									Dark gray to ta	an medium	sand			
24/16 66.7% 0.0 9 30.87							29.87							
66.7% 0.0 9 30.87 2 31.87 24/6 25% 0.0 9 32.87 7 8 33.87 24/13 9 9 One of the control of the		24/16								al tar odor				
24/6 25% 0.0 9 32.87 PLD 24/13 PLD 2		66.7%			0.0	9	30.87							
24/6 25% 0.0 9 32.87 PLD 24/13 PLD 2						2			Dark gray, we	t medium-to	-coarse sand	l, shell mat	erial	
25% 0.0 9 32.87						2	31.87	PLD						
Dark gray to dark tan medium-to-coarse sand, gravel and cobble 24/13 9 Dark gray to dark tan medium-to-coarse sand, gravel and cobble														
24/13 8 33.87 9		25%			0.0		32.87							
24/13 9									Dark gray to d	lark tan med	dium-to-coars	e sand, gra	avel and col	oble
		0.4/10					33.87							
54.2% U.U 16 34.8/					0.0		24.07							
		54.2%			0.0	16	34.87							

 Logged by:
 Todd Ward (EA)
 Date:
 17-Feb-2009

 Drilling Contractor:
 Findling Drilling
 Driller:
 Tony Oleszczyk

	$\bigwedge^{\!$		EA Engi		-			14534.06	Client: Sparrow's Poi			Location: Sparrow's Poi	nt. MD
EA Fasiana		_	and Te	echnol	ogy, Inc	-		Drilling Metho			in. diameter	Boring No.	.D. 00D
EA Engineer and Technol	ogy, Inc.		OF SOIL	POC	K BODII	NG		CME-75 with 14 lb Sampling Met			م ما ام مم	BH-25	D-03D
Coordina	ates.	LOG	562168.5 I		1453293.			with 3 in. diameter			ampling	Sheet 1 c	of 2
Surface		n·	0 ft MLW	· ·	1400200.	J L		with 5 in. diameter	i apooria witi i	acetate iiileis			ling
Casing E			N/A					Water Level	17.0 ft	1.4 ft	15.6 ft	Start	Finish
Reference			N/A					Time	1135	MLLW	MLLW		11-Mar-09
Reference			N/A					Date	02/17/09	tide	elev.	1140	1303
				Mat.); F	PLD (Pleist	tocene Lo	wland Deposit)	Reference	N/A	liao	0.01.		1000
Sample					Blows	Depth		Surface Cond					
	Drvn/In.		IV	ppm	per	in Feet	Stratigraphic Determination	Offset: none					
	Recvrd				6 in.	(MLW)	Determination	KEY: WOR (w	veight of roo	d); WOH (wei	ght of ham	mer)	
						Ó		Water column		,		•	
						15.8	WC						
		DUP-1			WOR			Black, wet ver	y fine sand	y silt			
					WOR	16.8		Hydrocarbon of					
	24/24				WOR			Small sheen o		d-sample			
	100%	-03D-2		0.0	WOR	17.8	SF	Sample taken					
					WOR			Black, wet ver		y silt			
					WOR	18.8		Hydrocarbon o	odor				
	24/24				WOR	400		Small sheens					
	100%		negative	0.0	WOR	19.8		Diagle wat and					
					WOR WOR	20.8		Black, wet sof dark gray, mo			lootoit.		
	24/21				WOR	20.6		Hydrocarbon (, very slight p	iasicity		
	87.5%			0.0	WOR	21.8		riyurocarbori	odoi				
	01.570			0.0	WOR	21.0		Medium gray,	moist soft o	lav verv slid	ht plasticity	,	
					WOR	22.8		Hydrocarbon o		nay, very sligi	in plasticity	<u> </u>	
	24/22				WOR			,					
	91.7%			0.0	WOR	23.8							
					WOR			Medium gray,	wet soft cla	ıy			
					WOR	24.8		No plasticity					
	24/24				WOR			Very slight hyd	drocarbon c	dor			
	100%			0.0	WOR	25.8							
					WOH			Medium gray,					
	0.4/0.4				WOH	26.8		Slight plasticit					
	24/24			0.0	WOH	27.0	RBS	Few shells at	bottom				
	100%			0.0	WOH WOH	27.8		No odor	maint anft a	lov no plasti	oity >		
					WOH	28.8		Medium gray, medium gray i	moist stiff of	lay, 110 piasii	city>		
	24/24				WOH	20.0		Few shells at		ay, siigitt pia	Sticity		
	100%			0.0		29.8		No odor	DOMOTT				
					WOH			Medium gray,	moist soft o	clay			
					WOH	30.8		Very slight pla		,			
	24/24				WOH			No odor					
	100%			0.0	WOH	31.8							
					WOH			Medium gray,		lay			
					WOH	32.8		Slight plasticit	у				
	24/24				WOH			No odor					
	100%			0.0	WOH	33.8		N.A1"		.1	la Carla - P. P.		
					<u>1</u> 5	240		Medium gray,				'>	
	24/24				4	34.8	PLD	medium gray o	ciayey sano	(iine/meaiun	n grain)		
	100%			0.0	3	35.8		INO OUOI					
	100/0			0.0	J	55.0							

Logged by:	Todd Ward (EA)	Date:	11-Mar-2009	
Drilling Contractor:	Findling Drilling	Driller:	Tony Oleszczyk	

E			EA Eng		g, Scien ogy, Inc.			14534.06 Drilling Metho		m Auger - 6 1/4 i	in. diameter	Location: Sparrow's Poi Boring No.	
EA Engineer and Technol		LOG	OF SOIL					CME-75 with 14 lb Sampling Met	hod: Continuo	ous split spoon s	ampling		ED-03D
Coordina		n.	562168.5	N	1453293.	3 E		with 3 in. diameter	r spoons with a	cetate liners		Sheet 2	
Surface Casing E			0 ft MLW					Water Level	17.0 ft	1 / ft	15.6 ft	Start	lling
Referen			N/A N/A					Time	1135	1.4 ft MLLW	MLLW		Finish 11-Mar-09
Referen			N/A					Date	02/17/09	tide	elev.	1140	1303
				ll Mat.); F	PLD (Pleist	ocene Lo	wland Deposit)		N/A		0.071		. 500
Sample	Inches	Sample	Sudan		Blows	Depth	04	Surface Cond	itions:				
	Drvn/In.		IV	ppm	per	in Feet	Stratigraphic Determination	Offset: none					
	Recvrd					(MLW)	_ 5.5	KEY: WOR (w					
		DUP-1			3	00.5	DI 5	Medium gray,				->	
	04/04	חון פרס			6	36.8	PLD	medium gray,	wet mediun	n grain sand,	shells		
		BH-SED 03D-TOC		0.0	5 3	37.0		No odor TOC Sample t	takan at 120	75			
	100%	03D-10C	,	0.0	3	37.8		TOC Sample t	iaken at 13t	JO			
											,		
Logged b	oy:		Todd W	ard (E	A)			<u>.</u>	Date:	11-Mar-2009)		
Drilling C	lling Contractor: Findling Drilling							_	Driller:	Tony Oleszc	zyk	•	

EA Engineering, Science, and Technology, Inc. A figure remain, Science, and Technology, Inc. A figure remain, Science, and Technology, Inc. LOG OF SOIL/ROCK BORING Coordinates: UA		● ®								Client:			Location:	
A Fargumentum Stemence Enterestion Enterest E		Λ		_		-								nt. MD
Surface Elevation: Surface Elevation: Surface Elevation: Na				and Te	echnol	ogy, Inc.			Drilling Metho	d: Hollow Ster	m Auger - 6 1/4 i	n. diameter		
Coordinates: Species Surface Stevation: Surface Stevation: Stevation:	EA Engineer	ing, Science	В,										BH-SE	D-03E
Second 1482779.2 E			LOG	OF SOIL	./ROC	K BORII	NG		Sampling Met	hod: Continue	ous split spoon s	ampling		
Casing Below Surface: NA Na				562068.6 I	N	1452779.2	2 E							
Casing Below Surface: NA Na	Surface	Elevation	n:	0 ft MLW									Dril	ling
Reference Elevation: NA NA NA NA NA NA NA NA				N/A					Water Level	18.0 ft	0.6 ft	17.4 ft		_
Reference Desc: NA														
KEY: RBS (River Bottom Sad); SF (Slag/Fill Mat.); PLD (Fleatscones Lowland Deposit) Type	Reference	ce Desc:	:	N/A					Date					
Sample Inches Sample Durn/ln No. No.					Mat.); P	LD (Pleist	ocene Lo	wland Deposit)					<u> </u>	
Type									Surface Cond					
Recvrd						per	in Feet	Stratigraphic	Offset: none					
Comp. Comp				<u> </u>				Determination	KEY: WOR (w	veight of roo	l); WOH (wei	ght of ham	mer)	
			[]	1										
WOR WOR WOR 18.6 WOR 10.0 WOH 10.0 WOH		\		L ŀ	լ հ		_	wc						
24/24				1		WOR			Black, wet silt	> dark gra	y, moist soft	silty clay, v	ery slight pl	asticity
24/24				<u> </u>	<u>└</u> ▐	WOR	18.6	RBS						
PAH fingerprint WOR WOR WOR WOR Ser BH-SED WOR WOH W		-		1				1						
Second		100%		\k	0.0		19.6							
Second				1 —									coal>	
Moral				t	l		20.6	SF						
WOR		24/24	BH-SED				1	1	1					
WOR 22.6 WOR 23.6 WOR 23.6 WOR 24.6 WOR 25.6 WOR 25.6 WOR 26.6 WOR 27.6 WOR 27.6 WOR 27.6 WOR 27.6 WOR 24.24 100% 0.0 WOR 29.6 WOH 24.24 100% 0.0 WOH 31.6 WOH 24.24 100% 0.0 WOH 33.6 24.24 100% 0.0 WOH 33.6 WOH 24.24 100% 0.0 WOH 33.6 WOH 24.24 100% 0.0 WOH 33.6 WOH	Comp.	100%	-03E-2	negative	0.0		21.6							
24/19		1]	1 }	1 Ì		1	l		wet soft cla	y, very slight	plasticity		
Top				<u> </u>			22.6	1	No odor					
WOR WOR WOR 24.6 WOR 24.6 WOR 100% 0.0 WOR 25.6 WOR 26.6 WOR 26.6 WOR 100% 0.0 WOR 27.6 WOR WOR 26.6 WOR WOR 26.6 WOR WOR 26.6 WOR WOR 27.6 WOR WOR 27.6 WOR WOR 28.6 WOR 24/24 WOH 100% 0.0 WOH 30.6 WOH 24/24 WOH 100% 0.0 WOH 32.6 WOH 100% 0.0 WOH 33.6 WOH 100% 0.0 WOH 34.6 WOH 100% 0.0 WOH 34.6 WOH 100% 0.0 WOH 35.6 WOH 100% 0.0 WOH 35.6 WOH 100% 0.0 WOH 35.6 WOH 100% 0.0 WOH 36.6 WOH 24/24 BH-SED WOH WOH 36.6 WOH WOH 36.6 WOH WOH 36.6 WOH WOH 36.6 WOH WOH WOH Slight plasticity No odor Woldenium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay No odor Medium gray, moist soft clay No odor No odor]	1 1			1 <u> </u>	1	<u></u>					
WOR 24/24		79.2%		 	0.0		23.6		<u> </u>					
24/24	l l	1		1 I	1 I		ا _ ا	1			lay			
100%		0.1/5		 	$\vdash \vdash$		24.6	1		sticity				
WOR WOR WOR 26.6 WOR 27.6 WOR 27.6 WOR 27.6 WOR WOR 27.6 WOR WOR 28.6 WOR 28.6 WOR 29.6 WOH WOH 100% 0.0 WOH 31.6 WOH 100% 0.0 WOH 32.6 WOH 100% 0.0 WOH 33.6 WOH 100% 0.0 WOH 33.6 WOH 100% 0.0 WOH 33.6 WOH 100% 0.0 WOH 34.6 WOH 100% 0.0 WOH 34.6 WOH 100% 0.0 WOH 35.6 WOH WOH 100% 0.0 WOH 35.6 WOH WOH WOH 100% 0.0 WOH 35.6 WOH WOH WOH WOH WOH WOH 100% WOH WOH				1 I	1		<u> </u>		No odor					
WOR 26.6 WOR 27.6 WOR 27.6 WOR 27.6 WOR 27.6 WOR WOR WOR WOR WOR WOR 28.6 WOR 29.6 WOH WOH WOH 30.6 WOH WOH 30.6 WOH WOH 30.6 WOH WOH 30.6 WOH WOH WOH 30.6 WOH WO		100%	 	├	υ.0		25.6] \	Modium ···	moint reft	lov			
24/24	l l	1	l	1 I	1 I		26.0] \			ıay			
100% 0.0 WOR 27.6 WOR WOR 28.6 WOR 28.6 WOR 100% 0.0 WOR 29.6 WOH WOH 100% 0.0 WOH 30.6 WOH 100% 0.0 WOH 31.6 WOH 100% 0.0 WOH 32.6 WOH 100% 0.0 WOH 33.6 WOH 100% 0.0 WOH 33.6 WOH 100% 0.0 WOH 34.6 WOH WOH 100% 0.0 WOH WOH WOH 100% 0.0 WOH 34.6 WOH WOH 100% 0.0 WOH 35.6 WOH 100% 0.0 WOH 35.6 WOH 100% 0.0 WOH 35.6 WOH WOH 100% 0.0 WOH 35.6 WOH WOH 36.6 WOH WOH WOH 36.6 Slight plasticity No odor Slight plasticity Some shell material near bottom No odor Slight plasticity No odor Slight plasticity No odor Slight plasticity Some shell material near bottom No odor Slight plasticity No odor Slight plasticity Some shell material near bottom No odor Slight plasticity Some shell material near bottom No odor Slight plasticity Some shell material near bottom No odor Slight plasticity Some shell material near bottom No odor Slight plasticity Some shell material near bottom No odor Slight plasticity Some shell material near bottom No odor Slight plasticity Some shell material near bottom No odor Slight plasticity Some shell material near bottom No odor Slight plasticity Some shell material near bottom No odor Slight plasticity		24/24	 	 	₩		∠0.6	1		ioucity				
WOR WOR WOR 28.6 WOR 29.6 WOH 100% 0.0 WOH 30.6 WOH 100% 0.0 WOH 30.6 WOH 100% 0.0 WOH 31.6 WOH WOH 100% 0.0 WOH 32.6 WOH 100% 0.0 WOH 33.6 WOH 100% 0.0 WOH 34.6 WOH WOH 100% 0.0 WOH 34.6 WOH WOH 100% 0.0 WOH 35.6 WOH WOH WOH 100% 0.0 WOH 35.6 WOH WOH WOH WOH 24/24 100% 0.0 WOH 35.6 WOH WOH WOH 36.6 WOH WOH WOH WOH 36.6 WOH WO	l l			1 I	0.0		27.6	1	INO OUOI					
WOR 28.6 Very slight plasticity No odor		100%		} 	U.U		۵.1∠	1	Medium grav	moiet coft a	lav			
24/24	l l	1		1 I	1 I		28.6	1			асу			
100% 0.0 WOR 29.6 RBS		24/24		 	├		20.0	1		Julioney				
WOH WOH WOH 30.6 Slight plasticity Some shell material near bottom Woh Medium gray, moist soft clay Some shell material near bottom Woh Medium gray, moist soft clay Some shell material near bottom Medium gray, moist soft clay Sight plasticity Some shell material near bottom Medium gray, moist soft clay Sight plasticity Some shell material near bottom No odor Medium gray, moist soft clay Slight plasticity Sight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor No odor No odor Medium gray, moist soft clay Slight plasticity No odor	l l	-		1 I	0.0		29.6	RRS	. 10 0001					
WOH 30.6 Slight plasticity Some shell material near bottom No odor Medium gray, moist soft clay Some shell material near bottom No odor Medium gray, moist soft clay Slight plasticity Some shell material near bottom Slight plasticity Some shell material near bottom No odor Medium gray, moist soft clay Slight plasticity Some shell material near bottom No odor Medium gray, moist soft clay Slight plasticity No odor No odor Medium gray, moist soft clay No odor Medium gray, moist soft clay Slight plasticity No odor Slight plasticity No odor No odor Slight plasticity No odor No od		. 55 76	 	 	J.U		20.0	50	Medium gray	moist soft o	lav			
24/24	l l	1		1 I	1 I		30.6	1			ر~.			
100% 0.0 WOH 31.6 No odor Medium gray, moist soft clay Slight plasticity Some shell material near bottom No odor Medium gray, moist soft clay Some shell material near bottom No odor Medium gray, moist soft clay Slight plasticity Some shell material near bottom No odor Medium gray, moist soft clay Slight plasticity No odor No odor Medium gray, moist soft clay No odor Medium gray, moist soft clay No odor Medium gray, moist soft clay No odor Slight plasticity No odor No odor No odor Medium gray, moist soft clay No odor No odor		24/24		 				1			bottom			
WOH WOH 32.6 Slight plasticity Some shell material near bottom No odor Medium gray, moist soft clay Slight plasticity Some shell material near bottom No odor Medium gray, moist soft clay Slight plasticity Sight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay No odor Medium gray, moist soft clay No odor Medium gray, moist soft clay No odor Slight plasticity No odor Slight plasticity No odor No	l l			1 I	0.0			1	NI II					
WOH 32.6 Slight plasticity Some shell material near bottom No odor Medium gray, moist soft clay Slight plasticity No odor Medium gray, moist soft clay Slight plasticity No odor No odor No odor Medium gray, moist soft clay No odor No o		- · ·		1				1		moist soft c	lay			
24/24 100% WOH 0.0 WOH WOH WOH 100% Some shell material near bottom No odor Medium gray, moist soft clay Slight plasticity No odor 24/24 100% WOH 0.0 WOH WOH WOH WOH 36.6 Medium gray, moist soft clay No odor 24/24 BH-SED WOH WOH WOH Medium gray, moist soft clay Slight plasticity No odor	l l	1		1 I	1 I		32.6	1			•			
100% 0.0 WOH 33.6 No odor Medium gray, moist soft clay Slight plasticity No odor No odor No odor Slight plasticity No odor Slight plasticity No odor Slight plasticity No odor No odor				1			¶	1			bottom			
WOH WOH 34.6 Medium gray, moist soft clay Slight plasticity No odor MoH Medium gray, moist soft clay Slight plasticity No odor MoH Medium gray, moist soft clay Medium gray, moist soft clay Slight plasticity Slight plasticity No odor				┖	0.0		33.6	1	No odor					
WOH 34.6 Slight plasticity No odor No odor Slight plasticity No odor N				1		WOH		1	Medium gray,		lay			
24/24		l		<u> </u>	<u>└</u> ▕		34.6	1	Slight plasticity					
WOH WOH Slight plasticity 24/24 BH-SED WOH No odor				1		WOH	1	1						
WOH 36.6 Slight plasticity 24/24 BH-SED WOH No odor		100%			0.0		35.6	1	1					
24/24 BH-SED WOH No odor]	1 <u> </u>	1 T		1 <u> </u>	1			lay			
							36.6	1		у				
Comp. 100% 03E-TOC 0.0 WOH 37.6 Sample taken at 1035							1 <u>. </u>	1						
	Comp. 100% 03E-TOC 0.0 WOH 37.6								Sample taken	at 1035				

Logged by:	Todd Ward (EA)	Date:	9-Mar-2009
Drilling Contractor:	Findling Drilling	Driller:	Tony Oleszczyk

	*							Job. No.	Client:			Location:	
			EA Engi		-				Sparrow's Poi			Sparrow's Poi	nt. MD
J			and To	echnol	ogy, Inc			Drilling Metho			in. diameter	Boring No.	
EA Engineer and Techno	ring, Science logy, Inc.							CME-75 with 14 lb				BH-S	ED-04
		LOG	OF SOIL					Sampling Met			ampling	.	
Coordina			561559.6	N	1454108.	6 E		with 3 in. diameter	r spoons with a	cetate liners		Sheet 1 o	
Surface	Elevatio	n:	0 ft MLW										lling
Casing I	Below Su	urface:	N/A					Water Level	12.5 ft	0.7 ft	11.8 ft	Start	Finish
Referen	ce Eleva	ition:	N/A					Time	1521	MLLW	MLLW	4-Mar-09	4-Mar-09
Referen			N/A					Date	03/04/09	tide	elev.	1425	1615
			SF (Slag/Fil	l Mat.); F	PLD (Pleist	tocene Lo	wland Deposit)		N/A				
Sample			Sudan	PID	Blows	Depth	Stratigraphic	Surface Cond	itions:				
Type	Drvn/In.	No.	IV	ppm	per	in Feet	Dotormination	Offset: none					
	Recvrd				6 in.	(MLW)	Beterrimation	KEY: WOR (w	veight of roc	d); WOH (wei	ght of ham	mer)	
						0		Water column	l				
						12.0	WC						
					WOR			Black, wet silty	y sand				
					WOR	13.0		Few shells					
	24/17				WOR			Slight naphtha	alene odor				
	70.8%			0.0	WOR	14.0							
					WOR			No recovery					
					WOR	15.0							
	24/0				WOR								
	0%				WOR	16.0							
					WOR			Black, wet sar	ndy silt				
					WOR	17.0		Naphthalene of	odor				
	24/1				WOR								
	4.2%			0.0	WOR	18.0	RBS						
					WOH			Black, wet sar					
					WOH	19.0		Naphthalene of	odor				
	24/4				WOH								
	16.7%			0.0	WOH	20.0							
					WOH	04.0		Black, wet sar					
	0.4/0.4	DI LOED			WOH	21.0		Naphthalene of	odor				
_	24/24			0.0	WOH	00.0		0 1 1					
Comp.	100%	-04-8	negative	0.0	WOH	22.0		Sample taken		I			
					WOH WOH	00.0		Medium gray,		ay			
	24/7				WOH	23.0		Slight plasticit					
	29.2%			0.0	WOH	24.0		Slight naphtha	alene odor				
	∠3.∠70			0.0	3	24.0		Black, wet sof	t candy alay	/ vary cliabt r	alacticity :		
					5	25.0		medium gray,					
	24/24				1	25.0		medium gray,	1110131 3011 0	ay, siigiit pia	isticity, SHE	iio	
	100%			0.0	1	26.0							
	10076			0.0	2	20.0		Dark gray, mo	ist soft clav	slight plastic	city>		
	3 27.0							Dark tan, mois				light nanhth	alene odor
	24/23				4	21.0		Dark tarr, more	st sariuy cia	y, moderate p	nasticity, s	ilgiit Hapiitii	alerie odoi
	95.8%			0.0	10	28.0	PLD						
	33.070			0.0	10	20.0	I LD	Dark gray, we	t sandy clay	with shells -	->		
					12	29.0		tan medium-to			_		
	24/23				12	_0.0		No odor	. 304.00 041	.~			
	95.8%			0.0	12	30.0							
	33.070			0.0	10	50.0		Dark gray/ tan	medium-to	-coarse sand			
					10	31.0		No odor	oaiaiii to	224100 04114			
	24/7				10	31.0							
	29.2%			0.0	12	32.0							
	,,,			•									

 Logged by:
 Todd Ward (EA)
 Date:
 4-Mar-2009

 Drilling Contractor:
 Findling Drilling
 Driller:
 Tony Oleszczyk

								JOD. NO.	Client:			Location:	
			EA Engi		-				Sparrow's Poi			Sparrow's Poi	nt. MD
			and To	echnol	ogy, Inc			Drilling Metho			n. diameter	Boring No.	
EA Engineer and Technol	ing, Science	9,						CME-75 with 14 lb	os. auto hamm	er		BH-S	ED-04
and Technol	logy, Inc.	LOG	OF SOIL	/ROC	K BORI	NG		Sampling Met	hod: Continue	ous split spoon s	ampling		
Coordina	ates:		561559.6		1454108.			with 3 in. diamete			. 3	Sheet 2 c	of 2
Surface		n:	0 ft MLW						,				ling
Casing E								Water Lovel	12.5 ft	0.7 ft	11.8 ft	Start	Finish
Referen			N/A					Water Level	12.5 π 1521	0.7 ft MLLW	MLLW	4-Mar-09	4-Mar-09
			N/A					Time					
Referen			N/A	I N 1 - 4 \ =	ייי ייי		udand D - "	Date	03/04/09	tide	elev.	1425	1615
							wland Deposit)		N/A				
Sample		Sample						Surface Cond	itions:				
	Drvn/In.	No.	IV	ppm		in Feet	Determination	Offset: none					
	Recvrd				6 in.	(MLW)	Determination	KEY: WOR (v	veight of roc	d); WOH (wei	ght of ham	mer)	
					12			Rundown (gra	avsiltv. sand	v clav)>			
					14	33.0		Dark tan coars		111			
	24/23				14			No odor					
	95.8%			0.0	10	34.0	PLD						
	30.070			0.0	23	57.0		Tan coarse sa	and and are	vel			
					21	35.0		No odor	and and gra	v CI			
	24/10	BH-SED				35.0		INO OUOI					
Comp	24/10 BH-SED 18 18 Comp. 41.7% -04-TOC 0.0 20 36.0							Sample takes	at 1600				
Comp.	Comp. 41.7% -04-TOC 0.0 20 36.0							Sample taken	ลเ 1000				
	-												
Logged b	oy:		Todd W	ard (E	A)				Date:	4-Mar-2009			
	-			,	,			<u>-</u>	•			•	
Drilling C	ontracto	r:	Findling	Drillin	g			•	Driller:	Tony Oleszc	zyk	_	

EA Engineering, Science, and Technology, Inc. stagesparent, Science, and Science, an		✓		EA Engi	neerin	a Scien	CO			Client:	nt Doningula		Location: Sparrow's Poir	at MD
EAR Equivarients, Sterings Earners EAR Equivarients Earners Earner				_		_						in diameter		it. IVID
Sampling Method: Continuous guits upon sampling Sheet 1 of 2	EA Engineer	ring, Science).	and re		ogy, iric.						in. diametei		-D-05
Coordinates: Sof168.1 N II-54980.1 E MILW Surface Elevation: On MILW Surface Elevation: Nux Nux	and Technol	logy, Inc.	LOGO	OF SOIL	ROCK	BORIN	G					ampling		
Surface Elevation:	Coordina	ates:				_	_					apg	Sheet 1 o	f 2
Casing Below Surface: NA	Surface	Elevatio	n:											
Time	Casing F	Below Su	ırface:						Water Level	7.5 ft	0.8 ft	6.7 ft		
Sample Inches I														
Sample Inches Type Property Proper									Date	03/04/09	tide	elev.	1154	1323
Type Drn/In Recvrd No. IV ppm per in Feet Street/press Diffset: none Determination Recvrd Recvrd No. WCR W	KEY: RBS	(River Bot	tom Sed.); SF	(Slag/Fill I	Mat.); Pl	_D (Pleisto	cene Lov	vland Deposit)	Reference	N/A				
No. No.					PID	Blows	Depth	Stratigraphic		itions:				
Recvid	Type		No.	IV	ppm			Determination						
Comp. Comp		Recvrd				6 in.	(MLW)				d); WOH (wei	ght of ham	mer)	
No recovery No recovery									Water column					
24/0						WOD	6.9	WC	N1					
24/0							7.0		No recovery					
0% WOR WOR WOR WOR WOR 10.9		24/0					7.9							
WOR WOR WOR 10.9 RBS Sandy hydrocarbon odor Sandy hydroca							8 9							
Sandy hydrocarbon odor Sandy hydrocarbon odor		0 /0					0.0		Black, wet ver	v fine sand	v silt			
24/4							9.9	RBS			,			
BH-SED		24/4							, ,					
Naphthalene cdor Sheen visible Sheen vis		16.7%			0.0		10.9							
Sheen visible Sheen visible Sheen visible Sample interval starts at 4ft. PAH fingerprint sample Medium gray, moist soft clay with very fine sand> Medium gray, mo									Black, wet sar	ndy silt> n	nedium gray s	silty, wet so	oft clay, no p	lasticity
Comp. 25% 05-6 MSD negative 0.0 WOR 12.9 WOH/12" 2 13.9 24/24 100% 0.0 14.9 15.9 24/24 100% 0.0 7 16.9 24/24 100% 0.0 4 15.9 24/24 100% 0.0 4 15.9 24/24 100% 0.0 1 19.9 24/10 41.7% 0.0 1 20.9 24/23 24/23 24/23 24/23 24/24 24/24 24/24 24/24 24/24 24/24 24/24 24/24 24/24 24/23 24/23 24/23 24/24 24/2							11.9			odor				
WOH/12" 13.9 Medium gray, moist soft clay with very fine sand> dark brown, dry, hard crumbly clay, high plasticity Slight naphthalene odor			_				40.0						54116	
2 13.9	Comp.	25%	05-6 MSL	negative										print sampi
24/24					'									
100% 0.0		24/24					13.9				ilibiy ciay, riig	in plasticity		
Dark brown, dry, hard crumbly clay, high plasticity					0.0		14 9		Olight Haphtha	alerie odoi				
Slight naphthalene odor Soft, wet gray clay rundown> dark brown, dry, hard, crumbly clay, high plasticity Slight naphthalene odor Soft, wet gray clay rundown> dark brown, dry, hard, crumbly clay, high plasticity Slight naphthalene odor Dark brown, dry, hard, crumbly clay, high plasticity Strong naphthalene odor/sheen (from rundown?) PLD PLD		.0070			0.0	3			Dark brown, d	ry, hard cru	mbly clay, hid	h plasticity	/	
100% 0.0 7 16.9						4	15.9				<i>J J</i> ,			
Soft, wet gray clay rundown> dark brown, dry, hard, crumbly clay, high plasticity Slight naphthalene odor														
17.9 24/24 100% 0.0 4 18.9 24/10 1 19.9 24/10 41.7% 0.0 1 20.9 24/23 95.8% 0.0 4 22.9 24/24 100% 5 25.9 24/24		100%			0.0		16.9							
24/24							4-0					1 1 1 1		
100% 0.0 4 18.9 2 19.9 19.9 24/10 41.7% 0.0 1 20.9 24/23 95.8% 0.0 4 22.9 24/24 100% 0.0 5 24.9 24/24		04/04					17.9				imbly clay, hi	gh plasticity	У	
Dark brown, dry, hard, crumbly clay, high plasticity Strong naphthalene odor/sheen (from rundown?)					0.0		10.0		Slight naphtha	alene odor				
24/10 1 19.9 41.7% 0.0 1 20.9 24/23 21.9 Rundown (black silt) 95.8% 0.0 4 22.9 4 5 23.9 24/24 5 Strong naphthalene odor/sheen (from rundown?) Rundown (black silt) 6" of dark brown, moist, soft clay, moderate plasticity Naphthalene odor/sheen in rundown Naphthalene odor/sheen in rundown Medium gray, moist soft clay Slight plasticity Strong naphthalene odor Strong naphthalene odor Dark brown, stiff clay Moderate plasticity Moderate plasticity Some shell material		100 /6			0.0		10.9		Dark brown d	ry hard cri	ımhly clay hi	ah nlasticit	V	
24/10							19.9						y	
41.7% 0.0 1 20.9 Rundown (black silt) 6" of dark brown, moist, soft clay, moderate plasticity Naphthalene odor/sheen in rundown 24/23		24/10							out only map man					
1					0.0	1	20.9							
24/23 3 Naphthalene odor/sheen in rundown 95.8% 0.0 4 22.9 4 5 23.9 24/24 5 Slight plasticity 100% 0.0 5 24.9 5 5 Dark brown, stiff clay Moderate plasticity Moderate plasticity Some shell material Some shell material														
95.8% 0.0 4 22.9 4							21.9					erate plasti	city	
4 5 23.9 Medium gray, moist soft clay Slight plasticity Strong naphthalene odor Dark brown, stiff clay Moderate plasticity Some shell material									Naphthalene o	odor/sheen	in rundown			
5 23.9 24/24 100% 5 5 24.9 5 5 5 Dark brown, stiff clay Moderate plasticity Some shell material		95.8%			0.0		22.9		N.A Illiana and an annual					
24/24 5 100% 5 5 24.9 Dark brown, stiff clay Moderate plasticity Some shell material							22.0				лау			
100% 0.0 5 24.9 5 Dark brown, stiff clay Moderate plasticity 24/24 5 Some shell material		24/24					23.9							
5 Dark brown, stiff clay 5 Valent Some shell material					0.0		24 Q		onong napilin	iaiciic uuul				
5 25.9 Moderate plasticity 24/24 5 Some shell material		10070			0.0		27.3		Dark brown, s	tiff clav				
24/24 5 Some shell material							25.9							
100% 0.0 5 26.9 Slight naphthalene odor									Some shell ma	aterial				
		100%			0.0	5	26.9		Slight naphtha	alene odor				

4-Mar-2009

Tony Oleszczyk

Date:

Driller:

Logged by:

Drilling Contractor:

Todd Ward (EA)

EA Engineering, Science,								Job. No.	Client:			Location:	
			_		-				Sparrow's Poir			Sparrow's Poir	nt. MD
			and To	echnol	ogy, Inc.			Drilling Metho			n. diameter	Boring No.	
EA Engineer and Technol	ring, Science	9,						CME-75 with 14 lb				BH-S	ED-05
		LOG	OF SOIL	_/ROC	K BORII	NG		Sampling Met	hod: Continuo	ous split spoon s	ampling		
Coordina	ates:		561518.1	N	1454980.	1 E		with 3 in. diamete				Sheet 1 c	of 2
Surface	Elevatio	n:	0 ft MLW										lling
Casing E			N/A					Water Level	7.5 ft	0.8 ft	6.7 ft	Start	Finish
Reference			N/A					Time	1150	MLLW	MLLW	4-Mar-09	4-Mar-09
Referen			N/A					Date	03/04/09	tide	elev.	1154	1323
				l Mat.): F	PLD (Pleist	ocene Lo	wland Deposit)	Reference	N/A	แนษ	OIGV.	1107	1020
Sample		Sample			Blows			Surface Cond					
	Drvn/In.	No.	IV			in Feet	Stratigraphic Determination	Offset: none	iuOH5.				
	Recvrd	INU.	١٧	ppm		(MLW)	Determination	KEY: WOR (v	veight of rea	1). WOH (wai	aht of ham	mer)	
	RECVIO			ļ		(IVILVV)			_		grit or nam	111 6 1 <i>)</i>	
					5	0-5		Medium brown		clay			
	0.47.				4	27.9		Moderate plas					
	24/16				4			Slight naphtha	alene odor				
	66.7%			0.0	4	28.9				_			
					4			Brown, moist		Brown, hard	clay		
					3	29.9	PLD	High plasticity					
	24/24				4			Slight naphtha	alene odor				
	100%			0.0	5	30.9							
					5			Dark gray, mo		to-coarse sai	ndy clay		
					5	31.9		Slight naphthale					
	24/4	BH-SED			4								
Comp.	16.7%	-05-TOC		0.0	4	32.9		Sample taken	at 1345				
								,					
	-												
Logged b	oy:		Todd W	ard (E	A)			•	Date:	4-Mar-2009			

Tony Oleszczyk

Drilling Contractor:

	~ *		FA Engi	neerin	g, Scienc	`e			Client: Sparrow's Poi	nt Peninsula		Location: Sparrow's Poir	nt MD
			_		ogy, Inc.	,		Drilling Method			n diameter	Boring No.	it. Wib
EA Enginee	ring, Science),	and it		ogy, mc.			CME-75 with 14 lb			ii. ulaiiletei	_	ED-06
and Techno	ring, Science logy, Inc.	LOG	OF SOIL	ROCK	BORING	3		Sampling Meth			ampling		
Coordina	ates:		560632.0		1454363.6			with 3 in. diameter			<u>p</u> g	Sheet 1 o	of 1
Surface	Elevation	า:	0 ft MLW										lling
Casing E	Below Su	rface:	N/A					Water Level	15.5 ft	1.1 ft	14.4 ft	Start	Finish
	ce Elevat		N/A					Time	1327	MLLW	MLLW		17-Feb-09
	ce Desc:		N/A					Date	02/17/09	tide	elev.	1330	1510
KEY: RBS	(River Bott	tom Sed.); SF	(Slag/Fill I	Mat.); Pl	_D (Pleistod	cene Lowl	and Deposit)	Reference	N/A				
Sample	Inches	Sample	Sudan	PID	Blows	Depth	Otantiananahia	Surface Condi	itions:				
Type	Drvn/In.	No.	IV	ppm	per	in Feet	Stratigraphic Determination	Offset: none					
	Recvrd				6 in.	(MLW)	Determination	KEY: WOR (w	eight of rod	l); WOH (weig	ght of hamr	ner)	
						0		Water column					,
						14.6	WC						
					WOH			Black, moist si	ilty clay with	very fine sar	nd		
					WOH	15.6		Slight plasticity	у				
	24/16				WOH			Coal tar odor					
	66.7%			7.1	WOH	16.6							
					WOR			Black, moist si		nedium gray, ı	moist clay		
					WOR	17.6		Slight plasticity	У				
	24/13				WOR		222	Coal tar odor					
	54.2%			9.0	WOR	18.6	RBS	N.A. 11					
					WOR/12'			Medium gray,					
	04/47				WOH/12'	19.6		Slight plasticity	у				
	24/17			440		20.6		Coal tar odor					
	70.8%			14.2	WOH	20.6		Black, moist si	ilty clay with	vory fine cor	vd.		
					WOH	21.6		Medium gray,	moist clay	t hottom	iu		
	24/24	BH-SED			WOH	21.0		Slight plasticity	moisi ciay a	at Dottom			
Comp.	100%	-06-6	negative	220.0		22.6		Sample taken					
Comp.	10070	00 0	ricgative	220.0	6	22.0		Dark gray, mo					
					6	23.6		medium gray r			and with sl	hell hash (bo	ottom 4")
	24/24				7			g		g		(10.1	7
	100%			2.5	3	24.6							
					1			Dark gray, mo	ist silty clay	> dark gray	, moist me	dium-to-coar	se sand>
					3	25.6		light gray hard	clay with o	rganic materia	al, high pla	sticity	
	24/24				3								
	100%			0.2	4	26.6							
					4		PLD	Medium gray,	soft moist la	ay with fine sa	nd>		
					4	27.6		medium gray,	hard clay w	ith organic ma	aterial, high	n plasticity	
	24/24				5								
	100%			0.0	4	28.6		D		1 - 20 1 2	1-		
					6	00.0		Dark gray, mo	ist coarse s	and with shell	IS		
	04/40				5	29.6							
	24/10			4 7	3	20.6							
	41.7% 1.7 2 30.6							Dark tan, coar	co cond on	d graval			
					11	31.6		Dark tarr, coar	se sand and	u giavei			
	24/14				7	31.0							
	58.3%			0.0	6	32.6							
	00.070			0.0	4	52.0		Dark tan, coar	se sand and	d gravel			
					6	33.6		, 0001	Julia ulli	- g t o.			
	24/11				9	3.2.0							
	45.8%			0.0	11	34.6							
	<u>'</u>												
Logged b	y:		Todd W	ard (E	A)			_	Date:	17-Feb-2009		_	

Tony Oleszczyk

Drilling Contractor:

	A ®		EA Engi	neerin	g, Scienc	e,			Client: Sparrow's Poir	nt Peninsula		Location: Sparrow's Poir	nt. MD
EA Engineer and Technol	ring, Science	,	and Te	echnolo	ogy, Inc.			Drilling Method CME-75 with 14 lb			n. diameter	Boring No. BH-SI	ED-07
Coordina		LOG	DF SOIL/ 560004.5 I		1454829.1			Sampling Meth with 3 in. diameter			ampling	Sheet 1 o	f 1
Surface	Elevation	ո։	0 ft MLW						·				ling
Casing E	Below Su	rface:	N/A					Water Level	13.5 ft	0.3 ft	13.2 ft	Start	Finish
Reference			N/A					Time	0852	MLLW	MLLW	5-Mar-09	5-Mar-09
Reference			N/A					Date	03/05/09	tide	elev.	0858	1025
KEY: RBS	(River Bot	tom Sed.); SF	(Slag/Fill I	Mat.); PL	D (Pleistoc	ene Lowl	and Deposit)	Reference	N/A				
Sample	Inches	Sample	Sudan	PID	Blows	Depth		Surface Condi	tions:				
	Drvn/In.	No.	IV	ppm	per	in Feet	Stratigraphic	Offset: none					
	Recvrd	110.		PPIII	6 in.	(MLW)	Determination	KEY: WOR (w	eight of rod); WOH (weig	ht of hamr	ner)	
						Ó		Water column					
						13.4	WC						
					WOR			Black, wet san	idy clay				
					WOR	14.4		Very slight plas	sticity				
	24/11				WOR			No odor					
	45.8%			0.0	WOR	15.4							
					WOR			Black, wet very		clay			
					WOR	16.4		Very slight plas					
	24/6				WOR			Very slight nap	ohthalene od	dor			
	25%			0.0	WOR	17.4	RBS						
					WOH			Dark gray, wet	t silty clay				
					WOH	18.4		Very slight plas					
	24/6				WOH			Very slight nap	ohthalene od	dor			
	25%			0.0	WOH	19.4							
					WOH			Medium gray,		y with shell m	aterial		
					WOH	20.4		Very slight plas	sticity				
	24/23	BH-SED			WOH			No odor					
Comp.	95.8%	-07-6	negative	0.0	WOH	21.4		Sample taken					
					7			Shell layer with	h medium gi	ray clayey co	arse sand		
					8	22.4		No odor					
	24/8				2								
	33.3%			0.0	1	23.4							
					6			Medium gray,	wet medium	ı-to-coarse gı	ain sand w	rith shell mat	erial
					5	24.4		No odor					
	24/9				3								
	37.5%			0.0	2	25.4							
					2	00.4		Shell layer with	n medium gi	ray medium-t	o-coarse sa	and	
	0.4/4				1	26.4		No odor					
	24/4			0.0	1	07.4	PLD						
	16.7%			0.0	4	27.4	PLD	Madium aras			and .		
					5	20.4		Medium gray,				a ati aitu	
	24/12				6 11	28.4		medium gray,				asticity>	
	50%			0.0	12	20.4		medium gray,	moist meait	IIII-lu-cuarse	Sanu		
	50%			0.0	15	29.4		Dark tan, mois	et medium to	-coareo cano	1		
					15	30.4		No odor	st medium-lC	-coarse same	ı		
	24/17				29	30.4		ואט טעטו					
	70.8%			0.0	30	31.4							
	7 0.0 /0			0.0	24	51.4		Light tan, coar	ea cand with	n few shalls			
					26	32.4		No odor	36 Sariu Will	1 10W 3110113			
	24/24	BH-SED			29	52.4		10 0001					
Comp.	100%	-07-TOC		0.0	28	33.4		Sample taken	at 1030				
						J U . 1		- 3					

Logged by:	Todd Ward (EA)	Date:	5-Mar-2009
Drilling Contractor:	Findling Drilling	Driller:	Tony Oleszczyk

	~ ®		EA Engi	noorin	a Coiona				Client:	-t Danis and		Location:	. MD
			EA Engi		_	æ,			Sparrow's Poi		в .	Sparrow's Poir Boring No.	IT. MD
FA Engineer	ing Science		and re	SCHILOR	ogy, Inc.			Drilling Method CME-75 with 14 lb			n. diameter	BH-S	-D-08
EA Engineer and Technol	ogy, Inc.	"	OF SOIL/	BUCK	BORING	2		Sampling Meth			mpling	DI 1-31	_D-00
Coordina	ates:	L00 (559372.0		1455401.4	_		with 3 in. diameter			ampling	Sheet 1 o	f 1
Surface		n·	0 ft MLW	•	00 .0			The state of the s	. 00000			Dril	
Casing E			N/A					Water Level	10.5 ft	1.0 ft	9.5	Start	Finish
Reference			N/A					Time	1105	MLLW	MLLW	5-Mar-09	5-Mar-09
Reference			N/A					Date	03/05/09	tide	elev.	1110	1250
KEY: RBS	(River Bot	tom Sed.); SF	(Slag/Fill I	Mat.); PL	D (Pleistod	ene Lowl	and Deposit)	Reference	N/A				
Sample	Inches	Sample	Sudan	PID	Blows	Depth	0, ,, 1,	Surface Condi	tions:				
	Drvn/In.	No.	IV	ppm	per	in Feet		Offset: none					
	Recvrd				6 in.	(MLW)	Betermination	KEY: WOH (w	veight of har	nmer)			
						0		Water column					
						9.7	WC						
					6			Black fill mater		and coarse sa	and		
					5	10.7		Few shells at t	top				
	24/7				6	44.7		No odor					
	29.2%			0.0	6	11.7		Black fill mater	#ial acarea	and around	206612		
					8	12.7		No odor	ilai, coarse	sanu, graver o	Copple		
	24/5				10	12.7		NO Odol					
	20.8%			0.0	0	13.7	SF						
	20.070			0.0	8		G.	Black fill mater	rial, gravel,	cobble, coars	e sand, silt		
					9	14.7		No odor	, ,	•	*		
	24/12				10								
	50%			0.0	10	15.7							
					14			Black/dark gra	ıy coarse sa	nd on tip of s	poon		
	0.4/0				15	16.7							
	24/0 0%				16 16	17.7							
	0%		-		WOH	17.7		Black fine-to-c	oarea cand				
					WOH	18.7		Naphthalene c					
	24/3				WOH	10.7		raphinalone c	<u> </u>				
	12.5%			0.0	WOH	19.7	RBS						
		DUP-2			1			Black fill mater					
					1	20.7		medium gray,		ay, slight plas	sticity		
	24/13	BH-SED			1			Slight naphtha					
Comp.	54.2%	-08-10	negative	0.0	1	21.7		Sample taken a					
					6	00.7		Dark gray, mo					
	24/15				7	22.7		crushed shell I		e piece of sia	g		
	62.5%			0.0	<u>8</u> 9	23.7		Slight naphtha	ilerie odor				
	02.570			0.0	4	20.1		Gray crushed	shell laver				
					6	24.7		No odor	orion layer				
	24/7				8								
	29.2%			0.0	8	25.7	PLD						
					9			Gray crushed:			e sand		
					8	26.7		Very faint napl	hthalene od	or			
	24/8				5	c= =							
	33.3%	DUD		0.0	5	27.7		Crov or is by	ما المعدد "	al .			
		DUP-2			8	20.7		Gray crushed					
	24/16	BH-SED			8 15	28.7		Light gray coa Very faint napl					
Comp.	66.7%			0.0	11	29.7		Sample taken		<u> </u>			
Jonip.	30.1 /0	00 100		0.0		_0.7		Campio tanon					

Logged by:	Todd Ward (EA)	Date:	5-Mar-2009
Drilling Contractor:	Findling Drilling	Driller:	Tony Oleszczyk

	•							Job. No.	Client:			Location:	
			EA Engi		-				Sparrow's Poi			Sparrow's Poi	
			and To	echnol	ogy, Inc.			Drilling Metho			in. diameter	Boring No.	
EA Enginee and Techno	ring, Science							CME-75 with 14 lb				BH-S	ED-09
		LOG	OF SOIL	_/ROC	K BORII	NG		Sampling Met			ampling		
Coordin			559658.9	N	1456424.0	0 E		with 3 in. diamete	r spoons with a	acetate liners		Sheet 1 o	
Surface	Elevatio	n:	0 ft MLW										lling
Casing I	Below Su	urface:	N/A					Water Level	11.0 ft	0.4 ft	10.6 ft	Start	Finish
	ce Eleva		N/A					Time	1402	MLLW	MLLW	26-Feb-09	26-Feb-09
Referen			N/A					Date	02/26/09	tide	elev.	1405	1557
KEY: RBS	(River Bot	ttom Sed.); S	SF (Slag/Fil			tocene Lo	wland Deposit)	Reference	N/A				
Sample		Sample		PID	Blows	Depth	Stratigraphic	Surface Cond	itions:				
Type	Drvn/In.	No.	IV	ppm	per	in Feet	Determination	Offset: none					
	Recvrd				6 in.	(MLW)	2 oto mination	KEY: WOR (v	veight of roo	d); WHO (wei	ght of ham	ımer)	
						0		Water column	1				
						10.8	WC						
					WOR			No recovery					
					WOR	11.8		Trace of black	silt on tip c	of core liner			
	24/0				WOR								
	0%				WOR	12.8							
					WOH/12			Black, wet ver	ry fine grain	sandy silt wit	h shells		
					2	13.8		No odor					
	24/2				2								
	8.3%			0.0		14.8							
					2			No recovery					
					1	15.8							
	24/0				1								
	0%				1	16.8							
					1			Black/gray silt	y clay with v	very fine sand	d, shells		
					2	17.8		No odor					
	24/2				1								
	8.3%			0.0	2	18.8							
					2			Black, wet silt	, very soft g	ray clay, shel	ls		
	/-				1	19.8		No odor					
	24/3				1								
	12.5%			0.0	1	20.8							
					1			Medium gray,		lay with shell	s in upper	6"	
	0.4/4.0				1	21.8	RBS	Slight plasticit	У				
	24/12				1			No odor					
	50%			0.0	1	22.8				1.1			
					1	00.0		Medium gray,		ıy with very fii	ne sand, sl	nells	
	04/04	חווסבס		-	1	23.8	ĺ	Slight plasticit	У				
		BH-SED		0.0	1	04.0		No odor	1.4500				
	100%	-09-12		0.0	1	24.8		Sample taken a Dark gray, mo	t 1530	with your fire	a a a a a a a a a a a a	allo	
					WOH	25.0		,		with very line	e sand, sne	3118	
	0.4/0				WOH	25.8		Slight plasticit	У				
	24/8			0.0		00.0		No odor					
	33.3%			0.0	WOH	26.8		Darly sussy year	:-444 -1	:41==		-11-	
					2	27.0		Dark gray, mo		with very fine	e sand, sne	elis	
	04/04				2	27.8		Slight plasticit	у				
	24/24			0.0	1	00.0		No odor					
	100%			0.0	2	28.8		Madius sus	maint and	lov obelle			
	2 20.8				ĺ	Medium gray,		iay, snells					
	24/24				2	29.8		Slight plasticit	у				
	24/24 100%			0.0	2	30.8		No odor					
	100%			0.0	۷	30.8							
Logged I	ру:		Todd W	ard (E	A)			_	Date:	26-Feb-2009)	_	

Tony Oleszczyk

Drilling Contractor:

							i		Client:			Location:	
			EA Engi	ineerin	g, Scien	ce,	I	14534.06	Sparrow's Poir	nt Peninsula		Sparrow's Poi	nt. MD
			and Te	echnol	logy, Inc.		I	Drilling Metho	d: Hollow Ster	m Auger - 6 1/4 i	n. diameter	Boring No.	
EA Engineer	ring, Science	€,			5,,5		ĺ	CME-75 with 14 lb					ED-09
and Technol	ring, Science logy, Inc.	I OG	OF SOIL	_/R^C	K BOPII	NG	ļ	Sampling Met			ampling		-
Coordina	ates.		559658.9 I		1456424.0		ĺ	with 3 in. diameter			amping	Sheet 2 o	of 2
					1700424.	<u> </u>		wiii o iii. ulametei	- SPOOLIS WITH 8	iociaie iiiielS			
Surface			0 ft MLW					\\\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	44		10 -		lling
Casing E			N/A					Water Level	11.0 ft	0.4 ft	10.6 ft	Start	Finish
Reference			N/A					Time	1402	MLLW	MLLW		26-Feb-09
Reference			N/A					Date	02/26/09	tide	elev.	1405	1557
							wland Deposit)		N/A				
Sample	Inches	Sample	Sudan	PID		Depth	Ctroti	Surface Cond	itions:				
	Drvn/In.		IV	ppm		in Feet	Stratigraphic Determination	Offset: none					
٠.	Recvrd	[[`	6 in.	(MLW)	Determination	KEY: WOR (w	veight of rod	l); WHO (wei	ght of ham	ımer)	
					WOH	<u> </u>		Medium gray,				•	
	[T	1		WOH	31.8	1	No odor	5., 5011 010	, , J. 10110			
	24/1	 	 	 	WOH		1	. 10 0001					
	4.2%	q	q	0.0	WOH	32.8	RBS	1					
	⊤.∠ /0	 	} 		WOH/18'		ינטט	Medium gray,	moiet coft	rlav			
	q	q	q	1 .	WOH/18	33.8	1			olay			
 	24/22	}	1	1			1	Slight plasticity	<u>y</u>				
	24/23	q	q	0.0		34.2	ļ——	No odor					
ļ <u>ļ</u>	95.8%	 	,	0.0		34.8	1	Ma di		In			
	q	T	1	[\	6	<u> </u>]	Medium gray,	moist soft c	ay			
	<u> </u>	 	}	, L	5	35.8]	Slight plasticity	-11 **				
	24/24	T	1	[6	1]	4" shell layer a	at bottom				
	100%	<u> </u>	<u> </u>	0.0	6	36.8	1	No odor					
	[]	1 T	1 ⁻]	[]	4	1 7]	Medium gray,		lay			
	<u> </u>	 	<u> </u>		5	37.8	PLD	Slight plasticity	<u> </u>				
	24/24	Ŋ <u> </u>	1		7	20.0]	No odor					
	100%	\	1 l	0.0	9	38.8]						
		1	1		12			Medium gray,	fine-to-med	ium grain sar	nd, shells		
	┖	┖┖	┖┖		12	39.8]	No odor					
	24/18	BH-SED		r I	12	T	1						
Comp.	75%	-09-TOC		0.0	12	40.8	1	Sample taken	at 1550				
		()	1				1	Ţ					
	q	q	q			T]	l					
	1	1	1			¶ ¦	1						
	q	q	q			¶ ¦]	1					
	1	1	1			¶ ¦	1						
	[T	1			1	1	1					
		 	 			¶	1	1 					
	[T	1			1	1	1					
	 	 	1			¶ ¦	1						
	q	T	1	[\		[]	 					
	₹	 	} 	 	 	¶ ¦	1	1					
ļ.	q	q	q	[¶ ¦	1	1					
	₹	 	} 	╉	1	¶ ¦	1	 					
ļ.	q	q	q	[¶ ¦	1	 					
	 	}	}	 	 	[1	}					
ļ	q	q	q	[-	¶ ¦	1	 	-			-	
	,	 	1	₩		¶ ¦	1	 					
ļ	q	T	T	[[1	 		-			
	1	 	1			¶ ¦	1	ļ					
	q	q	q	[¶ ¦	1	ļ					
						¶ ¦	1						
1	,	1]	¶ }	[]		¶ ¦]	<u> </u>					
		L											
Logged b	oy:		Todd W	ard (E	A)				Date:	26-Feb-2009			

Tony Oleszczyk

Drilling Contractor:

	● ®							Job. No.	Client:			Location:	
	7		EA Engi		-				Sparrow's Poi			Sparrow's Poi	nt. MD
j			and To	echnol	ogy, Inc			Drilling Metho	d: Hollow Ste	m Auger - 6 1/4 i	in. diameter	Boring No.	
EA Engineer and Technol	ring, Science	e,						CME-75 with 14 lb				BH-S	ED-10
and recimo	iogy, ilic.	LOG	OF SOIL	_/ROC	K BORI	NG		Sampling Met	hod: Continue	ous split spoon s	ampling		
Coordina	ates:		559620.3	N	1457565.	3 E		with 3 in. diamete	r spoons with a	acetate liners		Sheet 1 o	of 2
Surface	Elevatio	n:	0 ft MLW									Dri	lling
Casing E	Below St	urface:	N/A					Water Level	7.0 ft	-1.9 ft	8.9 ft	Start	Finish
Referen	ce Eleva	ation:	N/A					Time	1128	MLLW	MLLW	24-Feb-09	24-Feb-09
Referen	ce Desc	:	N/A					Date	02/24/09	tide	elev.	1130	1325
KEY: RBS	(River Bo	ttom Sed.); S	F (Slag/Fil	l Mat.); F	PLD (Pleist	tocene Lo	wland Deposit)	Reference	N/A				
Sample	Inches	Sample	Sudan	PID	Blows	Depth	Otratiana a bia	Surface Cond	itions:				
	Drvn/In.		IV	ppm	per	in Feet	Stratigraphic Determination	Offset: none					
• •	Recvrd			l · ·	6 in.	(MLW)	Determination	KEY: WOH (weight of ha	ammer)			
						0		Water column	1				
						9.1	WC						
					WOH			Black, moist, v	very fine gra	ain sandy silt			
					WOH	10.1		Slight hydroca					
	24/24				WOH								
	100%			0.0	WOH	11.1							
					WOH			Black, moist, v		ain sandy silt			
					WOH	12.1		Slight hydroca	arbon odor				
	24/24	BH-SED	incon-		WOH								
Comp.	100%	-10-2	clusive	0.0	WOH	13.1		PAH fingerprin	nt at 2-4' int	erval			
					WOH			Black/dark gra					
					WOH	14.1		Slight plasticit	У				
	24/19				WOH			No odor					
	79.2%			0.0	WOH	15.1							
					WOH			Medium gray					
					WOH	16.1		Medium plasti					
	24/18				WOH			Slight hydroca	arbon odor				
	75.0%			0.0	WOH	17.1							
					WOH			Dark gray, mo					
	0.4/0.4				WOH	18.1		Slight plasticit					
	24/24				WOH	40.4	DD0	Very few shell	pieces				
	100%			0.0	WOH	19.1	RBS	No odor					
					WOH	00.4		Medium gray					
	04/04				WOH	20.1		Medium plasti	city				
	24/24			0.0	WOH	24.4		No odor					
	100%			0.0		21.1		Medium gray	alay madiii	m placticity			
					WOH WOH	22.1		black, moist, v					
	24/24				WOH	22.1		Slight hydroca	rbon odor	iii sandy ciay	1		
	100%			0.0	WOH	23.1		Slight Hydroca	arborr odor				
	100 /6			0.0	WOH	23.1		Medium/dark	aray moist	cilty clay			
					WOH	24.1		Slight plasticit		Silly Clay			
	24/23				WOH	27.1		Slight hydroca					
	95.8%			0.0	WOH	25.1		Slight Hydroca	arborr odor				
	55.576			5.0	WOH	20.1		Medium gray	clav				
					WOH	26.1		Medium plasti					
	24/24				WOH			Slight hydroca					
	100%			0.0	WOH	27.1		Clight Hydroca	andon Odol				
	10070			0.0	WOH			Medium gray,	moist soft o	lav			
					WOH	28.1		Very slight pla					
	24/24				WOH			No odor					
	100%			0.0	WOH	29.1							
	,												

 Logged by:
 Todd Ward (EA)
 Date:
 24-Feb-2009

 Drilling Contractor:
 Findling Drilling
 Driller:
 Tony Oleszczyk

	*				- 0-1-				Client:	. 5		Location:	
			EA Engi		-				Sparrow's Poi			Sparrow's Poir	nt. MD
J			and Te	echnol	ogy, Inc.			Drilling Metho			n. diameter	Boring No.	
EA Engineer and Technol	ring, Science loav. Inc.							CME-75 with 14 lb				BH-SI	ED-10
		LOG	OF SOIL	_/ROC	K BORII	NG		Sampling Met			ampling		
Coordina			559620.3	N	1457565.3	3 E		with 3 in. diameter	r spoons with a	acetate liners		Sheet 2 c	
Surface	Elevation	n:	0 ft MLW									Dril	ling
Casing E	Below Su	urface:	N/A					Water Level	7.0 ft	-1.9 ft	8.9 ft	Start	Finish
Referen			N/A					Time	1128	MLLW	MLLW	24-Feb-09	24-Feb-09
Referen	ce Desc:		N/A					Date	02/24/09	tide	elev.	1130	1325
KEY: RBS	(River Bot	tom Sed.); S	F (Slag/Fill	l Mat.); F	PLD (Pleist	ocene Lo	wland Deposit)	Reference	N/A				
Sample	Inches	Sample	Sudan	PID	Blows	Depth		Surface Cond	itions:			•	
	Drvn/In.	No.	IV	ppm		in Feet	Stratigraphic	Offset: none					
.) [-	Recvrd			F - · · ·	6 in.	(MLW)	Determination	KEY: WOH (weight of ha	ammer)			
					WOH			Medium gray,					
					WOH	30.1		Very slight pla		лау			
	24/24				WOH	30.1		No odor	Sticity				
	100%			0.0	WOH	31.1		140 0001					
	100/0			0.0	WOH	51.1		Medium gray,	maist saft a	rlav			
					WOH	32.1		Very slight pla		nay			
	24/24				WOH	JZ.1		No odor	ononly				
	100%			0.0	WOH	33.1		140 0001					
	10076			0.0	WOH	33.1		Medium gray,	moist soft o	rlav			
					WOH	34.1	RBS	Medium plasticit	1110131 3011 C	лау			
	24/24	BH-SED			WOH	34.1	NDO	No odor	ıy				
Comp. 100% -10-TOC 0.0 WOH 35.1								Sample taken	at 1200				
Comp.	100%	-10-100		0.0		33.1				lov			
					WOH	26.4		Medium gray,		lay			
	24/24				WOH	36.1		High plasticity					
				0.0		27.4		No odor					
	100%			0.0	WOH	37.1		N.A Illinois anno a		1			
					WOH	20.4		Medium gray,		ay			
	0.4/0.4				WOH	38.1		Slight plasticit	У				
	24/24			0.0	WOH	20.4		No odor					
	100%			0.0	WOH	39.1							
-	-		-										
Logged b	by:		Todd W	ard (E	A)			<u> </u>	Date:	24-Feb-2009			

Tony Oleszczyk

Drilling Contractor:

	\bigwedge°		EA Engi		-			14534.06	Client: Sparrow's Poi			Location: Sparrow's Poi	nt. MD
			and Te	echnol	ogy, Inc			Drilling Method			n. diameter	Boring No.	
EA Engineer and Technol	ing, Science ogy, Inc.							CME-75 with 14 lb				BH-S	ED-11
Coordina	too.	LOG	OF SOIL					Sampling Met			ampling	Chaot 1 a	4 0
Coordina			560114.5	N	1458360.	9 E		with 3 in. diameter	r spoons with a	acetate liners		Sheet 1 c	
Surface			0 ft MLW					147	44.06	106	1006		lling
Casing E			N/A					Water Level	11.0 ft	-1.9 ft	12.9 ft	Start	Finish
Reference			N/A					Time	1405	MLLW	MLLW		24-Feb-09
Reference			N/A	I Mot \. F	DI D (Dioisi	looono I o	wland Deposit)	Date Reference	02/24/09 N/A	tide	elev.	1409	1600
Sample	Drvn/In.		Sudan IV		per	Depth	Stratigraphic	Surface Cond Offset: none	itions:				
	Recvrd	INO.	IV	ppm	6 in.	(MLW)	Stratigraphic Determination	KEY: WOR (w	veight of roo	1)· WOH (wei	aht of ham	mer)	
	recoria				0 111.	0		Water column		2), ******(*****	giit oi main	11101)	
						13.1	WC	Water Column					
					WOH	10.1		Black, wet sar	ndv silt with	medium grav	moist sof	t clav	
					WOH	14.1		No plasticity		<u>g</u>	,		
	24/6				WOH			No odor					
	25%			0.0	WOH	15.1							
					WOH			Medium gray of					
					WOH	16.1		black, moist si			in sand		
_	24/18				WOH			Naphthalene o		om			
Comp.	75%	-11-2	negative	0.0	WOH	17.1		Sample taken					
					WOR WOR	40.4		Black, moist s		n very fine gra	ain sand		
	24/10				WOR	18.1		Slight plasticity Slight hydroca					
	41.7%			0.0	WOR	19.1		Silgrit Hydroca	iiboii ouoi				
	71.770			0.0	WOH	13.1		Dark gray, mo	ist silty clay	with very fine	e grain san	ıd	
					WOH	20.1		Slight naphtha		With Vory line	grain ban		
	24/24				WOH			gg.					
	100%			0.0	WOH	21.1							
					WOH			Dark gray, mo			e grain san	ıd>	
					WOH	22.1		medium gray s					
	24/24				WOH		556	Slight naphtha	alene odor a	at top			
	100%			0.0	WOH	23.1	RBS	NA - Property	((-1				
					WOR WOR	24.4		Medium gray s					
	24/12				WOR	24.1		Slight plasticity No odor	y				
	50%			0.0	WOR	25.1		140 0001					
	0070			0.0	WOR	20.1		Medium gray s	soft clay				
					WOR	26.1		Slight plasticity					
	24/20				WOR			No odor	•				
	83.3%			0.0	WOR	27.1							
					WOH			Medium gray,		lay			
					WOH	28.1		Slight plasticity	У				
	24/24			0.0	WOH	00.4		No odor					
	100%			0.0	WOH	29.1		Ma diversional	:	la.			
					WOH WOH	30.1		Medium gray, Slight plasticit		лау			
	24/24				WOH	30.1		No odor	у				
	100%			0.0	WOH	31.1		140 0001					
	. 55 /6			3.5	WOH	<u> </u>		Medium gray,	moist clav				
					WOH	32.1		Medium plasti					
	24/24				WOH			No odor					
	100%			0.0	WOH	33.1							

 Logged by:
 Todd Ward (EA)
 Date:
 24-Feb-2009

 Drilling Contractor:
 Findling Drilling
 Driller:
 Tony Oleszczyk

	8								Client:			Location:	
			EA Engi		-				Sparrow's Poir			Sparrow's Poi	nt. MD
			and Te	echnol	ogy, Inc.			Drilling Metho			n. diameter	Boring No.	
EA Engineer and Technol	ing, Science							CME-75 with 14 lb				BH-S	ED-11
		LOG	OF SOIL	/ROC	K BORII	NG		Sampling Met			ampling		
Coordina			560114.5 I	N	1458360.9	9 E		with 3 in. diamete	r spoons with a	cetate liners		Sheet 2 c	
Surface	Elevatio	n:	0 ft MLW									Dri	ling
Casing E	Below Su	urface:	N/A					Water Level	11.0 ft	-1.9 ft	12.9 ft	Start	Finish
Referen			N/A					Time	1405	MLLW	MLLW	24-Feb-09	24-Feb-09
Reference			N/A					Date	02/24/09	tide	elev.	1409	1600
KEY: RBS	(River Bot	ttom Sed.); S	SF (Slag/Fill				wland Deposit)	Reference	N/A				
Sample			Sudan	PID	Blows		Ctrotions - L:	Surface Cond	itions:				
Type	Drvn/In.		IV	ppm	per	in Feet	Stratigraphic Determination	Offset: none					
	Recvrd	<u> </u>			6 in.	(MLW)	Determination	KEY: WOR (v	veight of roc	l); WOH (wei	ght of ham	mer)	
					WOH			Medium gray,					
					WOH	34.1		Medium plasti					
	24/24				WOH			No odor					
Comp.	100%	-11-TOC	negative	0.0	WOH	35.1		Sample taken					
					WOH			Medium gray,	moist clay				
					WOH	36.1		Medium plasti					
	24/24				WOH			No odor					
	100%			0.0	WOH	37.1							
					WOR			Medium gray,					
					WOR	38.1	RBS	Medium plasti	city				
	24/24				WOR			No odor					
	100%			0.0	WOR	39.1		:					
					WOH			Medium gray,					
	0.4/0.4				WOH	40.1		Medium plasti	city				
	24/24			0.0	WOH	44.		No odor					
	100%			0.0	WOH	41.1		NA - diam					
					WOH	40.4		Medium gray,					
	04/04				WOH	42.1		Medium plasti	city				
	24/24 100%			0.0	WOH WOH	43.1		No odor					
	100%			0.0	WOH	43.1							
Logged b	ov.		Todd W	ard (F	Δ)				Date:	24-Feb-2009			

Drilling Contractor:

Findling Drilling

Tony Oleszczyk

Driller:

	● ®							Job. No.	Client:			Location:	
			EA Engi						Sparrow's Poi			Sparrow's Poi	nt. MD
			and I	echnol	ogy, Inc			Drilling Metho			in. diameter	Boring No.	
and Technol	ing, Science ogy, Inc.		05 0011	/D.O.O.	K DOD!			CME-75 with 14 lb				BH-S	ED-12
Coordina	otoo:	LOG	OF SOIL					Sampling Met			ampling	Choot 1	sf 2
			561204.2	IN	1458361.	3 E		with 3 in. diamete	r spoons with a	icetate liners		Sheet 1 o	
Surface			0 ft MLW					\A/=(4450	0.04	40.0 ()		lling
Casing E Referen			N/A					Water Level	14.5 ft 1010	0.6 ft MLLW	13.9 ft MLLW	Start 13-Feb-09	Finish 13-Feb-09
Referen			N/A N/A					Time Date	02/13/09	tide	elev.	1020	1300
				l Mat.): F	PLD (Pleist	tocene Lo	wland Deposit)		N/A	lide	CICV.	1020	1300
Sample			Sudan	PID	Blows	Depth		Surface Cond					
	Drvn/In.		IV	ppm	per	in Feet	Stratigraphic	Offset: 2 offsets		mple volume a	t 4-6 ft (belo	w sed. surfac	e) interval
. , , , ,	Recvrd			ρρ	6 in.	(MLW)	Stratigraphic Determination	KEY: WOH (v	veight of ha	mmer)	(20.0		, e, i.i.e. va.
						0		Water column		,			
						14.1	WC						
					WOH			Black, wet sar	ndy silt				
					WOH	15.1		No plasticity					
	24/2				WOH			Shells and pe	bbles prese	nt			
	8.3%			0.0	WOH	16.1							
					WOH			Dark gray, we		y with fine gra	ained sand		
	0.4/0				WOH	17.1		Soft consisten	су				
	24/2				WOH	40.4	DDO						
	8.3%			0.0	WOH WOH	18.1	RBS	Ma diversione	6:				
					WOH	19.1		Medium gray, No plasticity	wet line gra	inea sana cia	ay		
	24/7 75	BH-SED			WOH	19.1		Shell material					
Comp.	32.3%	-12-4		0.0	3	20.1		Sample taken	at 1410				
Comp.	02.070	12 1		0.0	WOH	20.1		Medium gray,		ined sandy o	:lav		
					WOH	21.1		No plasticity	J. C.				
	24/7				WOH			Shell material					
	29.2%			0.0	WOH	22.1							
					3			Medium gray,					
					4	23.1		Shell layer to me	edium gray, v	vet silty fine gra	ained sand v	vith shell mat	erial (10-18")
	24/18				5								
	75%			0.0	6	24.1		NA - diama aman		Control of the contro	120b	-11- (0.011)	
					<u>8</u> 9	25.1		Medium gray, Medium gray,					2.4")
	24/24				9	25.1		iviedium gray,	wet silty iiii	e grain sand	with lew Si	naii sneiis (9-24)
	100%			0.0	10	26.1							
	10070			0.0	11	20.1		Medium gray,	wet fine ara	ined sand cla	av		
					11	27.1		Shells	giv		- 1		
	24/24				16			No plasticity					
	100%			0.0	16	28.1							
					6		PLD	Tan, wet fine-					
					4	29.1		light gray hard	l clay, high լ	plasticity (bot	tom 9")		
	24/18				3	60.							
	75%			0.0	2	30.1		T 1					
					11	24.4		Tan, wet med		sana			
	24/5				10 6	31.1		Shell fragmen	เจ				
	24/5			0.0	6	32.1							
	20.070			5.0	WOH	U∠. I		Medium gray,	wet clav wit	h black strea	ks		
					WOH	33.1		Shells, small p					
	24/24				2			Clay medium			sticity		
	100%			0.0	2	34.1		ĺ					

Logged by:	Todd Ward (EA)	Date:	13-Feb-2009	
Drilling Contractor:	Findling Drilling	Driller:	Tony Oleszczyk	

	*							JOD. NO.	Client:			Location:	
			EA Engi		•				Sparrow's Poi			Sparrow's Poi	
			and To	echnol	ogy, Inc			Drilling Metho			n. diameter	Boring No.	
EA Engineer and Technol	ring, Science logy, Inc.	9,						CME-75 with 14 lb				BH-S	ED-12
		LOG	OF SOIL	_/ROC	K BORI	NG		Sampling Met			ampling		
Coordina			561204.2	N	1458361.	3 E		with 3 in. diamete	r spoons with a	acetate liners		Sheet 2 of	
Surface	Elevatio	n:	0 ft MLW										lling
Casing E			N/A					Water Level	14.5 ft	0.6 ft	13.9 ft	Start	Finish
Referen			N/A					Time	1010	MLLW	MLLW	13-Feb-09	13-Feb-09
Referen			N/A					Date	02/13/09	tide	elev.	1020	1300
KEY: RBS	(River Bot	tom Sed.); S	SF (Slag/Fil	II Mat.); F			wland Deposit)		N/A				
Sample		Sample		PID		Depth		Surface Cond	itions:				
	Drvn/In.	No.	IV	ppm	per	in Feet		Offset: 2 offsets	to collect sa	mple volume at	t 4-6 ft (belo	w sed. surfac	ce) interval
	Recvrd			<u> </u>	6 in.	(MLW)	Determination	KEY: WOH (v	veight of ha	mmer)			
					1			Medium gray,	wet clay wi	th small piece	s of organ	ic material a	at bottom
					2	35.1		High plasticity			<u> </u>		
	24/24				4	1		<u> </u>					
	100%			0.0	5	36.1	ĺ						
					3			Gray/pink gray	y, dry clay				
					4	37.1	PLD	High plasticity					
	24/22				9	1		<u> </u>					
	91.7%			0.0	10	38.1							
								Pink/gray, dry	clay, with tr	aces of dark	tan mediur	m sand	
						39.1		High plasticity					
	24/22												_
	91.7%			0.0		40.1							
							ĺ						
							ĺ						
							ĺ						
							ĺ						
Logged b	oy:		Todd W	ard (E	A)				Date:	13-Feb-2009			
			· <u> </u>		_								
Drilling C	ontracto	r:	Findling	Drilling	g			-	Driller:	Tony Oleszc	zyk	-	

	∞							Job. No.	Client:			Location:			
			EA Engi		-				Sparrow's Poi			Sparrow's Poi	nt. MD		
			and To	echnol	ogy, Inc.			Drilling Metho			in. diameter	Boring No.			
EA Engineer and Techno	ring, Science logy, Inc.							CME-75 with 14 lb				BH-SE	D-13A		
		LOG	OF SOIL		K BORII	NG		Sampling Met			ampling		_		
Coordina			562009.0	N	1458142.9	9 E		with 3 in. diamete	r spoons with a	acetate liners		Sheet 1 o			
Surface	Elevatio	n:	0 ft MLW										lling		
Casing I	Below Su	urface:	N/A					Water Level	9.0 ft	-0.2 ft	9.2 ft	Start	Finish		
Referen	ce Eleva	ition:	N/A					Time	1215	MLLW	MLLW	25-Feb-09	25-Feb-09		
Referen			N/A					Date	02/25/09	tide	elev.	1221	1421		
KEY: RBS	(River Bot	tom Sed.); S	SF (Slag/Fil	l Mat.); F	PLD (Pleist	ocene Lo	wland Deposit)	Reference	N/A						
Sample	Inches	Sample	Sudan	PID	Blows	Depth	0	Surface Cond	itions:						
Type	Drvn/In.		IV	ppm		in Feet	Stratigraphic Determination	Offset: none							
,,	Recvrd				Ġ in.	(MLW)	Determination	KEY: WOH (v	veight of ha	mmer)					
						Ó		Water column	1	•					
						9.4	WC								
					1			Black, wet silt	v fine grain	sand					
					6	10.4		Fill material	j me gram						
	24/5				1			Naphthalene o	odor						
	20.8%			0.0	2	11.4			<u> </u>						
	20.070			0.0	WOH			No recovery							
					WOH	12.4		110 10001019							
	24/0				WOH										
	0%				WOH	13.4									
	070				10	10.4		Black, silty fine	e grain san	d> Grav. m	edium arai	n sand and	aravel>		
					6	14.4		tan coarse sai	nd and grav	/el> light gr	av medium	arain sand	giavoi >		
	24/11				5	17.7		Naphthalene		/ci / light gi	ay mealan	i giairi sana			
	45.8%		negative	0.0	5	15.4		riaphiliaiche (odoi						
	43.076		negative	0.0	6	13.4		Black, coarse sand and gravel> tan coarse sand>							
					6	16.4		medium gray fine grain sand							
	24/15	BH-SED			5	10.4		Naphthalene odor							
Comp.	62.5%	-13A-6		0.0	2	17.4	SF	Sample taken							
Comp.	02.5%	-13A-6		0.0	1	17.4	SF	Dark gray med		rco cand and	arovol				
					1	18.4		Naphthalene		iise sailu ailu	graver				
	24/6				1	10.4		парпилалене с	odoi						
	25%			0.0	1	10.4									
	25%			0.0	1	19.4		Poor recovery	of motorial	<u> </u>					
					1	20.4		Black silty sar	d material						
	24/2				1	20.4		Naphthalene							
	8.3%			0.0	1	21.4		Sheen visible	odoi						
	0.3/0			0.0	1	∠1. 4		Dark tan claye	ov fine arein	seand s ma	dium grov	wet soft so	adv. clav.		
					2	22.4						wei soil sai	iuy clay>		
	24/16				2	22.4		medium gray, Shell lens abo							
	66.7%			0.0	1	23.4		OF LA LALL		or clayey same	J				
	00.7 /6			0.0	1	23.4		Black coarse		214m 21					
						24.4		Slight naphtha		DWIT!)					
	24/2				1	24.4		Silgni napnina	alene odor						
	24/3 12.5%			0.0	1	05.4									
	12.5%			0.0		25.4		NIa management							
					WOH	00.4		No recovery							
	0.4/0			-	WOH	26.4									
	24/0				WOH	67.1	DDO								
	0%				WOH	27.4	RBS	NA - Pro-							
					WOH/12			Medium gray,							
	0.4/4.0				2	28.4		Medium plasti		de a					
	24/18			0.0	1	00.4		Very slight na	pntnalene d	oaor					
	75%			0.0		29.4									
Logged b	oy:		Todd W	ard (E	A)			_	Date:	25-Feb-2009)	<u>.</u>			

Tony Oleszczyk

Drilling Contractor:

								Job. No.	Client:			Location:	
EA Engineering, Science, and Technology, Inc.							14534.06	Sparrow's Poi	nt Peninsula		Sparrow's Poi	nt. MD	
			and To	echnol	ogy, Inc.			Drilling Metho	d: Hollow Ste	m Auger - 6 1/4	in. diameter	Boring No.	
EA Engineer	ring, Science logy, Inc.	e,						CME-75 with 14 lb	os. auto hamm	er		BH-SE	ED-13A
and Technol	logy, Inc.	LOG	OF SOIL	_/ROC	K BORII	NG		Sampling Met	hod: Continu	ous split spoon s	ampling		
Coordina	ates:		562009.0	N	1458142.	9 E		with 3 in. diamete				Sheet 2 of	of 2
Surface	Elevatio	n:	0 ft MLW										lling
Casing E			N/A					Water Level	9.0 ft	-0.2 ft	9.2 ft	Start	Finish
Referen			N/A					Time	1215	MLLW	MLLW		25-Feb-09
Referen			N/A					Date	02/25/09	tide	elev.	1221	1421
				l Mat): F	PI D (Pleist	tocene I o	wland Deposit)	Reference	N/A	lide	CICV.	1221	1421
Sample		Sample			Blows	Depth		Surface Cond	itions:				
Type	Drvn/In.	No.	IV	ppm		in Feet	Determination	Offset: none	ما کے خواد د				
	Recvrd				6 in.	(MLW)		KEY: WOH (v					
					1			Medium gray,		clay			
					1	30.4		Moderate plas	sticity				
	24/24				2			No odor					
	100%			0.0	1	31.4							
					3			Medium gray,		clay			
					3	32.4		Slight plasticit					
	24/22				2			Slight naphtha	alene odor				
	91.7%			0.0	3	33.4							
					WOH			Medium gray,	moist stiff of	clay			
					WOH	34.4	RBS	Moderate plas					
	24/24	BH-SED			WOH			•					
Comp.	100%	13A-TOC		0.0	WOH	35.4		Sample taken	at 1346				
					WOH			Medium gray,		clav>			
					WOH	36.4		medium gray,			olasticity		
	24/17				WOH			No odor		y olay, oligini			
	70.8%			0.0	WOH	37.4		110 0001					
	70.070			0.0		57.4		Medium gray,	moiet etiff o	rlav			
						38.4		Moderate plas		лау			
	24/24					30.4		No odor	Sticity				
	100%			0.0		39.4		110 0001					
	100 /6			0.0		39.4							
												·	<u> </u>
<u>'</u>	· ·		· ·			· ·							
Logged b	oy:		Todd W	ard (E	A)			_	Date:	25-Feb-2009)	_	

Drilling Contractor:

Findling Drilling

Tony Oleszczyk

Driller:

EA Engineering, Science,								Job. No. Client: Location: 14534.06 Sparrow's Point Peninsula Sparrow's Point. MD								
			_		-								nt. MD			
J			and Te	echnol	ogy, Inc.			Drilling Metho	d: Hollow Ste	m Auger - 6 1/4 i	n. diameter	Boring No.				
EA Engineer and Techno	ring, Science							CME-75 with 14 lb				BH-SE	ED-13B			
		LOG	OF SOIL	_/ROC	K BORII	NG		Sampling Met	hod: Continue	ous split spoon s	ampling					
Coordina			562048.0	N	1458214.	7 E		with 3 in. diameter	r spoons with a	cetate liners		Sheet 1 o				
Surface	Elevatio	n:	0 ft MLW									Dri	lling			
Casing I	Below Su	ırface:	N/A					Water Level	19.0 ft	1.3 ft	17.7 ft	Start	Finish			
Referen			N/A					Time	0905	MLLW	MLLW	26-Feb-09	26-Feb-09			
Referen	ce Desc	:	N/A					Date	02/26/09	tide	elev.	0912	1100			
KEY: RBS	(River Bot	tom Sed.); S	F (Slag/Fill	l Mat.); F	PLD (Pleist	ocene Lo	wland Deposit)	Reference	N/A							
Sample	Inches	Sample	Sudan	PID	Blows	Depth	0	Surface Cond	itions:							
Type	Drvn/In.		IV	ppm	per	in Feet	Stratigraphic Determination	Offset: none								
71	Recvrd				6 in.	(MLW)	Determination	KEY: WOH (w	veight of ha	mmer)						
						Ó		Water column		•						
						17.9	WC									
					WOH			Black, moist v	erv fine gra	in sandv siltv						
					WOH	18.9	SF	Pieces of fill/slag material								
	24/24				WOH	. 0.0		No odor	.aga.oa.							
	100%			0.0	WOH	19.9		. 10 000.								
					WOH			Medium gray,								
					WOH	20.9		Slight plasticity								
	24/23				WOH			Root fragment		of interval						
	95.8%			0.0	WOH	21.9		No odor								
					WOH			Medium gray,	moist soft o	lav						
					WOH	22.9		Slight plasticit								
	24/24				WOH			Shell fragmen								
	100%			0.0	WOH	23.9		No odor								
					1			Medium gray, moist soft clay								
					1	24.9		Slight plasticit		•						
	24/24				1			No odor								
	100%			0.0	1	25.9										
					WOH			Medium gray,	moist stiff c	lay. Moderate	e plasticity					
					WOH	26.9		Oyster shell a	t bottom							
	24/24	BH-SED			WOH			No odor								
Comp.	100%	-13-8		0.0	WOH	27.9	RBS	Sample taken	at 1105							
					1			Medium gray,		lay						
					1	28.9		Moderate plas								
	24/24				1			Shell fragmen	ts							
	100%			0.0	1	29.9		No odor								
					2			Medium gray,		lay						
					1	30.9		Slight plasticit	у							
	24/24				1			No odor								
	100%			0.0	1	31.9										
					1			Medium gray,		lay						
					1	32.9		Slight plasticit	У							
	24/24				1			Oyster shell								
	100%			0.0	1	33.9		No odor								
					WOH			Medium gray,								
					WOH	34.9		medium gray,	stiff clay, m	oderate plast	icity					
	24/24				WOH			No odor								
	100%			0.0	WOH	35.9										
					2			Medium gray,	stiff clay							
	0.475.7				2	36.9		Moderate plas								
24/24 2							Shell fragments									
100% 0.0 2 37.9								No odor								

Logged by:	Todd Ward (EA)	Date:	26-Feb-2009
Drilling Contractor:	Findling Drilling	Driller:	Tony Oleszczyk

									Client:			Location:	
			EA Engi	ineerin	g, Scien	ce,		14534.06	Sparrow's Poir	nt Peninsula		Sparrow's Poi	nt. MD
					ogy, Inc.			Drilling Metho	d: Hollow Ster	m Auger - 6 1/4 i	n. diameter	Boring No.	
EA Engineer	ring, Science	9,			55.			CME-75 with 14 lb					D-13B
and Techno	logy, Inc.		OF SOIL	/ROC	K BORII	NG		Sampling Met			ampling		
Coordina	ates:		562048.0		1458214.			with 3 in. diameter			ampiniy	Sheet 2	of 2
Surface					1700214.			with 5 m. diameter	spoons will a	ociale iiileis			lling
			0 ft MLW) A /	10.05	100	47 - 0		
Casing E			N/A					Water Level	19.0 ft	1.3 ft	17.7 ft	Start	Finish
Referen		(1	N/A					Time	0905	MLLW	MLLW		26-Feb-09
Referen			N/A					Date	02/26/09	tide	elev.	0912	1100
KEY: RBS	(River Bot	tom Sed.); S	F (Slag/Fill	l Mat.); F	LD (Pleist	ocene Lo	wland Deposit)	Reference	N/A				
Sample	Inches	Sample	Sudan	PID	Blows	Depth	0	Surface Cond	itions:				
	Drvn/In.		IV	ppm	per	in Feet	Stratigraphic Determination	Offset: none					
	Recvrd			1-1-11	6 in.	(MLW)	Determination	KEY: WOH (w	veight of har	mmer)			
					2	/		Olive gray, stif		- /			
					2	38.9		Moderate plas					
	24/24				1	50.9		No odor	ыыну				
				0.0		20.0		INO OUOI					
	100%			0.0	1	39.9		Maralinas aus		ala			
					1	40.0	DD2	Medium gray					
	0.475				1	40.9	RBS	Stiff clay has h	nigh plasticit	ty			
	24/24				2			No odor					
	100%			0.0	2	41.9							
					1			Medium gray,					
					1	42.9		Moderate plas	sticity				
		BH-SED			2			No odor					
Comp.		13B-TOC		0.0	1	43.9		Sample taken	at 1110				
'								· ·					
	 			-									
				-									
				Ш									
Logged b	by:		Todd W	ard (E	۹)				Date:	26-Feb-2006			

Tony Oleszczyk

Drilling Contractor:

	\bigwedge		EA Engi		-			Job. No. Client: 14534.06 Sparrow's Point Peninsula Drilling Method: Hollow Stem Auger - 6 1/4 in. diamete				Location: Sparrow's Point. MD					
EA Engineer	ing, Science).	and I	echnol	ogy, Inc	•		Drilling Method CME-75 with 14 lb			n. diameter	Boring No.	D-13C				
and Technol	ogy, Inc.		OF SOIL	/ROC	K BORI	NG		Sampling Met			ampling	511 02					
Coordina	ates:		562094.9		1458372.			with 3 in. diameter	r spoons with a	acetate liners	amping	Sheet 1 c	of 2				
Surface	Elevatio	n:	0 ft MLW										ling				
Casing E			N/A					Water Level	12.5 ft	0.1 ft	12.4 ft	Start	Finish				
Referen			N/A					Time	0914	MLLW	MLLW	4-Mar-09	4-Mar-09				
Referen			N/A					Date	03/04/09	tide	elev.	0920	1041				
KEY: RBS	(River Bot	tom Sed.); S	F (Slag/Fill	l Mat.); F	PLD (Pleis	tocene Lo	wland Deposit)	Reference	N/A								
Sample	Inches	Sample	Sudan	PID	Blows	Depth	a	Surface Cond	itions:								
	Drvn/In.	No.	IV	ppm	per	in Feet	Stratigraphic Determination	Offset: none									
	Recvrd				6 in.	(MLW)	Determination	KEY: WOH (w	veight of ha	mmer)							
						0		Water column									
						12.6	WC										
					WOH			No recovery									
					WOH	13.6		Shell, coarse sand on tip of liner									
	24/0				WOH												
	0%			0.0	WOH	14.6		DI 1									
					2	45.0		Black, wet silty									
	04/4				1	15.6		Naphthalene o	odor								
	24/4 16.7%			0.0	2	16.6											
	10.7%			0.0	1	16.6		Black, wet silty	, modium to	o coorco con	1						
					1	17.6		Small amount			<u>, </u>						
	24/9				2	17.0		Shells	or gray, we	t Soft Clay							
	37.5%			0.0	2	18.6	SF	Slight naphtha	lene odor								
	01.070	DUP-1		0.0	2	10.0	O.	Black, wet silt	v coarse sa	nd>							
					1	19.6		medium gray,			nt plasticity	ty					
	24/17	BH-SED			1			Naphthalene o		<i>y, y</i> <u>u</u>		.,					
Comp.	70.8%	-13C-6		0.0	1	20.6		Sample taken	at 1045. P/	AH fingerprint	sample						
					2			Black, wet coa		sand							
					4	21.6		Slight naphtha									
	24/9		l .		5			Small sheen in	n pure wate	r							
	37.5%		negative	0.0	2	22.6		Photo taken									
					1	22.6		Dark gray, we	t clayey coa	irse sand							
	24/5				1	23.6		Slight naphtha	dene odor								
	20.8%			0.0	1	24.6											
	20.070			0.0	1	27.0		Black, wet coa	arse silty sa	nd>							
					1	25.6		medium gray,			nt plasticity	,					
	24/24				1			No odor		<i>,,</i> ,g.	,						
	100%			0.0	1	26.6											
					WOH			Medium gray,	moist soft o	lay							
					WOH	27.6		Slight plasticit	у								
	24/24				WOH			No odor									
	100%			0.0	WOH	28.6	RBS										
					1	60.5		Medium gray,									
	0.4/0.4				1	29.6		dark gray, stiff	clay, mode	rate plasticity	<u>'</u>						
	24/24			0.0	1	20.0		No odor									
	100%			0.0	1	30.6		Modium aras	moiet ooft a	ylav.							
					2	31.6		Medium gray, Slight plasticit		лау							
	24/24				2	31.0		No odor	у								
	100%			0.0	2	32.6		140 0001									
	100/0			0.0		52.0											

 Logged by:
 Todd Ward (EA)
 Date:
 4-Mar-2009

 Drilling Contractor:
 Findling Drilling
 Driller:
 Tony Oleszczyk

	∞				•			JOD. NO.	Client:			Location:	
			EA Engi		-						Sparrow's Poi	nt. MD	
			and To	echnol	ogy, Inc						n. diameter	Boring No.	
EA Engineer and Technol	ring, Science	θ,						CME-75 with 14 lb				BH-SE	D-13C
		LOG	OF SOIL	_/ROC	K BORI	NG		Sampling Met			ampling		
Coordina			562094.9	N	1458372.	3 E		with 3 in. diamete	r spoons with a	acetate liners		Sheet 2 c	
Surface	Elevatio	n:	0 ft MLW									Dri	lling
Casing E			N/A					Water Level	12.5 ft	0.1 ft	12.4 ft	Start	Finish
Referen			N/A					Time	0914	MLLW	MLLW	4-Mar-09	4-Mar-09
Referen			N/A					Date	03/04/09	tide	elev.	0920	1041
		tom Sed.); S	SF (Slag/Fil	l Mat.); F			wland Deposit)	Reference	N/A				
Sample		Sample				Depth	Stratigraphia	Surface Cond	litions:				
Type	Drvn/In.		IV	ppm	per	in Feet	Stratigraphic Determination	Offset: none					
	Recvrd	<u> </u>			6 in.	(MLW)	- otomination	KEY: WOH (v	veight of ha	mmer)			
					1			Medium gray,	moist stiff o	lay, slight pla	sticity		
		*			2	33.6	RBS	No odor					
		BH-SED			2			Sample taken					
Comp.	100%	13C-TOC		0.0	1	34.6		*DUP-1, BH-S	SED-13C-M	S, BH-SED-1	3C-MSD		
						_							
Logged b	oy:		Todd W	ard (E	A)				Date:	4-Mar-2009			
			· <u> </u>		_	_							
Drilling C	ontracto	r:	Findling	Drillin	g			-	Driller:	Tony Oleszc	zyk	-	

	EA Engineering, Science,							Job. No. Client: 14534.06 Sparrow's Point Peninsula				Location: Sparrow's Point. MD				
			_		-								nt. MD			
EA Fraissa		_	and 16	ecnnoi	ogy, Inc			Drilling Metho			n. diameter	Boring No.	ED 44			
EA Engineer and Technol	ing, Science ogy, Inc.		05 0011	/D.O.O.				CME-75 with 14 lb				BH-S	ED-14			
0 "		LOG	OF SOIL					Sampling Met			ampling	01				
Coordina			562730.4	N	1458318.	0 E		with 3 in. diameter	r spoons with a	cetate liners		Sheet 1 c				
Surface			0 ft MLW										lling			
Casing E			N/A					Water Level	25 ft	0.7 ft	24.3 ft	Start	Finish			
Referen			N/A					Time	1142	MLLW	MLLW		26-Feb-09			
Referen			N/A					Date	02/26/09	tide	elev.	1149	1317			
							wland Deposit)		N/A							
Sample			Sudan	PID	Blows	Depth	Stratigraphic	Surface Cond	itions:							
Type	Drvn/In.	No.	IV	ppm	per	in Feet	Dotormination	Offset: none								
	Recvrd				6 in.	(101200)		11=11 11 311 (1		1)						
						0	1440	Water column								
					WOD	24.5	WC	NI								
					WOR	05.5		No recovery		, "						
	24/0				WOR	25.5		Very soft black	k siit on tip (or core liner						
	24/0				WOR	26.5		<u></u>								
	0%				WOR WOR	26.5		No roccyces:								
					WOR	27.5		No recovery Very soft black	k oilt with fin	o aroin cond	on tip of o	ara linar				
	24/0				WOR	27.5		very soit black	K SIIL WILII III	ie grain sand	on up or c	ore inter				
	0%				WOR	28.5										
	0 /6				WOR	20.5		No recovery								
					WOR	29.5		No recovery Very soft black silt on tip of core liner								
	24/0				WOR	25.5	RBS	very soft black	K Silt Off tip t	or core inici						
	0%				WOR	30.5	RBO									
	070				WOR	00.0		Black, wet silt	with very fir	ne sand and i	medium ar	gray clay balls				
					WOR	31.5		No odor				ay elay balle				
	24/4				WOR											
	16.7%			0.0	WOR	32.5										
					WOR			Black, wet silt,	, no odor>	>						
					WOR	33.5		Black, wet silty								
	24/23	BH-SED			WOR			Coal tar odor i	in silty clay							
Comp.	9.5%	-14-8		0.0	WOR	34.5		Sample taken	at 1310							
					WOR			Black, wet silty	y clay with v	ery fine sand						
					WOR	35.5		Slight coal tar	odor							
	24/12				WOR											
	50%			0.0	WOR	36.5										
					2			Blue/gray, dry								
	0.4/5.				3	37.5		Dark tan, dry o	crumbly clay	/, high plastic	ity					
	24/24				3			No odor								
	100%			0.0	3	38.5		Discrete:	- em 1	de la la la Color						
					3	00.5		Blue/gray, dry			>					
	04/04				4	39.5		tan, dry stiff cl	<u> </u>							
	24/24			0.0	4	40.5	חה	Blue/gray, dry	stitt lay, nig	in plasticity						
	100%			0.0	5	40.5	PLD	No odor Blue/gray, dry	otiff alou							
					<u>4</u> 5	41.5		Blue/gray, dry High plasticity								
	24/24	BH-SED			6	41.3										
Comp.	100%			0.0	6	42.5		No odor Sample taken	at 1315							
Comp.	100/0	14-100		0.0	7	42.3		Blue/gray, dry								
					7	43.5		High plasticity								
	24/24				7	75.5		No odor								
	100%			0.0	7	44.5		140 0001								
	100/0			0.0		77.5										

Logged by:	Todd Ward (EA)	Date:	26-Feb-2009
Drilling Contractor:	Findling Drilling	Driller:	Tony Oleszczyk

								Job. No.	Client:			Location:				
	$\boldsymbol{\Lambda}$		EA Engi						Sparrow's Poi			Sparrow's Poi	nt. MD			
j			and To	echnol	ogy, Inc			Drilling Metho	d: Hollow Ste	m Auger - 6 1/4	in. diameter	Boring No.				
EA Engineer and Technol	ing, Science	e,						CME-75 with 14 lb				BH-S	ED-15			
		LOG	OF SOIL	_/ROC	K BORI	NG		Sampling Met	hod: Continud	ous split spoon s	ampling					
Coordina	ates:		561632.1	N	1458222.	3 E		with 3 in. diameter	r spoons with a	cetate liners		Sheet 1 o	of 2			
Surface	Elevatio	n:	0 ft MLW									Dri	lling			
Casing E	Below Su	urface:	N/A					Water Level	22 ft	2.1 ft	19.9 ft	Start	Finish			
Referen	ce Eleva	ition:	N/A					Time	0845	MLLW	MLLW	11-Mar-09	11-Mar-09			
Referen	ce Desc		N/A					Date	03/11/09	tide	elev.	0851	1050			
KEY: RBS	(River Bot	ttom Sed.); S	F (Slag/Fil	l Mat.); F	PLD (Pleis	tocene Lo	wland Deposit)	Reference	N/A							
Sample	Inches	Sample	Sudan	PID	Blows	Depth	Ctuationalahia	Surface Cond	itions:							
	Drvn/In.		IV	ppm	per	in Feet	Stratigraphic Determination	Offset: none								
• •	Recvrd			l · ·	6 in.	(MLW)	Determination	KEY: WOR =	(weight of ro	od)						
						0		Water column								
						20.1	WC									
					WOR			Black, wet silt								
					WOR	21.1		No odor								
	24/20				WOR	1										
	83.3%			0.0	WOR	22.1										
					1/12"		RBS	Black, wet silt								
		*			1/12"	23.1		Black, wet clay			and shells					
	24/24	BH-SED						Very slight hyd								
Comp.	100%	-15-2	negative	0.0		24.1		Sample taken								
					1			Black, wet ver	ial, shells:	>						
					1	25.1		medium gray,		lay, moderate	e plasticity					
	24/15				2			Very slight odd	or							
	62.5%			0.0	3	26.1		_								
					3			Dark gray, we								
					3	27.1		medium gray, moist stiff clay, moderate plasticity, shells Very slight odor								
	24/24				5			Very slight odd	or							
	100%			0.0	6	28.1		David	C							
					4	00.4		Dark gray, we				ala alla				
	24/24				3	29.1		medium gray,	moist still c	lay, moderate	e plasticity,	sneiis				
	100%			0.0	3	20.4		No odor								
	100%			0.0	2	30.1	ł	Madium grave	oiltu olovuvit	h von fino oc	and ahall a	octorial >				
					1	31.1		Medium gray s medium gray,				iateriai>				
	24/24				1	31.1		Very slight hyd			plasticity					
	100%			0.0	2	32.1		very slight hyd	arocarbori o	uui						
	10070			0.0	2	JZ. 1	PLD	Medium gray,	moist soft o	lav slight pla	sticity					
					4	33.1		Shells	moist soil C	nay, siigiit pic	CHOILY					
	24/24				4	00.1		No odor								
	100%			0.0	3	34.1										
	.0070			0.0	5	0	1	Medium gray,	moist sof cl	av						
					5	35.1		Slight plasticit								
	24/24				5	00		No odor	<u>, </u>							
	100%			0.0	5	36.1										
					4			Medium gray,	moist soft o	lay, slight pla	sticity>					
					5	37.1		medium gray,								
	24/24				5]		No odor	,	•	•					
	100%			0.0	7	38.1										
					25			Medium gray,	stiff clay, m	oderate plas	ticity>					
					23	39.1		light gray med			-					
	24/24				26			No odor								
	100%			0.0	24	40.1										

 Logged by:
 Todd Ward (EA)
 Date:
 11-Mar-2009

 Drilling Contractor:
 Findling Drilling
 Driller:
 Tony Oleszczyk

	● ®							JOD. NO.	Client:			Location:				
			EA Engi		•				Sparrow's Poi			Sparrow's Poi				
			and To	echnol	ogy, Inc			Drilling Method: Hollow Stem Auger - 6 1/4 in. diameter				Boring No.				
EA Engineer and Technol	ing, Science	9,						CME-75 with 14 lbs. auto hammer				BH-SED-15				
and Technol	logy, Inc.	LOG	OF SOIL	/ROC	K BORI	NG		Sampling Method: Continuous split spoon sampling								
Coordina	ates:		561632.1		1458222.			with 3 in. diamete				Sheet 2	of 2			
Surface		n:	0 ft MLW						,			Drilling				
Casing E			N/A					Water Level	22 ft	2.1 ft	19.9 ft	Start Finish				
									0845	MLLW	MLLW		11-Mar-09			
Reference Elevation: N/A Reference Desc: N/A								Time		tide						
			N/A	I Mat \- 5	DI D (DI-: :	1000F-1	udonal Daras W	Date	03/11/09	elev.	0851	1050				
							wland Deposit)		Reference N/A							
Sample		Sample						Surface Cond	itions:							
	Drvn/In.	No.	IV	ppm	per	in Feet	Determination	Offset: none								
	Recvrd		<u> </u>	<u> </u>	6 in.	(MLW)	20.0111111011011	KEY: WOR =	(weight of ro	od)						
					11			Medium gray,	wet fine-to-	medium grair	n sand					
					12	41.1		No odor								
	24/18				14											
	75%			0.0	14	42.1	PLD									
	, 0 /0			0.0	25	۲۷.۱		Dark gray, fine	e-to-medium	n wet sand						
		*			40	43.1		pink/white clay								
	24/24	BH-SED			25	43.1		No odor	yey iiile sali	iu						
Comp	100%	-15-TOC		0.0	30	111			at 1105 *D	U CED 45 T/	OC MS as	4 DU CED /	15 MCD			
Comp.	100%	-10-10C		0.0	30	44.1		Sample taken	at 1105. "B	DI-9ED-19-1	JU-IVIS and	u bn-5ED-	10-M9D			
	ļ															
Logged b			Todd W	ard (E	A)				Date:	11-Mar-2009						
Drilling C	ontracto	r:	Findling	Drillin	g				Driller:	Tony Oleszc	zyk	-				

EA Engineering, Science,									Client:			Location:		
								14534.06 Sparrow's Point Peninsula				Sparrow's Point. MD		
and Technology, Inc.								Drilling Method: Hollow Stem Auger - 6 1/4 in. diameter						
EA Engineer	ring, Science	е,						CME-75 with 14 lbs. auto hammer BH-SED-16						
and Technol	logy, Inc.	LOG	OF SOIL	_/ROC	K BORII	NG		Sampling Met	hod: Continuo	ous split spoon s	ampling			
Coordina	ates:		562957.6		1453211.1			with 3 in. diameter			ı '3	Sheet 1 c	of 1	
Surface		n:	0 ft MLW						1			Drilling		
Casing E			N/A					Water Level	16.5 ft	0.8 ft	15.7 ft	Start	Finish	
Referen			N/A					Time	0855	MLLW	MLLW		12-Mar-09	
Referen			N/A					Date	03/12/09	tide	elev.	0900	1002	
				l Mat \· 🛭	PI D (Plaiet	ocene Lo	wland Deposit)		N/A	0900	1002			
							mana Depositi				<u> </u>			
Sample		Sample	Sudan				Stratigraphic	Surface Cond	ilions:					
Type	Drvn/In.	No.	IV	ppm		in Feet	Determination	Offset: none	voight of ba	mmor)				
	Recvrd				6 in.	(MLW)		KEY: WOH (weight of hammer)						
						0	,,,,	Water column						
					14/2::	15.9	WC							
					WOH			Black, wet ver						
					WOH	16.9		dark gray, wet	t very fine gi	rain sandy cla	ay, no plas	ticity		
	24/22				WOH		RBS	No odor						
Comp.	91.7%	-16-0	negative		WOH	17.9		Sample taken		_				
					WOH/12			Medium gray,				material>		
					2	18.9		pink/white, dry	/ hard clay,	high plasticity	/			
	24/9				3			No odor						
	37.5%			0.0		19.9								
					17			Pink/white, dry			y>			
					16	20.9		red, dry hard o	clay, high pla	asticity				
		BH-SED			20			No odor						
Comp.	100%	-16-TOC		0.0	20	21.9	PLD	Sample taken						
					6			Pink/white, dry			y>			
					8	22.9		red, dry hard o	clay, high pla	asticity				
	24/7				10			No odor						
	29.2%			0.0	10	23.9								
					10			Red, dry hard	clay>					
					25	24.9		pink/white, dry	/ hard clay					
	24/24				26			No odor						
	100%			0.0	40	25.9								
Logged b	oy:		Todd W	ard (E	A)				Date:	12-Mar-2009)			

Drilling Contractor:

Findling Drilling

Tony Oleszczyk

Driller:

								Job. No. Client:				Location:						
EA Engineering, Science,								14534.06 Sparrow's Point Peninsula				Sparrow's Point. MD						
			and To	echnol	ogy, Inc.			Drilling Method: Hollow Stem Auger - 6 1/4 in. diameter Boring No.										
EA Engineer and Techno	ring, Science	е,						CME-75 with 14 lbs. auto hammer BH-SED-17										
		LOG	OF SOIL	_/ROC	K BORII	NG		Sampling Met			ampling							
Coordina			562700.1	N	1452711.	1 E		with 3 in. diameter	r spoons with a	acetate liners		Sheet 1 o						
Surface	Elevatio	n:	0 ft MLW									Dri	lling					
Casing I	Below Su	urface:	N/A					Water Level	17.5 ft	1.1 ft	16.4 ft	Start	Finish					
Referen	ce Eleva	ition:	N/A					Time	0831	MLLW	MLLW	10-Mar-09	10-Mar-09					
Referen			N/A					Date	03/10/09	tide	elev.	0836	1100					
KEY: RBS	(River Bot	tom Sed.); S	F (Slag/Fil	l Mat.); F	PLD (Pleist	tocene Lo	wland Deposit)	Reference	N/A									
Sample	Inches	Sample	Sudan	PID	Blows	Depth	0, ,, 1,	Surface Cond	itions:									
	Drvn/In.		IV	ppm	per	in Feet	Stratigraphic Determination	Offset: none										
	Recvrd				6 in.	(MLW)	Determination	KEY: WOR (weight of rod)										
						Ó		Water column										
						16.6												
					WOR			Black, moist v	st very fine grain sandy silt>									
		*			WOR	17.6		Dark gray, mo				hell materia	l at bottom					
	24/20	BH-SED			WOR			No odor										
Comp.	83.3%		negative	0.0	WOR	18.6	RBS	Sample taken	at 1020. *P	AH fingerprin	t sample							
•			Ü		WOR			No recovery		<u> </u>								
					WOR	19.6												
	24/0				WOR													
	0%				WOR	20.6												
					4			Medium gray, moist silty sand										
					9	21.6		Shell fragmen										
	24/13			9 No odor														
	54.2%			0.0	5	22.6												
					5			Medium gray,	moist silty s	sand								
					4	23.6		Shell material										
	24/10				4			No odor										
	41.7%			0.0	4	24.6												
					4			Shell material,	, medium gr	ay, moist silty	/ sand>							
					4	25.6		dark gray, moi										
	24/16				3			No odor										
	66.7%			0.0	3	26.6												
					2			Dark gray, mo	ist sandy cl	ay								
					2	27.6		Moderate plas	sticity									
	24/3				1			No odor										
	12.5%			0.0	1	28.6	PLD											
					3			Dark gray, moist clay										
					4	29.6		Moderate plasticity										
	24/24				4			No odor										
	100%			0.0	5	30.6												
					5			Medium gray f										
					5	31.6		medium gray,	wet sandy	clay, shell fra	gments, sli	ight plasticit	У					
	24/24				5			No odor										
	100%			0.0	6	32.6												
					15			Medium gray,		nd								
					15	33.6		Shell fragmen	ts									
	24/15				8	_		No odor										
	63%			0.0	7	34.6												
					7			Medium gray,				ight plasticit	y>					
	0.4/5./				7	35.6		dark gray, moi	ist stiff clay,	moderate pla	asticity							
	24/24				7	00.5		No odor										
	100%			0.0	8	36.6												
Logged b	oy:		Todd W	ard (E	A)				Date:	10-Mar-2009	1	<u>.</u>						

Tony Oleszczyk

Drilling Contractor:

EA Engineering, Science,									Client:			Location:					
								14534.06 Sparrow's Point Peninsula				Sparrow's Point. MD					
			and Te	echnol	ogy, Inc	,	I					Boring No.					
EA Engineer	ring, Science	e,					I	CME-75 with 14 lbs. auto hammer BH-SED-17									
and Techno	logy, Inc.		OF SOIL	/ROC	K BORI	NG	İ	Sampling Method: Continuous split spoon sampling									
Coordina	ates:	_55	562700.1		1452711.		İ	with 3 in. diameter			~hiii.iA	Sheet 2 c	of 2				
Surface		n·	0 ft MLW	•	, 10£111.	<u> </u>		o iii. diametet	Spoons with a	COLUCIO III IOI O			Drilling				
								Motor Laure	17 - 4	114	10 14						
Casing E			N/A					Water Level	17.5 ft	1.1 ft	16.4 ft	Start	Finish				
Referen			N/A					Time	0831	MLLW	MLLW		10-Mar-09				
Referen			N/A		,- :			Date	03/10/09	tide	elev.	0836	1100				
							wland Deposit)		N/A								
Sample			Sudan	PID	Blows	Depth	Stratigraphic	Surface Condi	itions:								
	Drvn/In.	No.	IV	ppm	per	in Feet	Stratigraphic Determination	Offset: none									
	Recvrd				6 in.	(MLW)	20.0111111011011	KEY: WOR (w	veight of rod)							
					7			Medium gray,	clayey sand	l, shell fraam	ents>						
					5	37.6	1	dark gray mois									
	24/24				6		1	No odor	, , .								
	100%			0.0	6	38.6	1										
	10070			0.0	5	55.0	1	Medium gray,	moist clay								
					6	39.6	1	Moderate plas									
	24/24				6	55.0	1		oity								
	100%			0.0	6	40.6	1	No odor									
	10076			0.0	4	+0.0	1	Medium gray,	moiet clay								
					5	41.6	PLD	Moderate plas									
	24/24	BH-SED				41.0		No odor	oucity								
Comn		-17-TOC		0.0	6 5	40.0	1		ot 1020								
Comp.	100%	-17-100		0.0		42.6	1	Sample taken		madarata ri-	oticity :						
					6	40.0	1	Medium gray,		nouerate pla	Sucity>						
	04/04				8	43.6	1	brown peat (bo	ottom 6")								
	24/24			0.0	12	446	1	No odor									
	100%			0.0	15	44.6	1		OII)								
					15	4- 6	1	Brown peat (0		1 1 2 2							
	0				16	45.6	1	medium gray,	stiff clay, hig	gh plasticity							
	24/20				16		1	No odor									
	83.3%			0.0	18	46.6											
							1										
							1										
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Logged b	oy:		Todd W	ard (E	A)			-	Date:	10-Mar-2009)	=					

Tony Oleszczyk

Drilling Contractor:

	A ®		EA Engi	neerin	g, Scien	ce,		Job. No. Client: 14534.06 Sparrow's Point Peninsula				Location: Sparrow's Point. MD				
EA Engineer and Technol	ing, Science				ogy, Inc.			Drilling Method: Hollow Stem Auger - 6 1/4 in. diameter CME-75 with 14 lbs. auto hammer				Boring No. BH-SED-18				
		LOG	OF SOIL					Sampling Method: Continuous split spoon sampling with 3 in. diameter spoons with acetate liners				Chast 4				
Coordina Surface		n:	560876.8 I	N	1453193.8	8 E		with 3 in. diamete	r spoons with a	cetate liners		Sheet 1 c	ling			
Casing E			N/A					Water Level	18.5 ft	0.5 ft	18.0 ft	Start	Finish			
Referen			N/A					Time	1126	MLLW	MLLW		10-Mar-09			
Referen			N/A					Date	03/10/09	tide	elev.	1130	1315			
KEY: RBS (River Bottom Sed.); SF (Slag/Fill Mat.); PLD (Pleistocene Lowland Depos									N/A							
Sample			Sudan IV		Blows	Depth	Stratigraphic	Surface Cond Offset: none	itions:							
<i>,</i> ,	Drvn/In. Recvrd	No.	IV	ppm	per 6 in.	(MLW)	Stratigraphic Determination	KEY: WOR (v	veight of rod); WOH (wei	ght of ham	mer)				
						0		Water column				·				
					14400	18.2	WC	B								
					WOR	10.0		Black, wet cla								
	24/24	BH-SED			WOR WOR	19.2		Slight hydroca	arbon odor							
Comp.	100%	-18-0	negative	0.0	WOR	20.2		Sample taken	at 1250							
С Ср.	10070		egaare	0.0	WOR			No recovery								
					WOR	21.2		Ž								
	24/0				WOR											
	0%				WOR	22.2										
					WOR WOR	22.2		Medium gray,								
	24/15				WOR	23.2		Slight plasticity Very slight hydrocarbon odor								
	62.5%			0.0	WOR	24.2		Dark gray, wet silty clay								
	02.070			0.0	WOH											
					WOH	25.2		Slight hydrocarbon odor								
	24/1				WOH											
	4.2%			0.0	WOH	26.2		NA - diame		1						
					WOH WOH	27.2		Medium gray, Slight plasticit		iay						
	24/22				WOH	21.2		No odor	.y							
	91.7%			0.0	WOH	28.2	RBS	110 0001								
					WOR			No recovery								
					WOR	29.2		Medium gray:	silty clay witl	h very fine sa	and on tip c	of liner				
	24/0				WOR											
	0%			0.0	WOR WOH	30.2		Limbt many man	:-+ + + -							
					WOH	31.2		Light gray, mo Slight plasticit								
	24/24				WOH	31.2		No odor	. <u>y</u>							
	100%			0.0	WOH	32.2										
					WOH			Medium gray,	moist soft c	lay						
					WOH	33.2		Slight plasticit	У							
	24/4			0.0	WOH	04.0		No odor								
	16.7%			0.0	WOH WOH	34.2		Medium gray,	moist soft o	lov						
					WOH	35.2		Slight plasticit		iay						
	24/24				WOH	55.2		No odor	J							
	100%			0.0	WOH	36.2										
					WOH			Medium gray,		lay						
	0.4/4				WOH	37.2		Slight plasticit	У							
	24/4			0.0	WOH	20.0		No odor								
	16.7%			0.0	WOH	38.2										

10-Mar-2009

Tony Oleszczyk

Date:

Driller:

Logged by:

Drilling Contractor:

Todd Ward (EA)

EA Engineering, Science, and Technology, Inc.								Job. No. Client: 14534.06 Sparrow's Point Peninsula Drilling Method: Hollow Stem Auger - 6 1/4 in. diameter CME-75 with 14 lbs. auto hammer				Location: Sparrow's Point. MD Boring No. BH-SED-18		
Coordina		LOG	OF SOIL 560876.8		K BORII 1453193.8			Sampling Method: Continuous split spoon sampling with 3 in. diameter spoons with acetate liners Sheet 2 of 2					of 2	
Surface		n:	0 ft MLW	Y	1400183.0	<i>J</i> L		with 3 m. diamete	i shoois mill s	iociaic iiiicis		Drilling		
								Water Level	18.5 ft	0.5 ft	18.0 ft	Start	Finish	
Referen	ce Eleva	tion:	N/A					Time	1126	MLLW	MLLW	10-Mar-09	10-Mar-09	
Referen			N/A					Date	03/10/09	tide	elev.	1130	1315	
							wland Deposit)	Reference	N/A					
		Sample			Blows	Depth	Stratigraphic	Surface Cond	itions:					
	Drvn/In. Recvrd	No.	IV	ppm		in Feet (MLW)	Determination	Offset: none KEY: WOR (v	veight of roc	4). MOH (wei	aht of ham	mer)		
	Recviu				WOH	(IVILVV)		Medium gray,	_		_	ilioi)		
					WOH	39.2		dark gray, mo						
	24/24				WOH	33.2		No odor		pic				
	100%			0.0	WOH	40.2	RBS							
					WOH			Dark gray, mo				-		
	0.4.5				WOH	41.2		Moderate plas	sticity					
	24/9			0.0	WOH	40.0		No odor						
	37.5%			0.0	WOH 1	42.2		Medium gray,	moiet coft o	·lav				
					1	43.2		Moderate plas		лау				
	24/24	BH-SED			1	10.2		No odor	otioity					
Comp.	100%	-18-TOC		0.0	1	44.2	PLD	Sample taken	at 1305					
		,			1			•						
	0.471.5				1	45.2		Medium gray,			e plasticity	>		
	24/18			0.0	6	40.0		medium gray,	sandy clay	(bottom 2")				
	75%			0.0	8	46.2		No odor						
	_		_											
		,									,			
Logged b	oy:		Todd W	ard (E	A)				Date:	10-Mar-2009	ı			

Tony Oleszczyk

Drilling Contractor:

ONSHORE INVESTIGATION PHOTOLOG



Photographic Record

Onshore at the Sparrows Point Coke Point Peninsula Baltimore County, Maryland May-June, 2009



Figure 1. Drill rig setup with hollow stem auger



Figure 3. Hollow Stem Augers



Figure 5. Soil core with fill/native contact



Figure 2. Benzol Processing Area with monitoring wells BP-MW-05 and BP-MW-07



Figure 4. Decontamination pad for drilling components



Figure 6. Soil core which tested positive for NAPL with Sudan IV test.



Photographic Record

Onshore at the Sparrows Point Coke Point Peninsula Baltimore County, Maryland May-June, 2009



Figure 7. NAPL in soil core liner



Figure 9. Negative Sudan IV test for NAPL



Figure 8. Positive Sudan IV test for NAPL



Figure 10. Monitoring well BP-MW-08

ONSHORE INVESTIGATION FIELD LOGBOOK

L'are

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Project / Client loke Oven they Sampling - Mobilization

Am March to Project / Client loke Oven they Sampling - Mobilization

Am March to pm Philipp 60° 0515-514 departe york, PA
0100- loaded table and picked up P-100 respirator
antidges
0704-504 @ Sparrows Point Police Status 0725 PID Calhaton - WARE UST402X 100ppm Sarbutylens initial geno initial spon 97.1 ppm 99.3 final span CG Calibration - VPAE 170-103360 50% mithing 51% 0750- TS onsite - signed health and safety plan 0757- FB onsite: 0800: at Police Station for para badge 0829- FB percenting well installation information 0849 consite at length processing aren to much locations

	72	-Soil	Samp	ling	log	2 -				.,,			100
(prof)	19/R 3/	VO BRUNNEYR 2/2	W RAWN 10YR 2/2		и		MACK BOYR 2/1		*		Vo BUACK 1088 2/1		
Color la	VO 8Pew	VO 8R	W Rew				MACK		•		BAKK		1000
VENRE NAPL?	No	No	No			***	oN.				No	4. T	Action Action
Red / Time VSALE NARL? (das House)	8P-50-803-4 STAG/FILL-ML SAND-MOIST-PSL-SIMPA, 1410 NO. VO BROWN 19R 42 LST, 1-0010 FOLL	5/19/09 1520	BP-SO-1803-32 SAH /FILL-BORY COMES MX SAND- 5/20/09 1/20	· ·			BP-50-801-8 SING/FILL-PEODLY GRADED M-15-AND-5/30/09 1530 NO				8P-50-801-145146/FILL-BODLY SUADED M-CENTRS F/21/69	00,50	
	15T-Pg-		4-CSAND-	SUBANGUAR - 4202 SUBANGUAR	\$1477	VK FRAKS	M-15AUD-	99	2-01		M-CSAUD	2 SULY	
	16/FW-1712 SAND-MOIST-P.	BP-50-BB-12 SAR/FIL-M-154MD-SAT-PSC-	y CONNED 1	- 420%	CARSE COAVEL -~ 5% SULTY	NOVAKSTIC FINES - RDILL FARES	(HOUR)	SUBANGUAR-SAT.~25%	SILTY MONTHASTIC FINES-OV		LLY GRADE	SUBANGOLAR-SAT- < 10% SULTY	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
led Paraster	FILL-1916	6/FIL-M-15/400	Fill-Pop	ANGULAR.	SE GOAVE	WHSTIC FI	KIL-PERDI	AUGULAR-<	Alow DIA		Fru-Post	CUCAR-SA	
bod	19475	19475	2 SIB/	Suk	CAR	I Low,	1/2015	SUB	SIG	ONDE	45LM6/	SUBAL	
m.	-803-4	-183-12	9-103-32	(BP-50-pup)			3-108-C				1-108-0	(MS/MSM)	

Location Sparrows lord MD Date 18 MAY 09 - Maryland State Plane, NADES using TRIMBLE 1040 look to Police Station to meet deilbees and get site access 1047 SCI packed up 6Bs 103 Mis Utily Are call snick - all stillies for losing beating are pivate and electrical is overhood 110 Septy bridgy in main building Pelue 410-388-7761

Fine 410-388-7774 For intension from invide
Midical 410-388-7777) phone 410-388-4765 Clen alon - Helland Safety for 46-388-6632 Mike legler - sile utility beating 1150-completed Hos hofy, got all signatures from

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Location Spanner Point MD Date 18 MA/09 Project / Client Soil Paring BP-IKA-03

Date 19 MAY 09 AM 45 soury AM 710 sury 1540-SCY picked up extra regirator (P100/or) actualge at the insorthouse (11.5) OGB-SCY leaves york 0717-SCY prisib - begins setting up equipment at BP-HSA-03 0721- PM Calibration 051402X initial pron 100 4 ppm 100 pm solvatiles 0.0 ppm 0.0 ppm 100.0 ppm 170-103360 50% methors 50% 0736-J5 onsite 0878- Findling onsite 0839- Legun sitting up rig on BP-1KA-03 0855- Legen dulla RD-115A03 0910 refused @ 1'-true to alsome auger not oblisted of 1914 - refused @ 2.5' - Affect - attempt to drive 2 inch your to determine diff in penetration

Project / Client BP-11SA-03-air monitoring Location Scarrows Point Date 19 MAY 09 * Continue with 3 inch your and dupe through 5/19 0891 BAKKDOUND BZ9 PID (pp) 0.0 0/209 1111 - pet FB, collect & sampler from BP-HSA-03 (including 0/21.3 0913 0.0 0/29.4 0943 0.0 1013 0/2/3 0.0 1015 0.0 113- BP-HSA-OI and BP-HSA-OY clear to drill 0/21.4 0.0 1049 0/2/4 0.0 1120 1226 - rig down to repair auto barner 0/21.4 1126 0.0 1150 0/21.4 0.0 Per FB, 3 samples per borchole based on PID/suden IV 1220 0/215 0.0 -RIG DOWN -1343 0/2/6 0.0 5 total samples 1415 0/21.6 0.0 · I background (BP-HSA-03) 1445 0/21.6 0.0 · 2 binger percessing boschole 3 dirty lantomenated · 2 was to story area 5/20 0758 BACKLADOW 0/20.9 0.0 0/209 0829 0.0 (2) 4-03 jur/sample 0836 0.0 analysis - Meta Environmental 0/2/4 0914 0.0 · Cl /FID foregerprenty (EPA 8100 M) 0942 0/215 0.0 PAHS, allylated MAHS, biomarkers (EPA 827cm) 0/216 1013 6.0 · arben isotopes (EPA 8270m) 0/21.6 0.0 ·STANDARD TAT N 0/2/6 1103 0.0 8.0 0/21.6

Location Spennows Point MD Location Speniers Point Date 19 MAY 09 Date 19 May 09 NAPL analyses 1631-501 office 1732-50 at loveton to pick up additional Ysamples for fluid preperties · Z samply for withilly inder 1839-54 arrived in York (125H) 2"x6" cox of slag 2 light of 6W per sumple Later of product per sample for fluid preperties. · 250 ml of product 1335- rieg required-resumed drilling (69 min) 1341-35 orsile w/blades to open cores 1450 - rig down to rejoir outo lumer (21 min) 1519-ended drilling at 24 fet - jer FB-billur can use mud to hey materiet from equelling 1541- Findly offsite -SIX/15 perching coolers 1625-B offerte to fed ex

Location Sparrage Point, MD Date 20 MAY 09 Project / Client Rowny BP 45A-03 Cont AM. 45 SUNNY PM 0600 Sty dipart york 0700 SCY buside/ 0731- V5 mile 0740-PID albation U51402x Mpp isolatyles 0.0 initial Spen 97.4 0.0 final years 6.6/ Colehation 50% methons 170-103360 final your 49% Jerry Mero Ob 1972 0741- Findley courte 0751-mixing dulling much to reduce upwelling of material 0609- reserved dulling BP-HSA-03 0837 Adutional Finding Subject onsite 0916-will ather BP-50-DUPI (point sample: BP-50-803-32)

Location Sperment loint M Date 2014409 Project / Client 0928-15 took site pictures 1/04- infountired partie Tallet Foretion - Black silly clay - shiftly Smineted - Terminated loving at 36 feet No NAPL verible 1120- Collected BP-50-B03-32 and BP-50-DOP1 1131- Arthur flyin growting breadle. 1355 - Finding Oriber (Don Finisher) expressed Concerns about constant, byother you montowing - SCY explained the bouckers was sealed and mention were placed down wind owny - EA will place promitive doze to work home liver with increase Trip huzard 1229 Findly mobilist to duen - anstructed july - SCY, JS purveyed BP-HSA-01 for areas wavoid being in traffic 1230- Lunch onsite

Location Sparrans Point, MD Date 70 MAY 09 1308 pusure washer comme drunting)

**Represented washer comme drunting)

**Represented washer was on site 5/19/69 - not sure Why it was removed 1321 began pressure washing aware and bit 1337 began pressure washing yours and other equipment 1359 completed disentimination 164 hegammoldiga to BP-HSA-01 1420 setup on BB-HSA-01 1479 Legun BP-HSA-01 1528 - PID rendings at wellhad fanger) are 50.7 ppm = BZ reading are 0.0 ppm - bley due to steady SE wind at 5-10 mph 1529 - end drilling at 10 ft - collected BP-50 BOI-8 - Legey Recuring meg 1850-JS office to Fell EX 1851- Findly office 1600-SCH office 1742 1745-SCY in York [11.45 HR)

0.1	
Location Spurrows foint MI	Date 70 MAY 09
Project / Client BP-HSA-01 air monitoring	

	1 0-0		And and
TIME	BZ?	PID (PPM)	CG1 1%
1424 (Lackground)	Y	0.0	0/2/5
1447 GLERIN	X	0.0	0/216
1500	Y	00	0/2/5
1508 (50.7 at)	У	0.0	0/2/5
15/17	V	0.0	
1524	V	0.0	0/2/6
0744	V	Control of the second state of the second stat	0/2/5
0755		0.0	0/215
0801 (20.4 ad)	V	1.8	0/2/0
0814			0/215
	5	0.0	0/21.6
0827	y	1.3	0/21.6
0836		0.0	0 /21.6
0844	Y	0.0	0 /2/5
0857	7	3.2	0./21.5
0973	У	0.0	0 /21.6
0926	Y	- 0.0	0 /31.6
0931	У	0.0	0 /2/5
0954	У	0.0	0 /4.4
1013	1	6.0	0 /2/5
5 7.2			

Project / Client Louis BP KA-01

Date 21 MAY 09 Location Sparwas Point 0549-SCY digest york W 8PN (10/10 2/5) 0700- PID Califration 100pm ciolation U5/40ZX 0.0 ppm 97.6ppm 0.0ppm 99.4ppm 50% millione 170-103360 51% 0% 52% 0720 - Findley onsile 0739-75 on the 0745-resumed drilly BP-HS1-01 # PID readings at 80 7 ppm sestained at +3 in.
Bis at briefle and o. 0 ppm at +6 in.

- instructed before and drills to not work
within +12 in of briefle surface 8P-50-B04-10

Location Special Point MD. Date 21 MAY 09 0926 - encountered silty along matrix soil of 21 ft typ Contacted FB hope to set well in high PID year 0930 - Whetel semple from 20-22 -0947-grouted by BP HSA-01-and broke down 1007 - mobilized to decon cauges and signimed 1037-completed deen -mobbied to BD-HSA 04 1051- begin hilly BP-HSA-04 1120-SIY met with Down to chech locabines
BP-HSA-02 and 05 foth dear , but will offer
BP-HSA-02 ~12 ft W to chur overhed Dove all phone: 443-695-1440

Location Sa	arrerio Point	Dat	21 MAY 09
Project / Client _	BP-HSA-04	air meritor	v .

TIME	BZ?	PID (Apr)	(61(2)
1050	У	0.0	04/215
1/00	y	0.0.	0/2/5
1109	y y	0.0	. 0/2/5
1///	1 N	0.0	
1126 Cuellhe	ad / /	0-0	0/2/6
1/39	y	0.0	0/2/5
1146	. 4	0.0	0/21.6
1/59	Y	0.0	0/4/6
1240 (24,7 well	(Start) y	00	0/21.6
1250	1 4	0.0	0/2/6
1259	y	0.0	0/2/6
13/6	y	0.0	0/2/6
1830	У	0.0	0/21.6
NO BRILLIA	6 -OFFSET		4
1356	- ×	0.0	0/2/6
1410	- Y	0.0	0/21.6
1425	y	0.0	0/216
1431		0.0	0/21.6
1446	J - V - 1	0.6	0./2/6
1459	y :	0.0	0/2/6
1515	Y .	0.0	0/21.6

Location Spanows Point MD.

Project / Client String RP-184-04 Date 21MAY09 to PIO reading at Exercise surface 6. 8 ppm at brekele -advised dules flager to avoid groung [12 inches 1159- rie clown to fix a love lott on the most 1300 - refresal @ 15,3 - per FB, appet 10 fland dill dran to 14ft and regional 1309- Legin removing augus 1343- lager setup on offset BP-HSA-04 1348 - lager sedielly, BP-HSA-09 1440 - reduned simply Hailing of 22 ft 1540- Findly Style 1600 - 54 4 JS OFF-5, TE

Project / Client Boring BP- HSA-04

0720 Jes on site + Finding on-site. PID Cal, bration U5/402+ 109pmishtige mitizal zero O.Oppm initial span 114 ppm final zero O. Oppin final Span 102 ppm CGI Calbrution 170-103360 50% me from instead zero 0% 72% initial span final zero 0% 500% final span 0730 Resume dr. lling -t, BP-45A-04 0755 Nature 50,1 reached at 24-26 Ff bys. Frank Barranco requestions more interval to confirm nature soil. Then set well from at 26 ft 695, 10 Ft Screen 16-261+ 640 0810 Sandy clay Inative soil confirmed from 26-28 ft bgs. 0825 Findling begin setting well with screen at 16-26 fl 195!

0930 Findling continue to set well Sand 2ft above well screen to 14ff 655. Benton te Seal From 14-14 0946 Findling begin mixing concrete to complete well installation and abandon initial hole. 1015 Finding allowing concrete to set up before installing well casing. depart to decon augers + spoons. 1055 Well casing + concrete pad set around well # BP-HSA-04. Findling Clean up around location and continue deconing augerstrods 1127 More to BP-45x-02 and begin drilling 1245 Sample taken at 8-10ff 1330 BP-HSA-02 drilling complete Native 50.1, reached at approx 23 ft bgs. Do, There leave auser in ground over, weekend while well construction is determined

1410 Findling Repart 5.7e.

Project/Client BP-H5A-04- air monitoring

	Time .	BZ?	PIO (ppm	[GG140]
	0737	Y	0.0	0/20.4
	0748	7	0.0	0/209
	0759	7	0.0	0/20.9
-	0810	7	0.0	0/20.9
	DSIS (Berelly	7	0.0	0/20.9
	0730	Y	0.0	0/20,9
	0845	7	0.0	0./20.9
	1000	4	0.0	0/21.3
4	09/7	Y	0.0	0/21.2
	(borehele)	7	0.0	0/21.2
	0946	7	0.0	0/21.3
	1001	7	00	0/21.4
	BP-45A-02		monitoring	
	1126 (Auckground)	N	0.0	0/21,3
	1135	7	0,0	0/21.3
	1145		0.0	0/21,4
	1157 (at berehold)	7, 1	0.0	0/21.4
Øx.	1210 1224 (5480011)	7	0.0	0/21,4
+		1	0.0	0/21.4
	1236 1245	4	0.0	0/21.4
	1257	4	0.0	0/21.
		1 1	0.6	0121.3

Location Sparrows Pt. Date Project / Client Air Monitoring
BP-1KA-02 Time BZ(?) PIO (ppm) CGI(%) 1305 0.0 0/21.4 1315 0.0 0/21-4 0/21.4 0.0 1335 0/21.4 0.0 134l 0/214 0.0 5/26/09 5805 (back) 0.0 0/20.9 0820 0-0 0/20.9 0830 0/20,9 0.0 0845 00 0/20.9 0901 0.0 0/20.9 0917 0.0 0/20.9 0890 0.0 0/20,9 095 23000 0/20.9 0.0 0.0 0/20.9 1003 0.0 0/20.9 1012 0.0 0/20.9 1023 6/20.9 0.0

Location Project /		arre	ows r	Poil	त् _र ्र	W	0	_ D	ate _				_ 2
1 Toject 7	Cilent	001	15	imp	olin	9	L	9		1			- - (
Date Mine Wisabe NAPI Color (Musell)	Black	(10482/1)		VO Bown	(10 YR 2/2)	,		UD Bour	(10 yR 2/2)		LLEENISH PLACK	(LEV 106.7)	
Visalle MAPI	- 4	2	v	N)			λ_o				YES	
Date /Time	5/22/09	124S		5/22/09	1345			8/22/09	1410	1 y	5/27/09	ONIS	
Sample ID Soil Description 5/49/1/11 - Moderately	BPS a BOZ-08 4 maled indus SAND	Subengular, non plastic	Slay / f. Il Poorly graded	13650-602-14 And-crs SAND, subangular	~ 1095 Fines low plasticity	S.14 2 day.	Sluy Hill moderaly goodes	BF-50-G03-20 md-cvs SAND, subangular	~ 20% medum plasticity	5,1++day	80-50-Bos-8 SUN/FILL - BANCE-GAN FALG- BOOK STONE	SCREED-ANGULAR-258 M-L SAMD AND	Now PLASTIC FINES
Scimple ID	BP-50-B02-08			136-50-821-14				BP-50-603-201		\$	8P-50-05-8 5	<u>V</u>	N N

Location Sparrows	Point	ND	Date 5	12610	q 29
Project / Client					

1135 Finding pull of 6 bole to decon Ring will not neturn to BP-45A-02 with raing fuet corditions 1310 Findling complete deconing HSA-02 For the gright, 1335 Findling + EA depert site for the day.

Project / Client Bruix BP-HSA-05 Date 27 MAY 09 0730-564. Js, Family onsile 0740- Legun moling to BP 45A-05 US1402X 100 ppm sobritishe 0.0 ppm 98 pm initial youn o.oppm 102 ppm C61 Calibration natist year 170-103360 50% millar 0% 48% final yers 0% 0800 begin drilly BP-15A-CS 0839-PM hits at 10.7 pm at 2 ft from bowhole during augusing - advised workers to avoid thing dose -546ppm at brillole 0840 - Visible NAPL on are live and pochete of NAPL in hor - collected 6-8 (BP-50-BOS-6) for META

Location Sparrage Point M	Date	27/
Project / Client Air Monitory		
BP-15A-05		

Time	87?	PID (ppn)	(61/2)
0800 (BACK.)	D	0	0/209
0802	y	0	0/209
0811	a y	0	0/209
0823 /44.691 Loubely	Y	1.8	0/20.9
0830	Y	0.7	0/20.9
0839	Y	0.9	0/209
0848	y	0.0	0/20.9
0850	N	0.0	0/20.9
0901	4	2.0	0/20,9
0914 -	Y	2.6	0/209
0921	y	2.4	0/209
0937	y	1.6	0/209
0951	y	1.0	0/ 20.9
1011.	X	5.4 *	0/29
1026	y	2.3	0/ 20.9
1050	y	1.4	0/ 20.9
1100	X	0.0	0/ 20.9
1212	У.	0.0	0 /20.9
1236	Y	00	0/209
1304	4	36.7 #	0/20.9
1307	y	3.6	0/20.9
1313	Y	1.6	0 /209
13 20 1	CONT ON	PAGE 35 24	0 /20.9

CONT ON PAGE 305 34

* told bulber to begin drunning cuttings

945- Collected TA sayle BP. 50. BOS-8 at 945

1040-Collected TA sample BP-50-B05-20 at 945 -collected TA sample BP-50-B05-14 at 1050

1104-per tB-will abandon BP-50-805 and redull

1120-begun growting my original BP-50-B05 1704-offsit & next tinedill shallow hole 1717-begun drillig shallow BP-HSA-05

1240-rig down for 20 min to retool auger heyways

1332- legen setting shallow well in BP-15A-05 - serven from 4-14 ft 20-slot

1409-completed histolly BP-16A-05 shallow well 1506-TS office to John Reper KO- No trip black early TA sende more to EA Project / Client Soil Samply (06

Same 10 Sed Newstern	DATE/TIME	4 36 ·	DISCOLE NAPL	GUOR
BP-50-BOS TY 1/ SAND AND GRAVE-MUDSORTED-	5/24/09	182	N	Runs Hopey
SURANGUAD	-7-34		100	
BP-50-R5-20 VC SAUDAND GRAVEL-POOLY SPIED-	Sha 6/42/5	Sha	N	BLUKH GRAY
SUBANGUAR- 10% NOWLUSE SICTY				OLEY2 5/1
Times				~
BASO-BES-BIC SAND AND 6 PRIVEL-PORLY	5/28/69 0930	0830	ঽ	VD REUN
SORTED-15% NON EMSTIC SLITX				POVR 2/2
FINES-SUBHT BZ ODDP-NO STAWING				
67-50-803-10 Papey SORTEB-M-C SAND AND	5/21/09	1300	2	VD BRN
CRAVEL-SUBANGUAR-53 ANGULAR				10 SPR 2/2
6 DAVEL-NOODE-NO STAINING				72
CT-50-803-20 Mol. SORTEN - VC-L-SAND-	2/29/09	(AZP)	>	VA BRU
(C-20-04) SURANGUIAR-<186ANEL-<18				10/R 2/2
NOW RASTIC SILTY FINES - MAP OND B-		\$.1		
NJ STANING - SHEEN ON LINER				

Location Sparroup Round MD Location Sparrage Point Date 27 MAY 09 Project / Client BP-HSA-03

BP-MW-025 installation Date Z7MAV 09 Project / Client PID (PPM) TIME BZ (6) * dille will deen rade on 28 May morning 1330 44.6 * 0/209 * per Sexusol (long) - Cope area area historie are Char - with drap off signed permit to say 1339 4.7 0/20.9 1350 0/20.9 1401 0/20.9 1409 0/20.9 1419 1532-SCY, Edly April 0/20.9 0870 BP. MW. 0.0 0/209 1629- 504 at laston for cooler. 1804- SCY departe Conten 0830 0/209 0941 0-0 0/20.9 0856 0.3 0/20.9 0908 0/20.9 1836-SCY arrive in York 0929 0/209 (13.5 HR) (24.8E) 2,4 0948 0/20.9 1040 0/209 1050 00 0/20.9 0.0 1104 0/209 1115 0/20.9 1/27 810.4× 0/209 1132 0/209 0.0 1144 8.0 20 0/20.9

Project/Client Installation of BPMW-025 Date 28 MAY 09 0537- Scronish Joh 0720 - Findling onsile 0735 Findly decoring augen from 27/MAY dilly * per FB Collect META from BP-MW-025 at 8-10 feet and showe - set well serien 4-14 0820 - Legun chilly BP MW-025 0850- PID Calibration 100 ppm isolatylino US1402X 00 ppm 97.ppm 0.Uppm 102 pm 0930-collected, BP-50-BOZS-8 for META Jugginil 0949-repusal @ 10.2 ft in BP-10W-02 Ny down to regain cutting head

Project / Client		** ** ** ** **			3 V	
	104		essi ¹¹ k		-	_
1010- began abandening	finta	thent of	BP.	MW-0	25.	
		~				
:040-legen offet reduit of	f BP-M	14-025				

136 began instally AP-	MW-02	5-sere	n fo	m 4	14-4	4
			1			
251-ampleted instally	BP-MW	025			1. 0	
253 Doug fort orsite	I day	off su	nied			
253 Doug Fort orsite dig punit for con	learna	rey		1 A		3.5
		300	1			
1259- huyun dean of a	augus e	after &	P-MW	023		
342 - completed decenne	ny ager	e and	- 3 -			\$
342- completed decenne desirable took	/ /					
353 - Alyan nevelije	To 60-	#5A-0	3			
2			- 15	,		
1491- per DF-bodully of 1431-JS office 1444- Firthy office	he to.	and author	i le	ad		
1431-JS SSE						

1451-SY office 1209-SY depart loveton

1706-SCY arrive york (125H)

Location Species Point, MD Date 29 MAY 09 1111- begger drillen CT-HSA-03 1130-driller on skede No driller 1139- resumed driller 1227-rig dawn to hoften botten mattend rig, 1238-secured driller 1300- Collect sample from Carinterface (T-50-803-10 1430 - Collected sample CT-50-B03-20 and CT-50-DOP1 1500-Collect (T-50-B03-22 1531-54 offile

Location 🚅	Sparry Poul MD	Date 29 MAY 09
Project / Clie	nt Soil Sample Log	5 di 20

SAMPLE 10 SON DESCRIPTION DA	MTE/TIME	VISIBLE NAPL	1 Gar
(7-50-803-22 MR) 60AKD M-C SAND-<58 5/20/69 150	12/109 150	5	W BEN
COPWEL-SURANGULAY-5%			love 2/2
NOWPLASTIC SUTY FINES			
PLEADED M-C SAND-ANGULAR- 6/2/09	516 60/2	>	UN REU
<5% SULY FINES-54T- C5%			1042 2/2
GRAVEL-SUBANGULAR-110 ODOR-			
NO STAINING			
SAND-ANGULAR-	6/2/69 1030	N	W BRN
59 SULY FINES-HOUSH			32 St St Or
STAWNG-NAPONDE			
P. GRADED M-C SAND-ANDOWAR 6/2/69	100 100	7	VA BRO
TRACE CRAVEL - <52	2		10 x 2/2
MONDUASTIC SILTY FINES-			3
SUBIT BLKS FRWWG AND			
MAD ANDE			

Location Spanzora Point, MD Date Ol Trus og Project / Client ______ Ar Monthrey _ Date 01 June 09 43 CT-HSA-01 0710 Scyonsite PID (Am) TIME ME? 161 (%) 0810 - Findly onsite 0812 - Bonsite 0/2/4 1250 1300 1219 0/214 1315 0829 - began greatery and abandening CT-HSA-01 1319 0/214 1336 0/21.4 Initial zero 100 pan , sobetylee 0/21.4 1411 0,0 1441 0/21.4 Initial Span 109 1951 0/213 Final zero 0.0 62/09 0830 0/209 102 0/20.9 0848 0856 0/20.9 SOB Method CGI Calibration 0910 0/209 Initial zero 0%0 0/20.9 0924 Initial span 52% 0/209 0936 Final zero 0% 0/209 0944 Final span 50% 0/209 1010 0/209 1040 1002 - completed greating and abactoring (7-HSA-03) 1016 - brown desen of augus and took 1022-34 libeled all empty drivers 1100-completed diesen 1100 0/20.9 1139 0 0/20.9 1/3/19 0/20.9 0939 * (7-1KA-05 0950 0/20.9 1024 0/20.9 1110-sety on CT- HSA-01 1040 0/709

Location Sparrows Point, MD Location Sparrario Part MD Date 1 JUNE 09 Date 7 June 09 1142- legan dally CT-HSA-01 0717-501 onsile 1300-Way hard drilly from 4.5ft to - likely concerte 0730-PID Calibration Mpon isolatione 0.2 pm 93.8 pm 1345- augr refusal @ 5.5ft-offset 8ft SE 1404- resumed dielly on offset bole 1451-end by dilly @8 ft 1519- reflect dell ruy water took 50% method 1544-501/15 offile 46 % 50% 0736- IS onsite 0811 - Findling onsite 0826- resund dulling CT-HSA-01 0915- Whated rengle CT-50-BO1-10 0956 slight mother oder (Naghaba) at 14-16ft 1030-Collected CT-50-BOI-18 (M5/M5A) and META fingirped

Location Spannar Point, MD Date 6/2/69 Project / Client 100-completed drilling CT-HSA-01 north install well from 12-72 feet CT-MW-0 Wholed CT-go-Bo1-14 at 1/00 1111- legar installing (T-MW-01 x 1244 legen granting up original CT-HSA-01 bowhole 1412-refueling drill riej 1446-PAN out of school for surface conglish 1500 Finding offile

9736- Sey onsite			98.2					
TS onsite								Ġ.
0745 - Finding o	risite		,	1	, ,			-
32-light de	unof c	augus	and a	ains	el.	tole		
DON NA / MI	111	-11100		7.1			. 1	11
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1829-5Cland JS/ 0855-setyon CT-	restried	CT-H	19-04	and	05			4
1855-setypon CT-	HSA-05							
	8.1							
939- begin drilliz	CT-115A-1	25					2007	

Location Spurreres Point, MD Location Spanous Point, MD 49 Project / Client

Air Menutury, Log Soit Large Project / Client BZ (?) TIME 8UK 10/12/2 PID (AP) (61(%) BUX IONE YES 1/2 0/01 0 0/2/4 GOOR 220 0/21.4 8K 1250 0/21,4 0/21.4 VISIBLE NAR? 0 (T-115A-04 6/469 0756 0/209 0 083/ 0/20.9 0 33 1110 9/2/ 0281 10/0/19/0 SAMPLE DATE! 0906 0/20.9 0 1030 6/1/09 6/4/09 0/20.9 0 1050 0/20.9 0 1103 0/209 FINES-MOIST-MOORE CRAVEL-SURANCOLAR SAND-SUBANGULAP-578 ANGULAY GANIEL-0 - TORE NOWRASTUSILTY FINES-WET-SAND AND CRIVEL-SUBANGUCAR - < 10% POPLY SORTED-UMPSE TO VERY COMPSE SUBANGULAR-WET- TRACE NOWPUASTIC SAND-SUBANBULAR-<5% ANBULAN CPAVEL - FINE SAND-<5% SULY FINES-SLIGHT NADIHALBILE COOP PERLY SORTED-CARSE TO MENY CARSE 115 0/20.9 0 FORLY SORTED-MEDIUM TO COADSE 1/40 0/209 0. 1703 0/109 0 0800 LT-115A-02 6/6/09 0/20.9 0 0808 NOVPLASTIC SILTY F PORLY SORTED FIMES 0822 0/209 0 0840 0/209 6 0857 0 /209 SILTY 0 0926 0 0979 0 /200 CT-50-BOY-18 CT-50-R02-12 CT-50-B04-10 0 17-50-BO4-14 1218 0/21.4 1303 6/21.5 SAMA 0 0

Location Sparrows Point, MD Location Sparrows Point, MD Date 6/4/69 ____ Date 6/3/09 Project / Client 150- curger refusal at 6.5 ft offset to ft NW 1707- Survey dulling 1249- auger refusal at 5 ft offset 40 ft E 1250-resumal dulling 0550-SCY depart york 070- PID Calibration 100ppm isobatyles 1327- auger refusal of 4 ft 1329- legen laceful; and alambain, offset boeholes 1342- legin surface completing of CT (15A.0) 1359- mosed supplies to growt up last rensing offset 50 % methers 1440 - Findling offsite 1519- SCY /JE offsite 0736- JSoute 0741- Findley crisile 0752- begin driller CT-HSA-04 25 feet in CT-45A-04- sensible bulding 0819- JS to gauge NAPL in wells

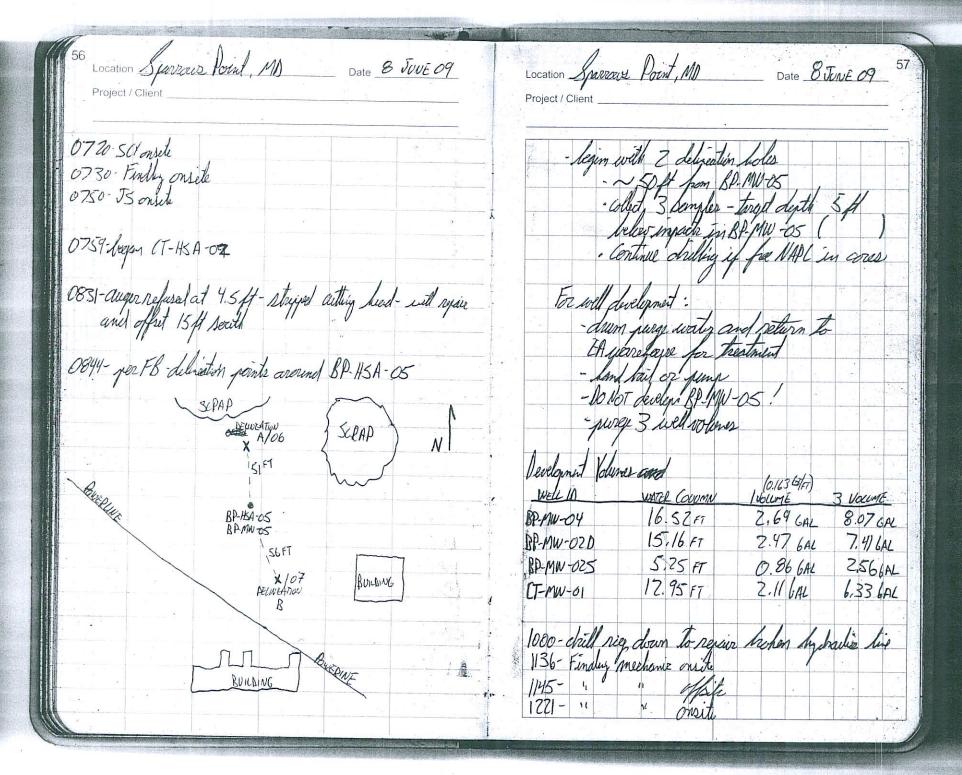
Location Sparrages 1. Date 6/4/09 . NAPL GAVGING DTN (FT.) DTW (BGS) 1D NAPL THICKNESS (FT) BP-MW-04 9.98 BP-1111-05 6.81 10.34 3.53 BP-MW-025 9.25 BP-MW-0ZD 9:34 CT-MW-01 9.05 1005-refusal on concrete (this god?) - offit 100 ft due 1020-resumed drilling at offset heaters 1110-Collected CT-50-BO4-10 1210-collected (T-50-B04-18 1230-collected LT-50-B04-14 -* slight sheen on soil water from 20-22 fet 1245- Lagen grouting and abandoning (T-60-B04) 1438 Complete de con et ausers. 1500 Set up at CT-H54-02 1515 EA+ Findling off-site

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	ct / Client			1 11 11		6			
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Location Sparrows Point

Location Sparzer	a Portal MD	Date	
Location Dyman		Duto_	
Project / Client	SOIL SAMPLING LOU	3	

10/
MODERATELY SIPTED MEDIUM TO COADSE 6/B/COT / HOU WARTHALEVE CALIN - SUPPARADO TO AUXICIAR-
CT-SO-BOZ-20 NATIVE MATERIAL-WELL SORTED 6/8/09 1470 NAPITIALINE
FINE SAUD- < 5% UF-FSAUD
CT. 50-805-8 Peoply Sopreto-METWUM TO COMPSE 6/9/69 1120 1. NO
SAMD-SUBANGOCAP-1076 6PAUGL-
SUBAUGUCAR- C5% NOWPLASTIC
(7-50-805-16 POLDEN SPETED FINE TO MEDIUM 6/9/09 1215
SAND - SCHANGULAR - LS70
SURANGULAR GRAVEL - TR. Houghstic



Location Sparrows Point, MD Date 6/8/09 Location Syantows Point, MD Date 6/9/09 1236-resamped dulling 0719-SCY muite / Ferthing onsete 1247- Findly mehale off le 1400-collet CT-SO-BOZ-16 - unbodel bolleres at dean site 1214-stight neptholine oder and sheen at 18 ft 0735 mobil dull rig to decen gast 1470-Collected (T-50-BOZ-20 from native) Ill contact 1471-Completed Loring (T-3000-HSA-OZ at 22 fet 0741- thurder and lightning > suspend work 0840- begin decoraing augus 1430-legan miring grant to charden CT-HSA-02 OGG. IS and Tony to begin well development 1527- Completed country-secured sile 1530-JS offsite totales 0932 - completed decorning duyers 1552- Findly office 1007- Sign dully CT-HSA-OS (again) 1559-Scr offile 1120- Collected CT-50-BO5-8 from governhete 1139- JS completed well development of BP MW-04, 20, 25 and CT-MW-01-~ 40 gellers removed 1215- Collected CT-50-BO5-16

Location Surrais Point, MD Date 6/9/09 1230- Colletel GT-BO-BOS-20 from fill Media Corted-Night speen on soil-collected META PAIH forgignent sample 1236-terminal CT-50005 HSA-05 It 22 fet - will justill well wo some from 10-70 ft - 4 ft lastrik seel and no great 1300-leger instally (T-MW-05 (9.5-19.5) 1350-TS apple to filter decelepment water at EA 1443-Completed CT-MW05 installation 1457 began downing augers and downhole toole 1531- Completed decon 1540-Findling office 1550-Schoffsile

	A /		
Location Same	us Point, MD	Date	E 6
	1.10 1		1 - 110 -
Project / Client	Soil Sangley	log	
	1/		

SAMPLE 10	SAMPLE 10 Son DECEMPTION	DATE/TIME	DATE/TIME WISHLE WAPL	COLOR
CT-50-805-20	CT-5-BOS-20 PORY SORTO-VF-F SAMIS AND SLAG- 6/9/09 123 Y-SHEEN	921 po/149	Y-SHEEN	VD SPEEVISH
(META 6	MATINE UF WELL SOPTED SAND-SAT-			68A4 (6.643)
TA)	TR. 5446			
BP-50-B08-8	885-806-8 Bookly Sorded M.C SAND , SLAC 6/11/29 08 F	6/11/pg 08/F	Benzene	812K
	(respects		10 00	(S N 2/
			No	
BP-50-B06-12	BO-SO-BOG-12 Poorly Sonted M-C SAND,	6/11/19 0900		Black
	Subangular 10% S/ag.		705	10 ye 2/2
B-50-B06-16	BB-50-Bob-16 Roorly sorted M-Fn SAND, GNIO9 OFF	611/09 OFC	1/3	Med Gray
-	5/27, Subangwar 15%			
	non plastic times			
			And the second s	

Location Sparrows Point MD Date 6/10/09 Date 6/10/09 Project / Client 0718-SCY onsite: Findley onsite 1500 Findling complete bollards for today 1530 Finding and EA depart 5/4e 0730- began installey bollards around (T-MW-01 Well MIE Permit Numbers CT-MW-01 RA-95-3038 BF-MW-05 BA-95 3036 BP-MW-OZD BANGED RD-MW-025 BP-MW-04 BA-95-3037 -0814 completed bollands at CT-MW-01 0819- Ketjun instally 9 bollards at BP-MW 05 1040- Completed Gollards at BP-MW 05 1051- petup on BP-MW-04 to install 4 bollorele 1210-SC/ to med w/ Doug Prote to get period 1900 Complete concrete bollards at BP-MW-05. More to BP-MW-04.

Location Sourrows Point, Mb Date 6/11/09 Location Sparrous Point, MD Date 6/11/09 65 0720 EA on-site, Finding on-site 1055, Concrete complete at BO-MW-06 Findling begin dr. 1/mg at BP-HSA-07. 1135 Refusul at 3.7 Fd. Findling Frital zero - 0.0 100ppm Tsobutylese offset 3 ft North, Initial Span- 93 1400 Complete dr. 11 ins at BP-HTA-07 Final zero - 0.0 Set well with screen at 6-16 Final span - 102 ft 655, 15 15 Finding complete well installation at 130-45A-07. CGI Calibration 50% Methane Initial Zero Ob 1535 Findling + EA depart 5,7e. Initial span - 48% Final zero - OB final span - 50% 0900 Findling begin dr. 1/mg at BP-\$54-06 0900 Findling complete dr. 1/mg to 18ft bgs. Begin to pull augers and set well. with Screen from 6-16ft. 1035 JS call Frank Barrance of EA to. determine sampling plan for delineation holes. He indicates that only one sample will be taken at delineation holes get most contaminated area findling move to BB- HSA -07.

Location Sparrous Point, MV Date 6/12/09 Location Sparrous Pt., My Date 6/15/09 Project / Client Project / Client _ 0730 EA + Finding on-site to decon 0730 & A + Findling on-5, te 0743 Findling begin drilling at 0830 No well permits were pregned to continue drilling. Endling will spend day obtaining permits and well supplies foot Monday 6/15/09.

0900 EA + Findling deport 5, te. 13P-H SA- 08 0955 Booing complete at BP-454-08 Begin installation of MW with Screen at 6-16 F1.695 1110 Setting well compute. Move to BB-H5A-59 SW of BB-H5A-05 11JR. Begin drilling at BB-H5A-09 1350 Complete borns at BB-H5-4-09 to 20 ft bos:
HOS Begin Setting well at BP-HSA-09
with screen at 8-18Ft by
1510 S. Hing well complete Dr. Ther
clean up for the day.
1600 f.A. Findling deport site.

Location Spanrows Pt., MD Date 6/16/09 0715, EA arrie on-site, Endling on-site. Findling to develop wells! well Gauging WL 6.91 NAPL B8-MW-09 BP-MW-08 6.09 B8-MW-07 6.50 BP-MW-06 7.76 BP-MW-65 6.61 3.62 HOTNAD 10-23 0720 Begin beiling BP-MW-09, Purge 10 gallons, to develop well, complete. Move to BP-MW-06, and begin development. Purse 10 sallons 0750 Complete development at BP-MW. Move to BP-MW-07 and begin development 0855 Complete lovelopment at BBMN-07, Puzzed 10 gallons, Move to BP-MW-08 and begin Levelopment. 0917 Development at BP-MW-08 complete Purse 10 glors. More to CT-MW-05 0932 Gause CT-MW-05, WL= 9,99# bs no NASL Besin Levelopment.

Location Sparrows Pt.	, NO.	Date 6/1	6/09	09
				7.80
Project / Client				1

1005 Complete development of CT-MW-05 (gallons purged. 1040 Begin installing bollards at 1300 Complete dr. 11, ng bollards at BP- MW-08. Begin concrete and dr. 11 r.z move to BP-MW-06 and begin augering bollards 1453 Complete augering at BP-MW-06 and more to BP-NW-07. 1505 Findling depart site. 1515 EA depart 5, te.

Location Sparrows Pt., MO Date 6/17/09 Project / Client 0730 EA + Findling on-site. Finding begin augering at BP-MW-07 bollards and continuing concrete at BP-MW-08. 0800 Frank Barranco of EA calls and informs JS to abandon CT-MW-05. and no product, indentified. 0845 FB indicates the EA will sunde Severstal well CO13-PZMOO8 For NAPI 0914 Findling complete augering at BP-MW-07 and move to BP-MW-09. Continue concreting BP-MW-06. 1010 Findling hit a water ut. 1. 1. while anger bollards at BP-MW- Q. EA not Fred Severstal and a will to personel will amue to assess s. Fration Area had previously been cleared by Seversta 045 Dong from Severstal ut. 1, 1, 105 arrive and determines Pige not in fise and bole, can be 5 Hea Endling will abundon, hole and 40 bolland will be installed

Project / Client	
1/30 More to CT MW-05 begin well absorbent.	and
begin well absordenment.	/
1250 well abandon ment comple	te at
CTGP-MW-05. More to BP-	MW-09
and concrete lo lards	
1430 Concrete complete et 136	-100-04
Finding peach up equipment as	t decon
100 FA = Endla effecte	
1500 EA + Findling off-site.	
	2120
	1

Location Sparrows Pt., My Date 6/17/03

Location Sparrows Point, Mr. Date 6/18/09 0730 J5 of EA on-site to complete Aw after developments Also GPS coordinates For MW's 1010 Tony of Finding empsite to complete convert bollards at RP. MHOT 1200 Tony of Findling depart site. 1230 JS discovers 4.64 FT of product in BP-MW-OB JS informs Frank Barranco and FB indicates another well should be drilled 100ft to NE OF BORMWOS. 1245 J5 contacts Doug From Seversta Ut, 1, ty to clear location For utilities, 300, Doug arrives at location and will contact Is with clearance. 1400 Js complete well gauging and measuring. 1430 JS Legart site.

Project / Client				
0730 E	A. Findler	on-si	te. Fingl	ing /
begin 5 0880 F.	ed ing be	p deco	coning c	ingers
1011-1104			. 11800	TO
0905 (al				
Initia	Calibra	0.0	1008	om Isobuthu
Final	Zero-O.	0		
	span -			
Initis	alibrat	0%	50%	Methore
Final	co span	3%		
	Span -			
1020 As	at appre	le take	n at 4-	71
655 WT 1038 Au Off-S	sor reti	SW,	1 (2)	H 655
1250 Bos	set at 4	plete ?	645.	t. Well

Location Sparrows Point ND Date 5/19/89

Location Sparrows Point MD Date 6/A/19 Location Sparrows Point, My Date 6/20/09 Project / Client to 14 A bs and get well hole 0230. JS arme on-site. Findling on-site. JS call Pougfort from Severtal Eample interval 12-14 to clear location BO- 454-11 of yt. His 1330 Sample Interval 16-18 at 0845 Findling begin dr. Iling bollards for BP-45A-K). BR=MW. - 10 1345 well setting complete finding 0145 Finding complete bolland angering begin to develop well with baler and awart utility clearance. 1440 Findling clean up and depart. Size. EA departsze. 1100 Dong for of Severskal arrives to clear location of utilities PIB Calibration 100 pp so isotutalena initial zero-0.0 initial Span - 107 final zero -0.0 Final Span-103 50% method CGI Calibration initial Rero - 0% retual Span > 42% final zero i Ols final span = 50%

Location Sparrows Point, MD Date 6/22/09 Project / Client 1120 Location cleared of ut. 1 tres. Finding begin dr. 1/mg at BO-HSA-11 1255 Boning BP-HSA-11 complete. to 18 ft bgs. Wellto beset at 4-14 ft. Screen 140 Well set. Gause well with IFP, no product detected. Bail well, no product in bailer. 1400 Begin Levelopment of BD MW-11 with bailer. 1936 Beiling complete at BO-MW-1) 1450 Findling depart site. 1500 Js depint site

Location Spire	ous Point	MO	Date 6 /2	3/09 77
		The state of	Date	
Project / Client				

0730 JS annive on-ste to Sample LNAR wells and gauge BP-MW-10+11. 0806 Gaugin, complete, BB-MW_10 has 0.64 ft, of product BP-MW-11 has no product detected. 0845 Finding arrive to complete bollard installation Is prepare to Sample BP-MW-5, BB-MW-8 and CO13-PZM-008 For NAPL. 1000, Sample, BP-MW-5 NAPL and GW. 1048 Sampling complete at BPMW-5 and move to BO-MN-8. 1140 Sample BB-MW-8 NAPL and GW. Findling complete ausering bollards at BP-nW-11. Begin setting Concrete 1300 JS move to CO13-PZM-008 to sample DNAPL 1400 Not enough DNAPLIN C013-82M-008 to complete Sampling, Approx 100ml of ONAR Collected For Test America

Location Sparrous Point My Date 6/23/09 Project / Client 1 1420 Findling depart site. 1420 J5 clean up and depart.

Project/Client Bail down test

O730 JS T Caron Merczak (CM) on-ste.
No security pass for CM. Call
Sevestal for pass.
O930 Security pass obtained and
JS t CM on-site.
low Begin but down test at BP- MW-5 Initial NAPL Level 6.25 ft tos Initial WL = 1035 ft tos Total NAPL = 4-1 ft. 1006 Becan Dailing

NAPL level = 20.39 ft bgs

WL = 10.40 ft 5gs

Total NAPL = 41,01 ft

1020 Began 2nd bailing

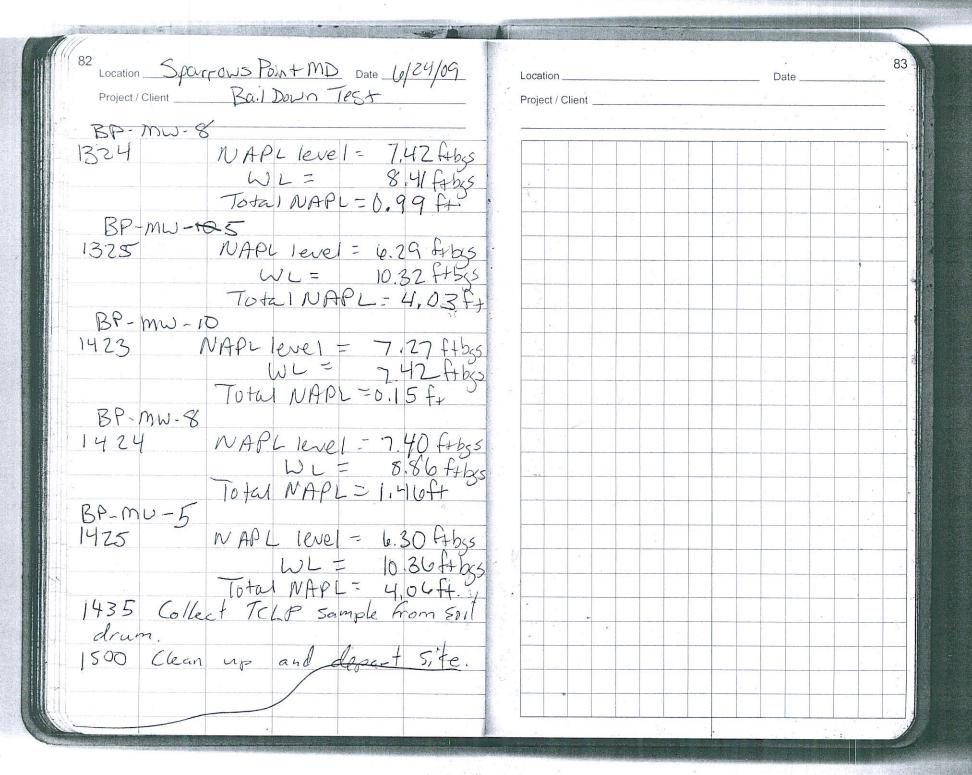
NAPL level = 6,545-5gs

WL = 8.92 bgs TOTAL NAPL = 2,42 ft 03) Began 3rd bailing NAPL level = 6.474 fr655 WL - 903 1+ 65 TOTAL NAPL = 2,59 84.

7 80	
Location	Client Bail Down Test
Project	Client Bail Dawn (051)
10 \$3	NAPL 1ever = 6.36 ftbgs WC - 9.92 ft bgs
	131 - 992 [15]
	11 1 1 1 1 2 1 1 2 5 3
1050	lotal NAPL = 3.56 ft
1053	NAPLIEUEL= 6.29 ft bys
	WL = 10, 17 ft 635
	Total NAPL = 3,88 FF
1123	NAPL ferre = 6.29 ft bas
	WL = 10.27 ft bis
	TOTAL NAPL = 3,98 ft
Ω	D. M. 2
	P-MW-8
1130	initial NAPL level - 6.99 ft bys
	mitial WL = 11.48 ft bas
	10tal NAPZ - 4 49 ft
1133	Regan bailing. NAPI less than 45 for
1141	NAPI less 11. 45 fa
	NAP/ 18 0/ - 715 CI
	NAPL level = 7,47 flbs
	WL = 7.92 ft bes
-CI-70 111	Total NAPL= 0.45f
HAB III	13 NAPL level = 7.46 ftb35
	WL= 8.09 ftbs
	Total NAPL = 0.63 FA
1153	MAPL Wel = 7,42 Fbgs
	WL= 8.20 Fabes
	TIL 1 (0) ADI A & 11 (2)
	Total NAPL= 0. 84 Por

Location _	Sparrous	Point M	Date Date	6/24	109 81
	nt Bai		_	/ /	-1

1223 M	VAPL	level =	= 7,4	7 fx60	<
		٥١=	84	U Cel	25
-	Total	NAPL=	1 02	C	5-7
	MW-5		1.02	14	
			/ 0	c 0 .	
1224	IVIA	Ph level	= 6.2	6 465	S
		WL =	10.3	4 +155	5
	lota	INAPL	= 7.08	4.084	C/
BP-	$m\omega - 10$			24	. 25
1235 Ini	+:aWAF	L jevel	= 7,00	folgs	8
	nitial h	1 =	7.7	9 Ston	5
	NAF	i level =	0.70	fr ?	
1236		bailing	0,,,0		
1242	MAG	L leve	1- 7	280	1
1017	1071	WL=	V 2	162 6	33
		2 24 20	000	0	25
17,01		J NAPL			
1244		VAPL les	01 = 7	.38tole	22
		WLF	- -	7,434	65
		UDAI NA	PL=0.05	fo	
1254	NA	PL leve	1= 7.20	8 Ars Sx	5
•		WL=	7.3	9225	< <
A A	To	tal NAPL	- 0.11	C+ -	
1323		L'evel			
	1.0/17	WL=	7	96,10	5
	104	a NAPI	Ox	1144	٦



ONSHORE INVESTIGATION BORING LOGS



Severstal Sparrows Point

EXCAVATION AND WALL/CEILING PENETRATION PERMIT

Before any digging/excavation or wall/ceiling penetration occurs, this permit must be completed and displayed at the worksite. On non-emergency work, this permit must be requested a minimum of forty-eight (48) hours before any work is started or is performed.

The project planner is responsible for obtaining this permit. If the person requesting the work does not have a planner, the Mill will provide one. For outside work, the person requesting the work must contact the 406 Department Planner.

Any work in the mill requiring wall or ceiling penetration will require a permit from the Mill where the work is being performed.

l .	fety, Health and Environm ny changes in the pro	*			ie issued
	05/27/09	Time: 11:00 am	Date Expires:		me:
Location: Old	Coke Oven Office Area			to the row to not too over our all to the first to the fi	
Work to be Per	formed: excavate to d	rill test holes	- 250 (1872 64) (35 mW) 295 (1874 350 mg) 190 (180)	the major was again and and was again year year year year year year year year	20 To 10 To
limited to, re	onable effort must be eview of prints or dr low, an explanation	awings and a phys	ical inspection of		-
	* Ween	For Work INSID	E the Mill Area	The second secon	
Yes No		n, Maintenance should b this permit. If undergrou			
	Facility drawings have b	peen reviewed			
Line Line	Provide drawing num	nbers or reason none w	vere reviewed		000 000 000 000 000 000 000 000 000 00
	$\frac{1}{2}$, we show that the size that the size are the size of	one was the and this took and the ten and the ten the ten the ten the		No Art has not the hill his one year yet has been	E
	Site has been inspected	l Date:	5		
		days the star state that the text out and the star star to star and and only stag son	ا وهو الحد الحد الحد الحد الحد الحد الحد الحد	end was use. De de eus, also tous and gen see :	g and the top and the and the top and the top and the top g g g g g g g g g g g g g g g g g g g
not guarantee t	hat all hazards have been	allow have gain the gain have now have your the first th	ver)	en doing the work	
Will Main	tenance Supervisor Signature			Date	Time
		For Work OUTSI			
Yes No		ment will start this permit tility Operator at x7254 พ			Leader at x5674. If no
	Facility drawings have b	een reviewed	. And the first thin the test and the same and the test and the test and		
	5608, 5508				: :
	3				
	Site has been inspected	Date: 05/27/09	per oper one por §		
	2" Potable Line in are	ea, but should be off pe	er blueprint	and the face and and had not not one one one or o	
	rds for this excavation/per hat all hazards have been				
0	1540		· L 4583	<100h	y 10 - 10
Cont. 1 1 " " "	W JW	814-80093 Symbol-Numbe	V 1373	3/20/2	1 1/6.15PM



Severstal Sparrows Point

EXCAVATION AND WALL/CEILING PENETRATION PERMIT

Before any digging/excavation or wall/ceiling penetration occurs, this permit must be completed and displayed at the worksite. On non-emergency work, this permit must be requested a minimum of forty-eight (48) hours before any work is started or is performed.

The project planner is responsible for obtaining this permit. If the person requesting the work does not have a planner, the Mill will provide one. For outside work, the person requesting the work must contact the 406 Department Planner.

Any work in the mill requiring v	vall or ceiling pe	netration will requir	e a permit from the M	ill where the work	is being performed
Contact the Safety, Health and					to dome portanion.
•		-	plan may require		o be issued.
Date Issued: 06/01/09		e: 11:00 am	Date Expires:		Time:
Location: South side of Be	nzoil Plant				
Work to be Performed: exca	vate to drill te	st holes	in last look open sien, word der som als dem sien sien op op op de som op op op op op op op op op op op op op		
Every reasonable effor limited to, review of pri any item below, an exp	nts or drawir	ngs and a phys	ical inspection o		
	F	or Work INSIE	E the Mill Area		
			e notified. The Mill is nd utilities are indicate		
Facility drawi	ngs have been r	eviewed			
Provide dra	wing numbers	or reason none v	vere reviewed		
Site has beer	n inspected Da	ate:		way need and see see see and and and and and	; ; ; ;
All known hazards for this excand not guarantee that all hazards					
		der som som som den den som som som som den	<u></u>		
Mill Maintenance Supervis	sor Signature	Symbol-Numbe	r Phone		Time
emilyahana majatawa waka da kamana waka da kamana kama kama waka da kamana waka da kamana waka da kamana waka d		r Work OUTSI	DE the Mill Are	ล	And Address of a State of Control of the Control of
Power & Utilit Yes No answer, call F	ties Department	will start this permit		wer & Utilities Cre	ew Leader at x5674. If no
(manage parama)	ngs have been re	eviewed			***************************************
5613, 5513	, 5507, 5607	other after find and other four any over spec over spec over spec		andy five and five ment was maps into open pass pass parts and	
Site has beer	ı inspected Da	te: 06/10/09	. The two case and all the two case are two cases are all two cases and all two cases are two cases are all two cases a	. Arr come come comp was next map when maps were ways we	an war war gan war war wag yan war day ung an yan yan yan war
Utilities all o	rsek	and the first two two two two two two two two two tw		and other from from many and other many offset (sign of	
All known hazards for this excand not guarantee that all hazards					
Double	457	814-80093	x4583	6/10/2	of 12:50pm
Power & Utilities Sig	inature	Symbol-Numbe	r Phone	Date	Time

Original to Department - Copy to Safety Department

				_	_				JOD. NO.	Client:			Location:	
			_		g, Scien						Point - Coke Ov		Sparrow's Poi	nt. MD
			and To	echnol	ogy, Inc.				Drilling Metho			1/4 in. diameter	Boring No.	
EA Engineer	ing, Science	e,							CME-75 with 14 l					SA-01
and Technol	ogy, Inc.	LOG	OF SOI	L/ROC	K BORI	NG			Sampling Met	hod: Contir	nuous split spo	on sampling		
Coordina	ates:								with 3 in. diamete				Sheet 1 c	of 2
Surface		า:						•						lling
Casing E								•	Water Level				Start	Finish
Reference								-	Time	_				21-May-09
Reference								-	Date				1429	0920
Kelelelik	e Desc.							-	Reference				1429	0920
Camanda	م مام ما	Camania	Cuden	DID	Dlaves	Danth	1	LICCC		itiana. La				
Sample		Sample		PID	Blows	Depth			Surface Cond	itions: Lov	w snrubby ve	egetation - sa	na ana grave	I
	Drvn/In.	No.	IV	ppm	per	in		Log						
	Recvrd				6 in.	Feet								
					27				1429 - SLAG/	FILL - pod	orly graded r	nedium to co	arse sand - sı	ubangular -
					58	1			<15% subang					
					112				fragments - sl			o staining - ve	ery dark brow	n (10YR 4/1)
	24/18			272	45	2			1438 - Same	as 0-2 fee	et.			
					11]						
					17	3]						
					32									
	24/10			171	13	4			1450 - very ha	ard coarse	sand - cem	ented. Same	as 0-2 feet.	
					8									
					13	5								
					16									
	24/8		NEG	1866	17	6			1500 - Same	as 0-2 fee	et.			
					13									
					13	7	WL							
		BP-SO-			10			1						
COMP.	24/6	B01-8		300	9	8		1	1517 - Same	as 0-2 fee	et.			
					7			1						
					9	9		1						
					16									
	24/9		NEG	NEG	14	10		1	1525 - END 2	0 MAY 09	DRILLING.	Same as 0-2	? feet.	
	, c				16			1						
					22	11		1						
					20									
	24/10		NEG	NEG	23	12			751 - Same a	s 0-2 feet				
					10					0 0 = .00.				
			ĺ		28	13		1						
		BP-SO-			23			1						
COMP.	24/12	B01-14	NEG	>10K	19	14		1	804 - Same a	s 0-2 feet				
JOIVII .	£ 1/ 1£	ms/msd		- 1010	11	'-		1	cor came a	0 0 <u>2</u> 1001.	•			
		1113/11130			15	15		1						
					12	13		1						
	24/16		TRACE	>10K	9	16		1	813 - Same a	s N=2 fact				
	∠ 4 /10		TINACE	>10r\	4	10		ł	oro - Same a	3 U-Z IEEL.				
					5	17		ł						
					4	17		1						
	24/6		NEC	. 101/		40		ł	920 Cama =	0 0 2 foct				
	24/6		NEG	>10K	3	18		ł	820 - Same a	s u-∠ ieet.	•			
			ĺ		1	40		ł						
		DD 00			3	19								
00145	04/40	BP-SO-	NEO	0.400	5				004 6	- 0 0 ()				
COMP.	24/10	B01-20	NEG	3436	4	20		Į.	831 - Same a	s u-2 teet.				
					, <u> </u>					_				
Logged b	y:		Steven '	Yanka _'	y (EA)				_	Date:	5/20/09 -	5/21/09		

Dan Fincham

Drilling Contractor:

	∕		EA End	rineari	ing, Scie	nce		į	JUD. NO.	Sparrow's Po	oint - Coke Oven A	iron	Sparrow's Poi	nt MD
								İ						III. IVID
EA Engines	ing Science	3.	and	i ecun	ology, Ind	.		ļ	Orilling Metho CME-75 with 14		em Auger - 6 1/4 ir ner	u. ulameter	Boring No.	ISA-01
EA Engineer and Techno	logy, Inc.	, I 00	OE SO	II /P^	CK BOF	SING		1			ner ıous split spoon sa	ımplin~	DP-R	10A-01
Coordina		LUG	. UF 3U	.L/RU	ON BUI	,114G		ļ	with 3 in. diameter			атринд	Sheet 2 c	of 2
Surface		٦.						• !	with 5 iii. uiamett	סי פאסטוופ אווע	acciate IIIIEIS			lling
Casing E								- 1	Water Level	T	T		Start	Finish
Reference								- (Time	-	+	+	20-May-00	21-May-09
Reference								- !	Date	+	+	 	1429	0920
01016110	DU30.						—	- (Reference	†	†	 	1723	5520
Sample	Inches	Sample	Sudan	PID	Blows	Depth		USCS		litions: I ow	shrubby veget	ation - san	d and grave	
Type	Drvn/In.			ppm	per	in	ļ	Log	2.30 30/10	5	,	ວินก	5.440	
	Recvrd			<u> </u>	6 in.	Feet		L_ 3						
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	<u> </u>	<u> </u>	[<u> </u>	1	21] :						
	1		I —	I	1	1 I	匚] 1						
	24/24		NEG	540	1	22	$ldsymbol{oxed}$		859 - NATIVE	MATERIAL	L - clayey silt -	medium pl	asticity - sev	veral
	1 []]]	1 }	1 Ì	1	1 <u> l</u>	<u> </u>	1 1	<3 inch lentic	ular sand la	yers - black - r	no odor - no	o staining	
	 	 	┞──┼	 	2	23	<u> </u>	.	_					
	24/24	1	¶	020	12 50	24	 	 	0030 0001	IC TEDMIN	IATED AT 24 F	TEET Ore	0.00.00.00	foot
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Logged b	y:		Steven	Yank	ay (EA)					Date:	5/20/09 - 5/2	1/09		
Drillin - C	ontroct-		Eindl:-	۰ D-::::	ng					Drillon	Dan Fincham	,		
Drilling C	uninacto	۱.	Findling	y Driill.	ng				-	Driller:	Dan Finchan	<u> </u>		

	● ®				<u>.</u>					Client:			Location:	
			_		g, Scien						int - Coke Oven A		Sparrow's Poi	nt. MD
j			and T	echnol	ogy, Inc.				Drilling Method			n. diameter	Boring No.	
EA Engineer and Techno	ring, Science								CME-75 with 14 lb				BP-HS	SA-02D
		LOG	OF SOI	L/ROC	K BOR	NG			Sampling Meth			ampling		
Coordina									with 3 in. diameter	r spoons with	acetate liners		Sheet 1 c	
Surface	Elevation	n:											Dri	lling
Casing E	Below Su	ırface:							Water Level				Start	Finish
Referen	ce Eleva	tion:						1	Time	-			22-May-09	22-May-09
Reference	ce Desc:								Date				1127	1335
								-'	Reference					
Sample	Inches	Sample	Sudan	PID	Blows	Depth		USCS	Surface Condi	tions: Low	shrubby veget	ation - sar	nd and grave	
	Drvn/In.	No.	IV	ppm	per	in		Log						
	Recvrd				6 in.	Feet								
					74				1127 - SLAG/F					
					136	1			15% nonplasti	c fines - no	odor - no stai	ning - very	dark brown	(10YR 4/2)
					-									
	24/12			0		2			1134 - Same a	as 0-1 feet.				
					45	_								
					100/2	3								
	0.4/4.0								1155					
	24/12			8.6		4			1155 - Same a	as 0-1 feet.				
					9	_								
					20	5								
	24/47			64.4	41 31	6			1017 Jarga al	a fragman	ata in anlit ana	ana Cama	2 0 1 foot	
	24/17			61.1	15	6			1217 - large sl	ag fragmer	its in split spo	ons. Same	e as 0-1 leet.	
					48	7								
		BP-SO-			163	· '								
COMP.	24/12	B02-8	NEG	16.6		8			1226 - Same a	as 0-1 feet				
OOM .	21/12	B02 0	INEO	10.0	33	Ŭ			1220 Camo c	20 0 1 1001.				
					37	9								
					32		WL							
	24/18		NEG	>10K	46	10			1234 - Same a	as 0-1 feet.				
					18									
					15	11								
					7									
	24/1		NEG	>10K	7	12			1240 - Large s		n split spoon s	and catche	er - NO REC	OVERY.
					2				Same as 0-1 f	eet.				
		DD 66			6	13								
00145	04/44	BP-SO-	NEO	401	8				4055 0	0.4.1				
COMP.	24/14	B02-14	NEG	>10K	4	14			1255 - Same a	as u-1 teet.				
					3	4.5								
				╂	6 9	15								
	24/12		NEG	>10K	11	16			1303 - Same a	as 0-1 fact				
	∠ 4 /1∠		INEG	>10r\	2	10			1303 - Saine a	20 U- 1 1661.				
					3	17								
					6									
	24/13		NEG	>10K	7	18			1310 - Same a	as 0-1 feet				
	, .5				5				. J. G Gaine C	0 . 10011				
					6	19								
		BP-SO-			7	•								
	24/14	B02-20	NEG	>10K		20			1322 - Same a	as 0-1 feet.				
Logged b	y:		Steven '	Yanka _'	y (EA)				_	Date:	05/22/2009		_	

Dan Fincham

Drilling Contractor:

	ring, Science logy, Inc.	e, LOG	and ⁻	Techno	ing, Scie ology, In	C.		Drilling Metho CME-75 with 14 I Sampling Met	d: Hollow Ste bs. auto hamm hod: Continu	ner ous split spoon sa	n. diameter		SA-02D
Coordina	ates: Elevatio:	٠.					•	with 3 in. diamete	er spoons with	acetate liners		Sheet 2	of 2 illing
	Below Su						•	Water Level	1			Start	Finish
Referen	ce Eleva	tion:						Time	-			22-May-09	22-May-09
Referen	ce Desc:						•	Date Reference	-			1127	1335
Sample	Inches	Sample	Sudan	PID	Blows	Depth	USCS	Surface Cond	itions: Low	ı shrubby veae	ı ation - san	d and grave	<u> </u>
Туре	Drvn/In.		IV	ppm	per	in	Log					<u> </u>	
	Recvrd				6 in.	Feet							
					<u>3</u> 4	21							
					3								
	24/21		NEG	>10K	<u>8</u>	22		1322 - NATI\	/E MATERI	AL - sandy cla	y - medium	n plasticity -	light gray
					2	23							
	04/04		NEO	4014	3	0.4		4005 DODIN	O TEDMIN	ATED AT 041			
	24/24		NEG	>10K	93	24		1335 - BORIN	IG TERMIN	ATED AT 24 I	-EEI		
						25							
						26							
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Logged b			Steven					_	Date:	05/22/2009 Dan Finchan		<u>-</u>	

					_					Client:		ŀ	Location:	
			EA Engi	neerin	g, Scien	ce,			1453406	Sparrow's Po	oint - Coke Oven A	\rea	Sparrow's Poir	nt. MD
			and Te	echnol	ogy, Inc.				Drilling Method	d: Hollow Ste	m Auger - 6 1/4 in	n. diameter	Boring No.	
EA Engineer	ing, Science	9,			٠,, ٠،١٥٠				CME-75 with 14 lb					SA-02A
and Technol	logy, Inc.		OF SOII	/P^^	ים ספ אי	NG			Sampling Met			mplin~	51-110	
Coordina	too:	LUG	UP SUI	LKUC	,r buki	in G						griilqiing	Shoot 1	f 1
									with 3 in. diameter	spoons with	acetate liners		Sheet 1 o	
Surface								•						lling
Casing E								•	Water Level				Start	Finish
Reference								•	Time	-				26-May-09
Reference	ce Desc:	1						•	Date				0930	1030
									Reference				L _	
Sample	Inches	Sample	Sudan	PID	Blows	Depth		USCS	Surface Condi	itions: Low	shrubby veget	ation - san	d and grave	
	Drvn/In.		IV	ppm	per	in	1	Log	** OFFSET FO	OR SHALL	OW WELL INS	STALLATIO)N **	
, r ~	Recvrd	-	1 .	[''''']	6 in.	Feet	1	-9		\				
				\vdash	74	<u> </u>	一	 	0935 - SLAG/I	FIII - madi	um to coarse	sand10	% silt and ol	av- medium
	1 I	1 I	¶	j 1	136	1	lacksquare	1	plasticity - blace	ck - no oder	r - no etaining	Juliu - < 10	, o one and th	ay medium
<u> </u>	1 l	} 	 	┡	136	¶ '¦	1	1	piasticity - Diat	ok - 110 000	i - no stairiing			
	24/20	1 I	¶	11 1		_	1	ł	942					
 	∠ 4 /∠U	├── ╁		44.1	45	2	1	ł	34 2					
	1 I	1 I	¶	j 1		_	 	1	 					
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	04/44	1 I	¶	40.5		ا. ا	 	!	055					
	24/11	 		13.5		4	!	1	955					
	1 j	1 k	7 I	[9	1 1	!	1						
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]	1]	1 I	¶	[41	1	<u> </u>	1						
	24/8	<u> </u>		38.4	31	6	<u> </u>	1	1005					
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	L I	\	\ \	╚	48	7	L	1						
	1 <u> </u>	ı —¬	1 —		163			Ī						
	24/9	<u>└</u>		2284		8		Ī	1012					
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	1	1	1		32	1	WL	1	Ţ					
	24/9	1 I		4404	46	10		1	1030 - AUGEF	REFUSAI	L - BORING T	ERMINATE	D AND ABA	NDONED
		1	1			l i i	Г	1		11			2/	==
	1 j	1 k	7 I	[1 1	11	Г	1	Ţ					
		 		\square	 	¶ '`¦	lacksquare	1	ţ					
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	\I	<u></u>	\\		L		L	L						
Logged b	y:	-	Steven \	Yankay	y (EA)				_	Date:	05/26/2009			

Dan Fincham

Drilling Contractor:

			Γ Λ Γ :		Caian			Job. No.	Client:			Location:	
			EA Engi		•					int - Coke Oven A		Sparrow's Poin	t. MD
FΔ Enginee	ring Science	9	and re	ecnno	logy, Inc	;.		CME-75	a: Hollow Ste	m Auger - 6 1/4 ir	n. diameter	Boring No. BP-MW	1-025
and Techno	ring, Science logy, Inc.	 LOG (OF SOIL	/ROCI	K BORIN	NG		Sampling Met	hod: Continu	ous solit spoon sa	ampling	DI WIV	V 020
Coordina	ates:	200 (J. 001L	11001	N DOM:	10		with 3 in. diamete			ampling	Sheet 1 of	: 1
	Elevation	า:										Drill	
Casing E	Below Su	ırface:						Water Level				Start	Finish
Referen	ce Eleva	tion:					•	Time	-			28-May-09	
Referen	ce Desc:						-	Date				0820	
								Reference					
Sample		Sample	Sudan	PID	Blows	Depth		Surface Cond	itions: Sand	l and gravel -	grass		
Type	Drvn/In. Recvrd	No.	IV	ppm	per 6 in.	in Feet	Log						
	Recviu				O III.	reet		0820 - Poorly	aradad cau	rea cond are	vol cubo	agular	
						1	1	slag/fill ~20%					<u>'1)</u>
						·		olag/III 2070	nonplactic i	inoo oligini ol	ig oddi bi	4011 (10111 2)	1)
	24/12			0.0		2	1	0910 - Very h	ard drilling -	concrete. Sai	me as 0-2	feet.	
						3		No recovery.					
						4	ļ	No receivery					
						4	ł	No recovery.					
						5		No recovery.					
						Ĭ		110 100010.j.					
						6		No recovery.					
						7	ļ	No recovery.					
						8	ł	0920 - 2 in. co	ncrete lave	r Renzene o	dor - no sta	aining	
								0320 - 2 111. 00	oncrete laye	i. Delizerie o	401 - 110 316	annig.	
						9							
	24/19	Trace	>10K			10		Very hard drill	ing.				
						11		*REFUSAL A	T 10 2 EEE	T OFFRET*			
						· ''		REFUSAL A	1 10.2 FEE	1 - OFFSE1			
						12							
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						Į.							
Logged b	oy:		Steven '	Yanka	y (EA)		 	_	Date:	05/28/2009		_	

Dan Fincham

Driller:

Drilling Contractor:

EA Engineer	Ting, Science	e.	EA Engi and Te		g, Scien ogy, Inc.					d: Hollow Ster			Location: Sparrow's Poil Boring No.	nt. MD W-02S
EA Engineer and Techno		LOG	OF SOIL	ROCK	BORIN	IG			Sampling Met	hod: Continuc	ous split spoon sa	mpling		
Coordina Surface		•						-	with 3 in. diamete	r spoons with a	acetate liners		Sheet 1 o	ling
								-	Motor Loval	I			Start	
Casing E Referen								=	Water Level Time	_				Finish 28-May-09
Referen								-	Date	-			20-May-09 1050	1133
Referen	de Desc.							-	Reference				1030	1133
Sample	Inches	Sample	Sudan	PID	Blows	Depth		LISCS	Surface Cond	itions: Low s	shrubhy veget	ation - san	d and grave	
	Drvn/In.		IV	ppm	per	in		Log	** OFFSET FO	OR SHALLO	W WELL INS	TALLATIC	N **	
.) 0	Recvrd			PP	6 in.	Feet		9	002					
					-				1050 - SLAG/	FILL - poorly	sorted medi	ım to coars	se sand and	gravel -
						1		1	subangular - 1					
									benzene odor	- no stainin	g - black (10Y	R 2/2)	agee	og
	24/10					2			1101 - Same a		, , ,	. ,		
						1								
						3								
						4			1110 - Same a	as 0-2 feet.				
						5								
						6			1113 - Same a	as 0-2 feet.				
						_								
		BP-SO-				7								
COMP.	24/20	MW02S-8				8		1	1116 - slight s	heen on acc	atate liner - he	nzene odo	r Sama as	0-2 feet
COIVII .	24/20	(Meta)				Ŭ		1	1110 - Slight S	neen on acc	state iiilei - be	ilzerie oud	n. Game as	0-2 1661.
		(Mota)				9								
						Ĭ	WL							
						10		1	1120 - Same a	as 0-2 feet.				
						1								
						11								
						12			1127 - sheen	on water - s	weet benzene	odor. San	ne as 0-2 fee	et.
						13		4						
						4.4		4	1133 - BORIN	C TEDMIN	ATED AT 44 F	EET INC	TALLATION	IOE
					-	14		1	BP-MW-02S	O I EKIVIIIV	NIEDAI 14 F	EEI - INS	TALLATION	I UF
						15		1	DE -IVIVV-023					
						1		1						
						16		1						
						1		1						
						17]						
]						
						18		1						
						19								
								4						
						20		1						
					-	1		1						
					•			1						
Logged b	y:		Steven `	Yanka	y (EA)				_	Date:	05/28/2009		_	

Dan Fincham

Drilling Contractor:

	● ®									Client:			Location:	
	Λ		_	-	ng, Scie						nt - Coke Oven A		Sparrow's Poi	nt. MD
			and T	echno	ology, In	C.			Drilling Method			n. diameter	Boring No.	
EA Engineer and Technol	ing, Science ogy, Inc.		05.00	/= -	014 5 5 5				CME-75 with 14 lb				BP-H	SA-03
Coordina	otoo:	LOG	OF 50	IL/RO	CK BOF	KING			Sampling Meth	100: Continuo	ous split spoon sa	mpling	Choot 1	, ,
Surface								-	with 3 in. diameter	spoons with a	icetate liners		Sheet 1 c	or 2 Iling
								-	Water Level					
Casing E Reference								-	Time	_			Start	Finish 20-May-09
Reference								-	Date				0854	1045
	,5 D050.							•	Reference				555 -	10-10
Sample	Inches	Sample	Sudan	PID	Blows	Depth		USCS	Surface Condi	tions: Sand	- slag - low s	nrubby vea	etation	
	Drvn/In.	No.	IV	ppm	per	in		Log				,		
	Recvrd				6 in.	Feet								
					6				0854 - SLAG/I					
					47	1			subangular - <				metal debris	s - no odor -
					100/2				no staining - v	ery dark bro	$\frac{10YR}{2}$	2)		
	24/14			0		2			909					
					48 200	3		ł	0014 Pofuss	l nonotroto	nd with 2 inch	cnoor		
		BP-SO-			<u>∠</u> 00	3		1	0914 - Refusa	ı - peneliale	ou WILLI Z ILICH	<u> </u>		
Comp.	24/13	B03-4		0		4		l						
	0				40			1						
					120	5]	0930 - SLAG/I					
					34				<5% subround	led gravel -	no odor - no s	staining - v	ery dark bro	wn (10YR 2/
	12/6			1.7	37	6	WL							
					13	_			0	1				
					22 57	7		l	Same as 5-6 f	eet.				
	24/12			18.1	95	8		1	0945 - Large o	ravel - suhi	rounded - 10 t	o 15% of e	oil matrix	
	∠ -7 / 1∠			10.1	51			l	Same as 5-6 f		Cariaca - 10 t	0 10/0 01 5	on matrix.	
					38	9		1	24.110 40 0 0 1					
					42]						
	24/20		NEG	86.4	110	10			1011 - Heavily		 very difficult 	to penetrat	te with auge	r
					49				Same as 5-6 f	eet.				
		DD 00			58	11								
Comn	24/22	BP-SO-		15.0	56 50	40		l	1040 Como a	00 E G foot				
Comp.	24/22	B03-12		15.9	50 46	12			1049 - Same a	as 5-6 teet.				
					48	13		1						
					36	13		1						
	24/21.5		NEG	261	48	14		1	1106 - Same a	as 5-6 feet.				
					63]						
					89	15								
	0.4/5.			46 -	125				1100					
	24/21		NEG	48.5		16			1130 - Same a	as 5-6 feet.				
					21	47								
		BP-SO-	-		56 58	17		ł						
	24/24			2	58	18		1	1154 - Same a	as 5-6 feet				
	/ _ r	(META)			42			1						
		,			89	19		1						
					133]						
	24/24			8.9		20			1356 - Same a	as 5-6 feet.				

Logged by:

Drilling Contractor:

Steven Yankay (EA)

Findling Drilling

19 May 09 - 20 May 09

Dan Fincham

Date:

Driller:

									Job. No.	Client:	·		Location:	
					ing, Scie						nt - Coke Oven A		Sparrow's Poi	nt. MD
Ù			and ⁻	Techno	ology, In	C.			Drilling Method			n. diameter	Boring No.	
EA Enginee and Techno	ring, Science	9,							CME-75 with 14 lb				BP-H	SA-03
		LOG	OF SO	IL/RO	CK BO	RING			Sampling Met			ampling		
Coordina								_	with 3 in. diamete	r spoons with a	cetate liners		Sheet 2 c	
Surface	Elevation	า:											Dri	lling
Casing E	Below Su	rface:						-	Water Level				Start	Finish
	ce Elevat								Time	-			19-May-09	20-May-09
Referen	ce Desc:								Date				0854	1045
									Reference					
Sample	Inches	Sample	Sudan	PID	Blows	Depth		USCS	Surface Cond	itions: Sand	- slag - low s	hrubby vea	etation	
	Drvn/In.	No.	IV	ppm	per	in		Log						
.) [Recvrd				6 in.	Feet		9						
					29									
					26	21		1	Same as 5-6 f	eet				
					38	21			Carrie as 5 6 1					
	24/24		NEG	289	42	22			1410 - Same a	25 5-6 feet				
	27/27		INLO	203	54	22			1 4 10 - Same 8	33 5-0 1661.				
					59	23		1						
					62	23								
	24/19		NEG	304	37	24		1	1521 -END 19	ΜΔΥ Λα ΝΙ	SILLING			
	∠¬/ 1∂		INLO	JU 4	17	24		1	1021 -LIND 18	WIA I US DI	VILLING.			
					21	25								
					22	23								
	24/20				25	26		-	0852 - SLAG/	Ell noorb	, aradad mad	ium to ooo	oo oond on	d aroual
	24/20				12	20			subangular - <	200/ oubon	gular coorse	arovol 50/	se sand and	a graver -
					17	27								
					14	21			poor soil cohe		rragments - v	ery dark br	own (TOTR.	2/2) -
	24/0		NEC	20.2		20			no odor - no s					
	24/8		NEG	28.3	12 16	28			910 - Same as	s 26-28 feet				
					18	29								
						29		4						
	0.4/0		NEC	200	11	20			000 Cama a	- 00 00 (1				
	24/6		NEG	299	14	30			938 - Same as	s 26-28 feet				
					1	24								
					1	31		4						
	0.4/0		NEO	70.5	2	00		4	1005 0	00 00 (. 1			
	24/6		NEG	72.5		32		4	1005 - Same a	as 26-28 fee	et			
					3	22								
		DD 00			2	33		4						
COMP	24/45	BP-SO- B03-32	NEO	40.5	3	2.4		4	1020	20 26 20 4	\ 4			
COMP.	24/15	BU3-32	NEG	42.5	1	34		4	1030 - Same a	as 20-28 fee	:			
					1	0.5		4	NIATIVE COU	bleste de	ا المراد	roto ala ar	day lawarin i	od!1
					1	35	-	1	NATIVE SOIL	- black clay	ey siit - mode	rate plastic	ity - iaminat	eu - moist
	04/00		NEO	E00	1	00	-	1	1040 BODIN	O TEDMIN	ATED AT 00 :			
	24/20		NEG	532	1	36		4	1040 - BORIN	G IEKWIN	41ED AT 361			
						~~		4						
						37		4						
						00		4						
						38		4						
						00		4						
						39		4						
						40		4						
								4						
Logged b	y:		Steven	Yank	ay (EA)				_	Date:	19 May 09 - 2	20 May 09		

Driller:

Dan Fincham

Findling Drilling

Drilling Contractor:

	•									Client:			Location:	
					ing, Scie			l.			int - Coke Oven A		Sparrow's Poir	nt. MD
			and 1	Techno	ology, Ind	c.			Drilling Method	d: Hollow Ster	m Auger - 6 1/4 ir	n. diameter	Boring No.	
EA Engineer	ring, Science	9,						į.	CME-75 with 14 lb					SA-04
and Technol	iogy, Inc.	LOG	OF SO	IL/RO	CK BOR	RING		į.	Sampling Meth	hod: Continuo	nus split spoon sa	ımpling		
Coordina	ates:				 1	_			with 3 in. diameter	r spoons with a	cetate liners		Sheet 1 c	of 2
	Elevatior	n: '							2	, C				lling
	Below Su								Water Level		•		Start	Finish
										\vdash		+		
	ce Elevat								Time	-		1	-	22-May-09
Reference	ce Desc:								Date	 	<u> </u>	1	1058	0810
	I	0				-			Reference	المسب الم	<u> </u>			
Sample		Sample			Blows	Depth	1		Surface Condi		graded mediu	ım sand - c	ompact - su	rtace
	Drvn/In.	No.	IV	ppm	per	_in	1	Log	slag and grave	əl				
	Recvrd	ll			6 in.	Feet		<u></u>	<u> </u>					
					42				1058 - SLAG/F	FILL - poorly	v graded med	ium to coar	se sand -	
	1	1 I	1 k	1 h	108	1		1 1	subangular - 1					very dark
		 	1		100/3	ŋ ˈl		1 1	brown (10YR 2					,
[24/12	1 I		0		2		1 1	1107 - Same a		- 3.611111			
	- '' '	╅		Ť	46			1 1	Same (0 = 1001.				
1 I	1	Ţ	1 k	1 I	30	3	lacktriangledown	1 1	1115 - Same a	as 0-2 feet				
 	 	 	 	┞─┤	82	٦	†	1 1	i i i o - Gaille à	40 0 4 100L				
[24/18	1 I	NEG	928	82 49	4	1-	1 1						
	∠ 4 /1ŏ	 	INEG	უ∠ర		4	₩	1 1						
[1 I	1 h	1 h	8	¶ _\	1-	1 1					-	
	 	 	 	igwdapsilon	14	5	—	1 1	!					
[644.5	1 I	ا ₋ ا	400-	50	¶ _	—	1 1	4464 ":			0.) O ()	
	24/18		NEG	1239	51	6	ш	1 1	1124 - slight p	roduct odor	- no staining.	Same as (J-2 teet.	
1 ⁻	1 ⁻	1 ⁻	1 ⁻ 1	1 7	16	Ŋ	نـــا	1 1	<u> </u>					
l	 	\	l	I	100/6	7		1 1	<u> </u>					
		,	ı —¬	ı ¬		¶ ¦		1 1	<u> </u>					
	24/9	<u> </u>	NEG	464		8		1 1	1138 - Same a	as 0-2 feet.				
		1 1		 	52	¶ ¦		1 1						
	1	1 I	1 I	1 h	30	9		1 1	T				_	
		BP-SO-			8	¶		1 1	1141 - wood d	lebris. Sam	e as 0-2 feet			
COMP.	24/14	B04-10		137	13	10	WL	1 1		2. Caill				
	, , , , , , , , , , , , , , , , , , ,	<u> </u>	1		12	۰ · ۱	广	1 1	T					
	1	1 I	1 I	1 h	13	11	lacktriangledown	1 1	1150 - Same a	3S 0-2 feet				
	t i	 	1	$\vdash\vdash$	40	1 ''I		1 1	Janie (0 2 1061.				
	24/8	1 I	NEG	2464	38	12	†	1 1	1225 - large gr	ravel (0.5.1	5 inch) = >2F0	% matrix	arnduct ada	
	∠4/0	 	INLU	∠ + 04	25	12	1	1 1	no staining. S			, o madilX =	oroduct 0001	
		1 I	1 I	1 h	36	13	1	1 1	no stanning. S	201115 as U-Z	1001.			
	} ────────────────────────────────────	├── ╏	├── ╁	₩		13	1-	1 1						
	04/04	Ţ	1 k	400	177			1	1250 0	20 0 0 f - · ·				
	24/24	 		460		14	₩	1	1250 - Same a	<u>as ∪-∠ īeet.</u>				
	1	1 I	1 k	1 h	56		—	1 1	4000 1115	. Dee: : : :	AT 1= 2 ==	T 0===	T 40	NODT:
		 	 	igspace	116	15	—	1 1	1300 - AUGER	KEFUSAL	A 1 15.3 FEL	<u>- ı - OFFSE</u>	10 FEET	NOKIH
		1 I	1 I	1 h	,	¶ ¦	—	1 1	AND DRILL TO	<u>U 14 FEET .</u>	AND RESUM	<u>LE SAMPLII</u>	NG. Same a	as 0-2 feet.
		 	<u> </u>	╙	<u> </u>	16	<u> </u>	1 1						
	1 ⁻	1 ⁻	1 ⁻ 1	1]	\ <u> </u>	¶		1 1	<u> </u>					
 	L \	L l	<u> </u>	┖┸		17		, i						
	1 ————————————————————————————————————	11	1 1	1 —				1 1						
	L I	<u> </u>	լ_ հ	լ հ		18		1 1						
	l		1					1 1					_	_
	1 1	1 I	1 I	1 l	, 	19		1 1	<u> </u>					
	 	 	 	1	 	۰ · ۱		1 1						
	1 1	1 I	1 I	1 l	1 1	20		1 1	T					
	 	 	1 1	┰	 	20		1 1						
	T 1	1 I	1 j	1 l	 	1 I		1 1						
							-	<u> </u>						
Logged b	W.		Steven	Yank	av (EV)					Date:	21 May 09 - 2	22 May 00		
Logged t	y.		Sieven	Talik	ay (⊏A)				•	Date.	ZI IVIAY U9 - A	ZZ IVIAY U9	ı	

Dan Fincham

Drilling Contractor:

										Client:			Location:	
			-	-	ing, Scie						nt - Coke Oven A		Sparrow's Poir	nt. MD
			and 7	Techno	ology, Ind	c.			Drilling Method			n. diameter	Boring No.	
EA Engineer and Technol	ring, Science								CME-75 with 14 lb				BP-H	SA-04
		LOG	OF SO	IL/RO	CK BOF	RING		Ì	Sampling Meth			ampling]	
Coordina									with 3 in. diameter				Sheet 1 o	
Surface													Dril	lling
Casing E									Water Level				Start	Finish
Reference	ce Elevat	tion:							Time	-				22-May-09
Reference	ce Desc:								Date				1058	0810
									Reference					
Sample		Sample			Blows	Depth			Surface Condi		graded mediu	ım sand - c	compact - su	rface
<i>,</i> ,	Drvn/In.	No.	IV	ppm	per	_in		Log	slag and grave	el				
	Recvrd				6 in.	Feet								
	1	1 <u> </u>		1	42	[]	匚	,	1058 - SLAG/F					
	 	 			108	1	<u> </u>	, I	subangular - 1				brick frags -	very dark
	04445	1	1	_	100/3	¶ _\	—	. I	brown (10YR 2		or - no stainin	<u>ig</u>		
	24/12	} 		0	 46	2	1	1 1	1107 - Same a	as U-2 feet.			•	
	1 I	Ŋ]		46 30	_		- I	1115 - Same a	20 N_2 foot				
	 	} 	 	┡	30 82	3	 	1 1	1115 - Same 8	as ∪-∠ 166[.				
	24/18	1	NEG	928	82 49	4	 	1 1	}					
	∠-1 /10	 	1423	J20	8	¶ "\	\vdash	1 1	 					
	1	1	1		14	5		1 1	1					
		 			50	l ĭ		1	1					
	24/18	1	NEG	1239	51	6		1 1	1124 - slight p	roduct odor	- no staining	Same as	0-2 feet.	
	<u> </u>	1			16	¶ [1			<u></u>			
	<u> </u>	<u> </u>	<u> </u>		100/6	7]						
		1	1											
	24/9	<u> </u>	NEG	464		8	匚	<u> </u>	1138 - Same a	as 0-2 feet.				
	1 ⁻ 1	1 ⁻	1	[]	52			<u> </u>	<u> </u>					
	 	DD 66	 		30	9	<u> </u>	, I	4444					
00175	04/47	BP-SO-]	40-	8		١٨٠٠	. I	1141 - wood d	epris. Sam	e as 0-2 feet.			
COMP.	24/14	B04-10		137	13	10	WL	<u> </u>	Ţ <u> </u>					
	1	1	1		12 13	11	┥	!	1150 - Same a	36 U-3 foot				
	 	} 	}		40	[17]	\vdash	1 1	i iou - saine a	as ∪-∠ IEEI.				
	24/8	1	NEG	2464	38	12	\vdash	1 1	1225 - large gi	ravel (∩ 5-1	5 inch) - >25	% matriy -	product oder	
	<u>∠</u> -7/U	1 1	.,_0	<u>-</u> -7∪4	25	'~		1 1	no staining. S			,	PIOGGOL DUOL	
	1 I	Ŋ]		36	13		1 1	c.c.imig. O	40 U-Z				
		1			177			1	1					
	24/24	1		460		14		1 1	1250 - Same a	as 0-2 feet.				
	1	1	1		56]						
	L \	<u> </u>	\ \		116	15]						
		l		I]						
	24/6	<u> </u>		559		16	匚	<u> </u>	1300 - Same a	as 0-2 feet.				
	¶ [─] Ì	1 ⁻	1	[]			<u> </u>	. I	ļ					
	 	DD	 		 	17	<u> </u>	, I]					
001.5	0.4/0	BP-SO-	1	F	 		—	. I	4500 0550	T1001=-	NI CLAS (=:		aug -l -'	
COMP.	24/9	B04-16		5648	 	18	—	 	1500 - OFFSE	LUCATIC	JN - SLAG/FI	LL - poorly	graded coar	se sand and
	1 I	1	1		}	40	1	1 1	gravel - 20% n dark brown (10	ionplastic si	ty rines - wet	- product (<u>Juor - no sta</u>	ming - very
	 	} 	}	 	 	19		1 1	uark prown (1)	υτκ 2/2). ε	pame as 0-2 f	eel.		
	24/10	1	NEG	√10 1⁄2	 	20	\vdash	1 1	1516 - Same a	35 N-2 foot				
	∠ 4 /1U	 	INEG	∠1UN	 	∠∪		1 1	ioio - Saine a	می ن-∠ ۱ ۵۵ ۱.				
	1	1	1		\vdash			1 1	1					
							—	<u>. </u>						
Logged b	ıy:		Steven	Yank	ay (EA)				ı	Date:	21 May 09 - :	22 May 09	-	

Dan Fincham

Drilling Contractor:

	**		EA Fn	aineer	ing, Scie	nce.				Client: Sparrow's Poi	nt - Coke Oven /	Area	Location: Sparrow's Poi	nt. MD
				-	ology, In				Drilling Method				Boring No.	iii. iviD
EA Enginee	ring, Science ology, Inc.	e,	ana		ology, iii	.			CME-75 with 14 lb			n. diamotoi		SA-04
and Techno	ology, Inc.	LOG	OF SC	IL/RC	СК ВО	RING			Sampling Meth			ampling		
Coordina	ates:								with 3 in. diameter			- I J	Sheet 2 c	of 2
Surface	Elevation	า:						•					Dri	lling
Casing I	Below Su	ırface:						•	Water Level				Start	Finish
	ce Eleva							_	Time	-			21-May-09	22-May-09
Referen	ce Desc:							•	Date				1058	0810
	1.								Reference					_
Sample		Sample			Blows	Depth			Surface Condi		graded mediı	ım sand - d	compact - su	rface
Type	Drvn/In. Recvrd	No.	IV	ppm		in Fact		Log	slag and grave	el				
	Recviu				6 in.	Feet			4500 END 0	May 00 D	DILLING C	ma aa 0 2	foot	
						21		•	1522 - END 2 ⁻ 748	i May 09 D	KILLING. 38	ame as 0-2	ieei.	
						21		1	7 40					
	24/12		NEG	1624		22		1	Same as 0-2 f	eet.				
								1						
						23			Same as 0-2 f	eet.				
00145	0.4/5	BP-SO-	NEC	4505		2.1			750 0	0.01				
COMP.	24/5	B04-24	NEG	1585		24		-	756 - Same as	u-2 teet.				
						25		-	Same as 0-2 f	<u>pot</u>				
						20			Carrio do o 2 1	001.				
	24/24			176		26			800 - NATIVE	SOIL - whit	e sandy clay	- medium p	olasticity - dr	y -
]	very dense. Sa					
						27			BORING TER	MINATED A	AT 26 FEET			
						20								
	-		.			28		ł						
						29								
						20								
						30		1						
						31								
						32		ŀ						
						32		ł						
						33								
			<u> </u>			34]						
						25								
						35		-						
						36		1						
								1						
						37		1						
						_ ,								
						38								
						39	_							
	1		1			39		1						
						40		1						
								1						
			0.		/=··									
Logged b	oy:		Steven	Yank	ay (EA)				-	Date:			-	
Drilling C	Contracto	r·	Findlin	a Drilli	na					Driller:				
2ig C	. J. 1.1 a C C	••		9 511111	. '9				-	J			=	

			E A E '		- C-!-			ĺ		Client:			Location:	
			EA Engi		-			İ			int - Coke Oven A		Sparrow's Poir	nt. MD
			and I	ecnnol	ogy, Inc.	•		İ	Drilling Method CME-75 with 14 lb			n. diameter	Boring No.	CA 0E
EA Engineer and Technol	ring, Science logy, Inc.		05.00	/D00	W BOD!	INC.		İ				P.	RA-H	SA-05
Coordina		LUG	OF SOII	r/KU('V ROKI	ING		ļ	Sampling Meth with 3 in. diameter			ampling	Sheet 1 o	ıf 2
Surface		٠.						- 1	wiiii o iii. diametei	spoors with a	acetate IIIIEIS			or ∠ lling
								-	Water Level		 			
Casing E Reference			-					•	Water Level Time		+		Start	Finish 27-May-09
Reference								• 1	Date	-	+		0800	1030
170101011	JG DE30.	,						<u>.</u>	Reference		 		0000	1030
Sample	Inches	Sample	Sudan	PID	Blows	Depth		USCS		tions: Grave	el and concret	e debris		
	Drvn/In.		IV	ppm	per	in		Log			2. 4.14 0011010	405110		
	Recvrd	1.5.	ļ · · ·		6 in.	Feet		9	1					
									0800 - SLAG/F	FILL - poorl	y graded med	ium to coar	se sand and	d gravel -
		¶	1 I] <u> </u>		1		1 1	subangular - 1	10% nonplas	stic silty fines	- metal/con	crete fragm	ents -
		BP-HSA-				1		1 :	no odor - no st	taining				
	24/18	-5 0-2		5.3		2] :	809 - Same as	s 0-2 feet.				
		(TOC)		!]		1		!						
				igwdow		3	!	. I	Same as 0-2 fe	eet.				
	04/40	¶ j	NEA	500			!	. I	004 0	. 0 0 f = -1				
	24/16	 	NEG	539		4	!	 	821 - Same as	s u-2 feet.				
		¶	¶	l		5	-	1	 					
		BP-SO-	 	$\vdash \vdash$		ာ	lacksquare	1 1	 					
COMP.	24/15	B05-6	NEG	1127		6		1 1	0840 - 0.5 to 1	.0 inch poo	orly sorted gray	vel - angula	ır - GLFY1 4	1/1 - sliaht
J J 1711 .	_ " 13	(META)	.,_5	/		ı ĭ		1 1	benzene odor			ungule	<u> </u>	Jugut
		. =	1 I	[7	WL	1 1	2113 5401					
		BP-SO-				1		1 1						
	24/4	B05-08	POS	>10K		8] i	0907 - ** VISIE					
		[1		[i	Poorly sorted (
						9	_	,	sand and nonp	olastic silty t	fines - greenis	h black (G	LEY1 10GY	
00115	0.4/0	<u>ا</u>	LNAPL	, ,			!	.	0.10	0.40.1				
COMP.	24/8	-	POS	>10K		10	! —	! 1	916 - Same as	s 8-10 feet.				
		¶	¶	l		11	-	1	 					
		-	LNAPL	 		¶ ''	-	1	 					
	24/12	¶ j	TRACE	>10K		12	┡	1 1	939 - Same as	: 8-10 feet				
	<u>∠</u> ¬/ 1∠		TIVACE	× 1011		' ²		1 1	Job Jame at	5 5 10 166t.				
		¶ }	1 I	[13		1 1	1					
						¶ 'ĭ		1 1						
	24/19			>10K		14] :	950 - Same as	s 8-10 feet.				
		(ļ <u> </u>			1] 1						
				ш		15]	I					
	6	,	١ ٦			[<u> </u>	.	1000					
	24/18	 	NEG	2035	ļ	16	<u> </u>	.	1000 - modera		very coarse s	and and gr	avel - subar	igular -
		¶ }	1 I	[<u> </u>	{ 1	bluish gray (Gl	LEY2 5/1)				
		 	 	┞──┤		17		1 1	}	-				
	24/15	¶	NEG	3903		18		-	1010 - Same a	as 16-10 fa-	<u></u>			
	∠ 4 /10	┞──┤	INEG	აჟ∪პ		18	 	1 1	1010 - Same 8	as 10-10 100	<u>cı.</u>			
		[]]	1		19		1 1	1					
		BP-SO-	 	┞─┤		ا		1 1	 					
	24/12	B05-20	NEG	3303		20		1 1	1020 - Same a	as 16-18 fee	et.			
						1 - ĭ		1 1						
		<u> </u>	<u> </u>	<u>└</u> ┟		L		L :						
Logged b	y:		Steven \	Yanka	y (EA)				i.	Date:	05/27/2009		i.	

Dan Fincham

Findling Drilling

Drilling Contractor:

	√			ainee-	ina Coio	nco			JUD. NO.	Cherre.	aint Cales Our	۸۳۵۵	Coorrow's Dei	int MD
					ing, Scie						oint - Coke Oven		Sparrow's Poi	III. MD
EA Engine	ring Saint		and	ecnn	ology, In	C.					em Auger - 6 1/4 i	n. diameter	Boring No.	ICA OE
and Techno	ring, Scienc logy, Inc.	e,	OFSO	און אם	CK BO	DINC			CME-75 with 14			a mana Dan s	RH-H	ISA-05
Coordin	atec.	LUG	OF 30	/IL/KC	CK BO	TING			with 3 in. diameter	r spoons with	uous split spoon s	ampling	Sheet 2	of 2
	ates. Elevatio	n·						-	with 3 m. diamete	a spoors with	acetate imers			illing
								-	Weter Level					
	Below Su ce Eleva							-	Water Level Time	-	_		Start	Finish 27-May-09
	ce Desc:							-	Date	-	+		0800	1030
176161611	G DESC.							-	Reference	1	+	1	0000	1030
Sample	Inches	Sample	Sudan	PID	Blows	Depth		USCS		litions: Grav	vel and concre	te dehris		l .
	Drvn/In.		IV	ppm	per	in		Log	Carrage Corre		vor and concre	to dobiio		
. ,,,,	Recvrd]	''	~~	6 in.	Feet		-09						
						21		1						
	1							1						
COMP.	24/11		NEG	1090		22]	1025 - NATIV	E MATERI.	AL - clayey silt	- saturated	d - strong pla	asticity -
]	very dark bro	wn (10YR 4	1/1)			-
						23]						
	24/23			121		24			1030 - BORIN	IG TERMIN	NATED AT 24	FEET		
								ĺ						
						25	_							
						00								
	-					26		-						
						27		-						
	ł					21		-						
						28		1						
	1					20		1						
						29		1						
								1						
						30		1						
								1						
						31]						
]						
						32]						
]						
						33								
								ĺ						
						34								
1						25		-						
 	1					35	_	-						
1						36	-	1						
	1					30		1						
						37		1						
						37		1						
						38		1						
	1							1						
						39		1						
]						
						40]						
]						
								<u></u>						
Logged b	oy:		Steven	Yank	ay (EA)				_	Date:	05/27/2009		•	
 -										5				
Drilling C	Contracto	r:	Findling	g Drilli	ng				_	Driller:	Dan Finchan	<u> </u>	_	

EA Engineer and Techno Coordina	ates:	LOG	EA Engi and Te	echnol	ogy, Inc.				Drilling Metho CME-75 with 14 I	d: Hollow Ste bs. auto hamm hod: Continue	ous split spoon sa	. diameter	Sheet 1 o	SA-06 of 1
Surface Casing E Reference Reference	Below Su ce Eleva	ırface: tion:						• • •	Water Level Time Date Reference	-			Start 11-Jun-09 0730	lling Finish 11-Jun-09 1055
	Inches Drvn/In. Recvrd	Sample No.	Sudan IV	PID ppm	Blows per 6 in.	Depth in Feet		USCS Log	Surface Cond	itions: Sla	g - coal			
	24/6			16.5	13 30	1			10% nonplast	ic silty fines	y sorted, medi , brick and roc			
					28 21 10	2			black - (10YR 0745 - Same	•				
	24/8			3	25 27 14	3								
	24/6			223	7 9 8	5			0753 - Same	as 0-2 feet.				
	24/0		Tuess	0000	13 3		WL		0759 - Same	as 0-2 feet.				
	24/8		Trace	9999	6 7 9	7 8								
COMP.	24/12	BP-SO- B06-8	Negative	9999	8 200/3 	9			0812 - Same	as 0-2 feet.				
	24/20		Positive	>10K	200/3	10 11			0826 - NAPL	observed in	Acetate liner.	Same as ()-2 feet.	
		BP-SO-			 14	12			0835 - Same	as 0.2 foot				
COMP.	24/10		Positive	>10K	48 24	13			0035 - Same	as 0-2 leet.				
	24/12		Negative	>10K		14 15			0842 - Same	as 0-2 feet.				
		BP-SO-			24 25 7	16			0850 - SLAG/	FILL - poorl	y sorted fine to	medium s	sand and gra	avel -
COMP.	24/14	B06-16		1749	36 11 8	17 18			subangular - 1 black (10YR 2		stic silty fines -	napthaler	e odor - no	staining -
Logged b	y:		Joseph S	Sawick	ki (EA)				_	Date:	06/11/2009			
Drilling C	ontracto	r:	Findling	Drilling	g				_	Driller:	Dan Fincham			

										Client:			Location:	
			EA Engi		-				1453406	Sparrow's Po	int - Coke Oven A	rea	Sparrow's Poir	nt. MD
			and Te	echnol	ogy, Inc.				Drilling Method	d: Hollow Ste	m Auger - 6 1/4 ir	n. diameter	Boring No.	
EA Engineer	ring, Science	е,			.				CME-75 with 14 lb					SA-07
and Technol	logy, Inc.		OF SOI	L/ROC	K BOR	ING			Sampling Met			ampling		
Coordina	ates:		J. 551	_,	0				with 3 in. diameter				Sheet 1 c	of 1
Surface		٦.						•	o iii. didinete	. opoono with	20010101010			lling
								•	Water Lavel	1	1	1		
Casing E Reference	DEIUW OU	inace.						-	Water Level Time	 	 		Start	Finish 11-Jun-09
		uori.						•		-	1		11-Jun-09	
Reference	be Desc:							-	Date Reference	-			1055	1335
0- :	1	0- :		L DID	D'	I D:	_	11000		101				
Sample		Sample		PID	Blows	Depth			Surface Condi	ıtıons: Slaç	g - coal			
Туре	Drvn/In.	No.	IV	ppm	per	in		Log						
	Recvrd				6 in.	Feet								
					115				1113 - SLAG/I					
	24/14			3.8	119	1]	<10% nonplas			ind concret	te fragments	- no odor -
					41				no staining - b	olack - (10Yl	R 2/2)			
					27	2								
									1125 - Same a					
	24/6			2.9		3				REFUSAL	AT 3.7 FT BG	SS, OFFSE	T 3 FT NOR	TH.
						4								
]	1145					
	24/4			461		5		1		Large slag	fragments in	acetate line	er.	
						1		1						
						6	WL	1						
						1		1	1235 - Poorly	sorted, med	dium to coarse	SAND, su	ıbangular, 1	5% non-
	24/5			1534		7		1	plastic fines, s					
						1		1	, -	<u> </u>	3	-		
						8		1						
						1		1	1255 - Same a	as 6-8 feet.				
	24/18		Trace	>10K		9		1		-				
						1		1						
						10		1						
						1		1	1307 - Same a	as 6-8 feet.				
	24/10		Positive	>10K		11		1						
						1		1						
						12		1						
		BP-SO-				1		1	1316 - Same a	as 6-8 feet				
COMP.	24/12		Positive	>10K		13		1						
			2 3 0			1		1						
						14		1						
						1		1	1325 - Same a	as 6-8 feet				
	24/12			3762		15		1	. JES Same 8	0 0 1001.				
	/ 12			0.02		l 'Ŭ		1						
						16		1						
						i '		1	1334 - SLAG/I	FILL - poorl	v sorted med	ium to coai	rse SAND s	ubangular
	24/22			810		17		1	<10% nonplas					
	<u>∠</u> ¬/∠∠			010		1 ''		1	no staining - b				o nagments	Silgrit Odol
						18	-	1			OMPLETE A	T 18 FT BC	35	
						'0		1			REEN SET AT			
						l	-	1		VV LLL GOI	CELIT OLI AI	5 10 I I D	,	
						l	-	1						
						1		1						
						1		1						
						1		1						
								I						
Logged b	y:		Joseph	Sawicl	ki (EA)				_	Date:	06/11/2009			

Dan Fincham

Drilling Contractor:

EA Engineer and Techno Coordina Surface Casing E Reference Reference	ates: Elevation Below Su ce Elevat	LOG n: irface: tion:	EA Engi and To	echnol	ogy, Inc.			- - -		d: Hollow Ste os. auto hamm hod: Continue	er ous split spoon sa	n. diameter	Sheet 1 o	SA-08
Sample	Inches	Sample	Sudan	PID	Blows	Depth		USCS		itions: Slad	g - coal			
Type	Drvn/In.		IV	ppm	per	in		Log			,			
	Recvrd				6 in.	Feet			0755 01 4 0 //	⊏III maani		4	CAND -	
	24/10			0.4	60 200/4	1		-	0755 - SLAG/I <10% nonplas					
	21/10			0.1					no staining - b			ia briok ira	ginonto no	odoi
						2]			•			
	24/6			200	22 36	2		4	0805 - Same a	as 0-2 feet.				
	24/6			280	23	3								
					36	4		1						
					200/6				0830 - Same a					
	24/6			942		5				Strong Ber	zene odor. R	ecovery mo	stly large sl	ag fragments
						6	WL							
		BP-SO-			144/6	Ü	***		0844 - Same a	as 6-8 feet.				
COMP.	24/10	B08-6		928		7]						
						0								
					200/4	8		1	0855 - Same a	as 6-8 feet				
	24/6			271		9			COCC Carrie	20 0 0 1001.				
		BP-SO-				10			0000 Como	C O ft				
COMP.	24/18		Negative	8590	111 62	11			0920 - Same a	as 6-6 reet.				
OCIVII .	21/10	B00 10	Togative	0000	208									
						12]						
	04/40			4705	8	40			0930 - Same a	as 6-8 feet.				
	24/16			4795	54 47	13								
					25	14								
					8]	0938 - Same a	as 6-8 feet.				
	24/18			1370		15		-						
					15 29	16		1						
		BP-SO-			6			1	0942 - SLAG/I	FILL - poorl	y sorted, med	ium to coar	se SAND, s	ubangular
COMP.	24/14	B08-16		2018	14	17]	<10% nonplas			nd brick frag	gments -slig	ht odor -
					16	40			no staining - b	lack - (10YI	R 2/2)	T 40 FT DC	\ <u>C</u>	
					11	18		1		WELL SCE	OMPLETE AT	6-16 FT R	GS.	
								1		., 001	, 0 / ///	J . U . I D		
								-						
								1						
								I .						
Logged b	y:		Joseph	Sawick	ki (EA)				_	Date:	06/15/2009			
Drilling C	ontracto	r.	Findling	Drilling	a					Driller:	Dan Fincham	1		
Unining C	บทแสบเป	١.	THUIIII	ווווווווים	9					יוווט.		ı		

									JOD. INO.	Client:			Location:	
			EA Engi	ineerin	g, Scien	ce,			1453406	Sparrow's Po	int - Coke Oven	Area	Sparrow's Poir	nt. MD
			and Te	echnol	ogy, Inc.				Drilling Method	d: Hollow Ste	m Auger - 6 1/4 i	in. diameter	Boring No.	
EA Engineer	ing, Science	e.			3,7,				CME-75 with 14 lb				BP-H	SA-09
and Technol	logy, Inc.		OF SOI	I /ROC	K BOR	ING			Sampling Meth			ampling		
Coordina	atoc.	LOO	01 001	Linoc	IN DOM	1110			with 3 in. diameter			ampling	Sheet 1 o	f 1
								•	with 3 in. diameter	spoons with	acetate liners			
Surface													Dril	
Casing E									Water Level				Start	Finish
Reference	ce Eleva	tion:						-	Time	-			15-Jun-09	15-Jun-09
Reference	ce Desc:								Date				1128	1345
								· · · · · · · · · · · · · · · · · · ·	Reference					
Sample	Inches	Sample	Sudan	PID	Blows	Depth		USCS	Surface Condi	tions: Slad	g - coal			
	Drvn/In.		IV	ppm	per	in		Log		,				
	Recvrd				6 in.	Feet								
					31				1140 - SLAG/F	FILL - noorl	v sorted med	dium to coa	rse SAND s	uhangular
	24/8			0.0	143	1			20% nonplasti					ubangulai
	24/0			0.0	97				no staining - b			aginents -	10 0001 -	
					33	2			110 Stairling - D	1ack - (101	(2/2)			
					20	2			1116 Como 6	20 0 2 foot				
	04/4			0.0		2			1146 - Same a	as 0-2 leet.				
	24/4			0.0	26	3								
					20									
					32	4								
					13				1155 - Same a					
	24/4			0.0	19	5				Large slag	fragments			
					36									
					29	6								
					2				1204 - Same a	as 0-2 feet.				
	24/6			0.0	6	7								
					11									
					13	8	WL							
		BP-SO-			200/3				1221 - Same a	as 0-2 feet.				
COMP.	24/12	B09-8		20.8		9				Large slag	fragments			
										3 - 3	<u> </u>			
						10								
					200/4				1230 - Same a	as 0-2 feet.				
	24/6			189		11				Large slag	fragments			
	2 1/ 0			100						Large olag	nagmonto			
						12								
						12			1242 - Same a	as 0-2 foot				
	24/23			365		13			1242 - Saille a	Large slag	fragmente			
	24/23			303		13				Large siag	паушешь			
						14	!							
		DD CO				14			4055 Como o	0 0 ft				
COME	04/40	BP-SO- B09-14	Nogether	. 4014		4-			1255 - Same a	15 U-∠ Teet.				
COMP.	24/12	DU9-14	negative	>1UK		15	!							
						40	<u> </u>							
						16			1000 0	0.01				
	044		<u>. </u>						1302 - Same a	as U-2 feet.				
	24/15		Negative	6054		17								
					11	18			-					
		BP-SO-							1340 - SLAG/F					ubangular
COMP.	24/16	B09-18		3569		19			10% nonplasti			agments -s	trong odor -	
									no staining - b					
						20					OMPLETE A			
											REEN SET A			
Logged b	v:		Joseph	Sawicl	ki (EA)					Date:	06/15/2009			

Dan Fincham

Drilling Contractor:

	— ®								Job. No.	Client:			Location:	
			EA Engi		-						int - Coke Oven A		Sparrow's Poi	nt. MD
			and Te	echnol	ogy, Inc.				Drilling Metho			n. diameter	Boring No.	
EA Engineer and Techno	ring, Science logy, Inc.	e,							CME-75 with 14 li				BP-H	SA-10
Coordina		LOG	OF SOI	L/KOC	K ROKI	NG			Sampling Met			mpling	Sheet 1 c	of 1
Surface		·						•	with 3 in. diamete	r spoons with a	acetate liners			lling
Casing E								-	Water Leval				Start	Finish
Reference									Water Level Time	_			19-Jun-09	19-Jun-09
Reference									Date				0930	1250
								•	Reference					
Sample	Inches	Sample	Sudan	PID	Blows	Depth		USCS	Surface Cond	itions: Slag	g - coal			
Type	Drvn/In.	No.	IV	ppm	per	in		Log						
	Recvrd				6 in.	Feet								
					40				0940 - SLAG/					
	24/15			0.6	136	1			20% nonplast			k fragment	s - no odor	-
					167	2			no staining - b	olack - (10YI	R 2/2)			
					36	2			0957					
	24/4			24.2	132	3			0337					
	_ " .				110			1						
					86	4]						
		BP-SO-			9				1005 - SLAG/	FILL - poorl	y sorted, medi	um to coar	se SAND, s	ubangular,
COMP.	24/16	B10-4		7.1	21	5	WL		25% non-plas	tic fines, sla	g fragments.			
					27	0		ł						
					20 14	6			1140					
	24/24			47.0	73	7			1140	REFLISAL	AT 7.5 FT BG	S OFFSE	T 6 FT SOL	THWEST
	Z-7/Z-7			47.0	52	,				IKEI OOKE	7(17:011 DC	O, OITOL	1011000	TITIVEOT
					86	8								
					176/10				1154					
	24/10			134		9								
						4.0								
					 119	10			1202					
	24/12			428	190	11		1	1202					
	27/12			720										
						12								
					6				1220					
	24/10			741	24	13				NAPL stair	ning in acetate	liner, poss	ible run dov	vn
					21									
					23	14		l	1225					
	24/12			272	6 9	15		1	1235					
	<u>∠</u> ¬/ 1∠			<u> </u>	11	13		1						
					22	16		1						
					24]			sorted, medi			ubangular
	24/15			232	33	17			10% nonplast	ic silty fines	, small slag fra	agments -s	trong odor -	
					14	4.0			slight staining				10	
					10	18		l			COMPLETE AT			
								ł		VVELL SUP	NEEN SET AT	4-14 F I B	<u>ა</u> ა.	
								1						
								1						
]						
Logged b	ογ:		Joseph	Sawicl	ki (EA)					Date:	06/19/2009			
00	•		- 1						-				1	
Drilling C	ontracto	r:	Findling	Drillin	g				_	Driller:	Dan Fincham	<u> </u>		

EA Engineer and Technol Coordina Surface Casing E Reference Reference	Elevation Below Su ce Eleva	n: Irface: tion:	EA Engi and Te	echnol	ogy, Inc.			- - -		d: Hollow Ste bs. auto hamm hod: Continue	er ous split spoon sa	n. diameter	Sheet 1 o	of 1 Iling Finish
Sample		Sample	Sudan	PID	Blows	Depth		USCS		itions: Slag	g - coal			
Type	Drvn/In. Recvrd	No.	IV	ppm	per 6 in	in Feet		Log						
	Recvid				6 in. 22	reet			1132 - SLAG/I	FILL - poorl	v sorted. med	um to coar	se SAND. s	ome gravel.
	24/14			0.4	54	1		1	subangular, <	10% nonpla	stic silty fines			
					33 15	2		-	no staining - b	lack - (10YI	₹ 2/2)			
					10			1	1140					
	2410			0.4	11	3								
					13 18	4	WL	1						
		BP-SO-			16				1150					
COMP.	24/15	B11-4		1.9	60 157	5								
					29	6								
	0.775			0 (5	18]	1158					
	24/6			34.9	200/4	7		ļ						
						8		1						
	24/6			1 <i>E E</i>	127				1205 - Mostly <10% non-pla	Gravel and	angular cobbl	es, 20% m	edium to co	arse SAND,
	24/0			15.5	100/1	9		1	< 10% non-pla	suc imes. G	neenish Gray	(GLEYT5/	1)	
						10		1						
	24/14			29.8	21 25	11	 	ļ	1221	Evidence	f NAPL at 11	- 11 5 ft ha	e	
	∠ + /14			23.0	200/3	''		1		LVIUGITUS U	n NAFL al II	- 11.511.09	3	
						12]	1000					
	24/12			56.1	16 24	13		-	1232	Evidence o	of NAPL at 12-	14 ft has		
	£ 1/ 1£			55.1	35	13		1			L at 12	. i it bgo		
					39	14			4000				· · · · ·	
	24/10			31.5	18 15	15		1	1239					
	, . •			2	17			1						
					18 10	16	 	ļ	1247- SLAG/F	III - noorly	sorted media	im to coars	SA SAND SI	uhangular
	24/21			2.3	21	17		•	10% nonplasti	ic silty fines.	, small slag fra	agments -s		
					32	40			slight staining	in sleeve -	black - (10YR	2/2)		
					33	18	 	•			OMPLETE AT			
]		.,	,			
								1						
Logged b			Joseph :	Sawicl	- (i (ΕΔ)					Date:	06/22/2009			
Logged L	у.		оозерії	Cawich	\(\∟\\\)				-	Date.	0012212003		•	
Drilling C	ontracto	r:	Findling	Drilling	g				_	Driller:	Dan Fincham	1		

Coordina Surface Casing E Reference	ring, Science logy, Inc. ates: Elevation Below Su ce Elevat ce Desc:	n: Irface: tion:	EA Engi and Te	echnol	ogy, Inc.				1453406 Drilling Method CME-75 with 14 lt Sampling Metl with 3 in. diamete Water Level Time Date	d: Hollow Ste bs. auto hamm hod: Continu	ner ous split spoon sa	n. diameter	Sheet 1 o	ISA-01
									Reference					
Sample		Sample			Blows	Depth			Surface Condi	itions: Low	grass - sand -	moist		
Туре	Drvn/In. Recvrd	No.	IV	ppm	per 6 in	in Foot		Log						
	Kecvia				6 in. 40	Feet	_		1142 - SLAG/I	FILL - noorl	v sorted madi	um to coor	sa sand and	l gravel
					100/4	1			subangular - <	: 1 <u>LL - pooll</u> :5% nonnla	stic silty fines	- brown (10)YR 4/3)	ı gıaveı -
									- 22 di . gaiai					
	24/10			0		2			1156 - SLAG/I	FILL - well o	graded gravel	- 0.5 to 1 ir	nch - subrou	ınded -
					78	_			<5% medium	to fine sand	l - subangular	- brown (1	0YR 4/3) - r	o odor -
					100/1	3			no staining					
	24/5			0.2		4			1231 - SLAG/I	FILL - noorl	v sorted medi	um to coar	se sand and	l gravel -
	2 1/0				100/2	·			subangular to					
						5			(10YR 4/3) - n	o odor - no	staining		4	
	0.4/4								ALIGER REEL	10.41			- 00117115	
	24/4 0.5 6								AUGER REFL	JSAL at 5.5	FEET - OFFS	SEI 8 FEE	I SOUTHE	451
						7		1						
						8]						
						9								
						10		1						
						11								
						4.0								
						12								
						13								
						10								
						14								
						15								
						16								
						17							·	
						40								
						18		1						
						19								
						20								
Logged b	y:		Steven `	Yanka	y (EA)					Date:	06/01/2009			
	ling Contractor: Findling Drilling								=				-	
Drilling C	ontractor	r·	Findling	1)rillin	a					Driller:	Tonv			

	~ ®		E	nocri-	a Coio-	00				Client:	int Only O		Location:	MD
			EA Engi		-						int - Coke Oven A		Sparrow's Poir	nt. MU
EA Engines	ing Saigner		and I	ecnnol	ogy, Inc.				Drilling Method CME-75 with 14 lb			n. diameter	Boring No. CT-H	SA-01
EA Engineer and Technol	ogy, Inc.		OF SOI	I /ROC	K BUDI	NG			Sampling Meth			moling	C1-H	<i>01</i> 7-01
Coordina	ates:	LUG	JI 301	LINUC	N DOKI	140			with 3 in. diameter			ınpıing	Sheet 1 o	f 2
Surface		n: .						•	o iii. diametei	Spoons will t	20010101010		Dril	
Casing E								•	Water Level				Start	Finish
Reference								•	Time	-			1-Jun-09	2-Jun-09
Reference		•							Date				1356	1050
								- 	Reference					
Sample		Sample	Sudan	PID	Blows	Depth			Surface Condi	tions: Low	grass - sand -	moist		
	Drvn/In.	No.	IV	ppm	per	in		Log						
	Recvrd				6 in.	Feet			4050 01 40/0			(
					40 100/4	1			1356 - SLAG/F subangular - v	ory dark br	y sorted medi	urn to coars	se sand and	gravel -
						'			Subangulai - V	ery uark bit	OWIT (TOTK Z/	<u> - 110 000</u>	i - no stairilli	У
	24/7			0		2								
					78				1412 - well gra					
					100/1	3			to fine sand - s					
	24/7			1	400/0	4			1424 - SLAG/F					
					100/2	5			subangular to staining - brow			Stic Slity fin	es - no odor	- no
						5			Stairing - brow	/II (10 I K 4/	<u> </u>			
	24/6			0		6			1442					
					92									
					100/2	7								
	0.4/0								1.155 END 0/	// /00 BBILL	1110			
	24/8			0	100/6	8			1455 - END 6/	1/09 DRILL	ING			
					100/6	9	WL							
		CT-SO-				3	V V L							
COMP.	24/7	B01-10		0		10			0844 - large ro	ck/concrete	e fragments ir	sand catc	her	
					100/4				J		J			
						11								
	0.4/0			0.5		4.0			0007					
	24/8			2.5	 92	12			0907 - split sp	oon refusal	at 12.6 feet			
					100/0	13								
						13								
	24/8			109		14			930					
					31									
					100/1	15								
COMP	04/40	CT-SO-		26.7		4.0			0050		امال مطعتات عاد	lit once:		
COMP.	24/12	B01-14		26.7		16			0950 - napthal	ene (mothb	oaii) odor in sp	out spoon		
						17								
						''								
	24/16			15.2		18			1005 - dark sta	aining - no o	odor			
						19								
00115	0.4/0.0	CT-SO-	NEO	4 400		22			4040 :		/ (I-1 - 11\)		an Bara	
COMP.	24/20	B01-20 MS/MSD	NEG	1460		20			1018 - strong r	naptnalene	(mothball) od	or - sneen	on liner and	soli water
		IVIO/IVIOD												
Logged b	y:		Steven '	Yanka	y (EA)		•	Date:	6/1/09 - 6/2/0)9				

Tony

Drilling Contractor:

	∞		_, _							Client:			Location:	
					ing, Scie						oint - Coke Oven		Sparrow's Poi	nt. MD
			and ⁻	I echn	ology, In	C.			Drilling Method			in. diameter	Boring No.	
EA Enginee and Techno	ring, Science logy, Inc.	e,							CME-75 with 14 lb				СТ-Н	SA-01
		LOG	OF SC	IL/RC	CK BOI	RING			Sampling Met			ampling		
Coordin								-	with 3 in. diamete	r spoons with	acetate liners		Sheet 1 c	
	Elevation							_						lling
	Below Su							_	Water Level				Start	Finish
	ce Eleva							-	Time	-			1-Jun-09	2-Jun-09
Referen	ce Desc:							-	Date				1356	1050
									Reference					
Sample		Sample		PID	Blows	Depth		USCS	Surface Cond	itions: Low	grass - sand	- moist		
Type	Drvn/In.	No.	IV	ppm	per	in		Log						
	Recvrd				6 in.	Feet								
						21								
	24/20		NEG	267		22			1039 - NATIVI	E MATERI	AL - sandy silt	: - dark gray	/ - slight nap	thalene odoi
									no staining					
						23								
	24/24			197		24]	1050 - BORIN	G TERMIN	NATED AT 24	FEET		
						25								
						26								
						27								
						28								
						29								
						30								
						0.4								
						31								
						00								
						32								
						22								
	-	1	-			33	<u> </u>	1						
						24	<u> </u>	-						
	1					34	-	ł						
						35	-	1						
	1			-		33	-	1						
						36		1						
	1			-		30	-	1						
						37		1						
						31		1						
						38	<u> </u>	1						
	1	1		1		50		1						
						39		1						
						00		1						
						40		1						
						.5		1						
1								1						
1	_		_	-										
Logged b	ov:		Steven	Yank	ay (EA)					Date:	06/02/2009			
33 - 4 1	. , .		2.3.31		J \ · · J				=				=	
Drilling C	ontracto	r:	Findlin	g Drilli	ng					Driller:	Tony			

									JOD. NO.	Client:			Location:	
EA Engineering, Science,											int - Coke Oven A		Sparrow's Poir	nt. MD
			and Te	echnol	ogy, Inc.				Drilling Metho	d: Hollow Ste	m Auger - 6 1/4 i	n. diameter	Boring No.	
EA Engineer	ring, Science	e,			37,				CME-75 with 14 II					SA-02
and Technol	logy, Inc.		OF SOI	I /POC	K BUDI	NG			Sampling Met			ampling	Ü. 11	
Coordina	atoc:	LUG	JI 301		''Y DOKI	140						ampiing	Shoot 1 a	of 2
								•	with 3 in. diamete	spoons with	acetate ilners			of 2
Surface														lling
Casing E									Water Level				Start	Finish
Reference	ce Elevat	tion:							Time	-			8-Jun-09	8-Jun-09
Reference	ce Desc:							•	Date				0759	1421
								•	Reference					
Sample	Inchas	Sample	Sudan	PID	Blows	Donth		HISCS	Surface Cond	itions: Slag	and gravel le	ow chrubby	vogotation	
			IV			Depth			Surface Cond	illoris. Slag	and graver - i	JW SIIIUDDY	vegetation	
	Drvn/In.	INO.	IV	ppm	per	in		Log	**055057.45	FFFT OOL	IT1 1++			
	Recvrd				6 in.	Feet			**OFFSET 15					
					7				0759 - SLAG/	FILL - poorl	y sorted medi	um to coars	se sand and	gravel -
					16	1			subangular - <	<10% nonpl	astic silty fines	s - moist - r	no odor - no	staining -
					21			1	black (10YR 2	2/2)	•			
	24/17			0	99	2		1	804	,				
					200/4			1						
						3		1						
						J		l	-					
	24/4			0		4		l	815					
	∠4/4			U		4		1		THOM: AT	4 C CCCT ^	FEOFT 45	CCCT OO! !	FI I
					67	_		l	** AUGER RE	FUSAL AT	4.5 FEET - O	rr5E1 15	FEET SOUT	Н
					72	5								
					59									
	24/20			0.1	114	6			930					
					200/6			1						
						7		1						
								1						
	24/10			0.2		8		i	950					
	21/10			0.2	159/6	J		i	000					
					100/0	9		ł						
-						9								
	0.4/7					4.0	WL	ļ	10.10					
	24/7			0.9		10			1246					
					210/6									
						11								
		CT-SO-												
COMP.	24/7	B02-12		0.1		12		1	1256					
					5			1						
					8	13		1						
					17			1						
	24/11			0	106	14		l	1310 - SLAG/	FILL - mode	erately sorted	medium to	coarse sand	٦-
-	∠ -7 / I I				53	14		ł	angular to sub					
						4.5		l					5% Honpias	ouc siny nines
		OT 00			171	15		l	no odor - no s	itaining -bla	CK (TUYR 2/2)			
00::-	04445	CT-SO-			148			l	1001					
COMP.	24/13	B02-16		0.3		16			1324					
								l						
						17								
]						
	24/21			20.7		18		1	1340 - SLAG/	FILL - poorl	v sorted medi	um to coars	se sand - an	gular to
	/							1	subangular - <					
						19		l	napthalene oc					
		CT-SO-				19		l	napinalene 00	Jul - Uaik St	aning - Sileer	i ori apiit ap	ouris - biack	(1011 2/2)
00140	04/00			440		00		1	1050					
COMP.	24/20	B02-20		112		20		l	1350					
								l						
Logged b	y:		Steven '	Yanka:	y (EA)				_	Date:	06/08/2009		_	

Dan Fincham

Drilling Contractor:

Coordina Surface Casing E	EA Engineering, Science, and Technology, Inc. LOG OF SOIL/ROCK BORING Coordinates: Surface Elevation: Casing Below Surface: Reference Elevation: Reference Desc: Sample Inches Sample Sudan PID Blows Depth US									d: Hollow Ste os. auto hamm hod: Continue	er ous split spoon sa	n. diameter	Sheet 2 c	SA-02
								•	Date				0759	1421
	Drvn/In.	Sample No.	Sudan IV	PID ppm	Blows	Depth in		USCS Log	Reference Surface Condi		Ĭ	ow shrubby	vegetation	
	Recvrd				6 in.	Feet			**OFFSET 15	FEET SOU	ITH**			
	24/20			90		21 22			NATIVE MATE no staining - v 1421 - BORIN	ery dark gre	I sorted fine sa eenish gray (G ATED AT 22 F	LEY1 3/1)	slight napth	alene odor -
	Z-7/ZU			30					TTET DOMIN	O I LINININ	ALD ALZZI			
						23								
24 25														
26														
						27								
						28								
						29								
						30								
						31							_	
						32								
						33								
						34								
						35								
						36								
						37								
38														
	39													
						40								
Logged b	oy:	-	Steven	Yank	ay (EA)				_	Date:	06/08/2009			•
Drilling C	ed by: Steven Yankay (EA) g Contractor: Findling Drilling								_	Driller:	Dan Fincham	1		

							_							
	~ ®		EA Engi	neerin	a Scien	CE				Client:	nt - Coke Oven A	rea	Location: Sparrow's Poi	nt MD
														ווו. ועוט
EA Foreign	ing Salar		and I	ecnnol	logy, Inc.	•			Drilling Method	a: Hollow Ster	<u>m Auger - 6 1/4 ir</u>	n. diameter	Boring No.	CA 02
and Technol	ring, Science logy, Inc.	e,	05.00	I/D-C-C	M DOD:	NC			CME-75 with 14 lb				CT-H	SA-03
		LOG	OF SOII	L/KO(K ROKI	ING			Sampling Meth			mpling	Chast 4	
Coordina					-				with 3 in. diameter	r spoons with a	cetate liners		Sheet 1 c	
Surface														lling
Casing E									Water Level				Start	Finish
Reference									Time	-				19-May-09
Reference	ce Desc:								Date	ļ			1111	1500
									Reference	<u> </u>				
Sample		Sample		PID	Blows	Depth		USCS	Surface Condi	itions: Low g	grass - sand -	moist		
	Drvn/In.	No.	IV	ppm		in		Log						
	Recvrd				6 in.	Feet								
					97				1111 - SLAG/F					
		<u> </u>	<u> </u>		73	1		1	subangular - <	<5% nonplas				
		1			200/5	,		1	brown (10YR 2					
	24/28	l		8.5		2		1	1146 - Same a					
		1			200/6	,		1						
	<u> </u>	<u> </u>	<u> </u>	<u>└</u> ┟		3		J						
_	1	(1					I						
	24/6	<u></u> しし		11		4			1201 - Same a	as 0-2 feet.				
	1	1	1		280/6	1								
	լ հ	<u>┖</u>	<u> </u>	լ հ		5								
	1	1	1			T		J						
	24/8	1		0.1		6			1220 - Same a	as 0-2 feet.				
		1	1		300/4	1								
	1 I	1 I	1 I	[7		J						
	1	1	1			1								
	24/6	1 I		1.2		8		J	1240 - Same a	as 0-2 feet.				
					105			1						
	ا ا	1	۱ <u>۱</u>	l	97	9		l						
	 	CT-SO-	1		69	¶ [I						
COMP.	24/20	B03-10		0	66	10	WL		1250 - Same a	as 0-2 feet.				
-	, i	 	1		62			J						
	ŋ	Ţ	¶	[50	11		I						
	 	 	1		39	1		I						
	24/16	1		0	36	12			1300 - very dif	ficult drillina	ı - very hard m	naterial		
	, i	1	1			T		I		5	<u>,</u>			
	ŋ	Ţ	¶	[13		I						
	Ţ İ	1	1					I						
	24/13	Ţ		5.3		14		I	1317					
		 			1	1								
	1 j	1	1 I	1 I	1	15								
	1	 	1		1	¶ 'ĭ		ļ						
	24/6	Ţ		1	1	16		I	1336					
	 	 	1		1			I						
	ŋ	Ţ	¶	[1	17		I						
	1	 				1 ''								
	24/20	Ţ		20.5	1	18		I	1344					
	 	 	1		1	¶ 'Ŭ								
	ŋ	Ţ	¶	[19	Н							
	1 1	CT-SO-	1	\vdash	1	۱۷	$\vdash \vdash$							
COMP.	24/9	B03-20		21.2	 	20	Н		1353					
2 2 1711 1	/ 5		 		 		H	ļ						
	1	1 I	1 I	[1	H	ļ						
Logged b	ıV.		Steven \	Yankai	v (FA)					Date:	05/29/2009			
_oggcu b	,,.		3137011	· uiina	<u>, (=/\)</u>				<u> </u>	Duio.	55/25/2000		•	

Dan Fincham

Drilling Contractor:

Findling Drilling

	~ ®		EA En	nincor	ing Soio	nce			Client:	int Coke Over 1	roo	Location:	nt MD
					ing, Scie ology, In			Drilling Method		int - Coke Oven A		Sparrow's Poi Boring No.	ni. MD
EA Engineer	ring, Science	e.	anu	i ecilil	ology, in	.		CME-75 with 14 lb			i. uiameter		ISA-03
EA Engineer and Techno	logy, Inc.	I UG	OF SO	IL/R∩	СК ВО	RING		Sampling Met			ampling	01-1	.5/1.00
Coordina	ates:		J. 00	,	J. (DOI			with 3 in. diameter			piiiig	Sheet 2	of 2
Surface		า:					•						lling
Casing E	Below Su	ırface:						Water Level				Start	Finish
Referen	ce Eleva	tion:						Time	-			29-May-09	19-May-09
Referen	ce Desc:						•	Date				1111	1500
Comment	ll	l C1	CI	חום	Dia	D	11000	Reference	Mana. 1 -:				
Sample Type	Inches Drvn/In.	Sample No.	Sudan	ppm	Blows	Depth in	Log	Surface Condi	itions: Low	grass - sand -	rnoist		
	Recvrd	INU.	'V	Phill	per 6 in.	Feet	Log						
	. 100710				J 111.	. 550		1420 - modera	ately sorted	very coarse to	o coarse sa	and - suband	gular -
						21		<1% gravel - <	<1% nonpla	stic silty fines	- slight nar	othalene odd	or -
		CT-SO-						no staining - s					
COMP.	24/20	B03-22		47.4		22		1433					
						22							
						23							
COMP.	24/14			18		24		1447					
						25		NATIVE MATE	ERIAL - clay	yey silt - no oc	lor - no sta	ining - very	dark brown
	04/04							(10YR 4/1)	O TED. 4111	ATED AT 00 '			
	24/24			8		26		1500 - BORIN	G IERMIN	ATED AT 26 I	-EEI		
						27							
						21							
						28							
						29							
						30							
						30							
						31							
											·		
						32							
						33							
						33							
						34							
						35							
						36							
						30							
						37							
						38							
						39							
						39							
						40							
ا معمما ا	w.c		Stover	Vanle	OV (E ^ \				Data	05/20/2000			
Logged b	y.		Sieven	тапк	ay (EA)			-	Date:	05/29/2009		-	
Drilling C	ontracto	r:	Findlin	g Drilli	ng				Driller:	Dan Fincham	1		

	∞									Client:			Location:	
			EA Engi		-				1453406	Sparrow's Po	int - Coke Oven A	rea	Sparrow's Poir	nt. MD
			and To	echnol	ogy, Inc.				Drilling Metho	d: Hollow Ste	m Auger - 6 1/4 ir	n. diameter	Boring No.	
EA Engineer	ing, Science	e,							CME-75 with 14 lb					SA-04
and Technol	ogy, Inc.	LOG	OF SOI	L/ROC	K BOR	NG			Sampling Met	hod: Continue	ous solit spoon sa	mpling		
Coordina	ates:		J. 001		•				with 3 in. diamete			y	Sheet 1 o	of 2
Surface		า.						•	o didinoto	. 5000.10 111111				ling
									Water Lavel		1	<u> </u>		
Casing E								•	Water Level		1		Start	Finish
Reference								•	Time	-	1		4-Jun-09	4-Jun-09
Reference	e Desc:	,							Date				1020	1215
			.	D.D.	DI	D		11000	Reference	G:				
Sample		Sample		PID	Blows	Depth			Surface Cond	itions: Slag	and coal			
Туре	Drvn/In.	No.	IV	ppm	per	in .		Log						
	Recvrd				6 in.	Feet								
									1020 - SLAG/					
						1			gravel - suban		non plastic s	ilty fines - k	olack (10YR	2/2) -
									no odor - no s	taining				
	24/9			0		2								
									NO BLOW C	COUNTS D	UE TO CONC	RETE AND	SURFACE	WATER
						3								
	24/0					4			1031 - NO RE	COVERY				
					25									
					27	5								
		CT-HSA-			17									
	24/17	04 6-8		0	16	6			1043					
		(NAPL)			16									
		(· ·· ·· -)			15	7								
					17	'								
	24/0				17	8			1051 - NO RE	COVERY				
	2 110				102/1				.301 NO NE	. JOVEINI				
					-	a	WL							
		CT-SO-					** <u></u>							
COMP.	24/17	B04-10		0		10			1100 - SLAG/	FILL - poorl	v sorted grave	d - angular	to subangul	ar - /5% find
CONIF.	∠≒/ 1 /	D04-10		0	10	10			to very fine sa					
					10	11			no staining -bl			πιριαδίίο δί	ity iii 165 - 110	Guoi -
					24	''			no stairing -bi	INCK (IUTK	<u> </u>			
	24/40			0	30	10			1112					
	24/19			U	15	12			1112					
						40	_							
		CT CC			17	13								
00140	04/47	CT-SO-		_	40	4.4			4400 01 407	FILL '				a.a.al
COMP.	24/17	B04-14		0	46	14			1123 - SLAG/					
					20	4-			gravel - suban					e rragments
					20	15			very dark brov	wn (10YR 4/	ろ) - no odor -	no staining	1	
	0.4/0.4				17				1110					
	24/24			0	17	16			1140					
					22									
					23	17								
		CT-SO-			24									
COMP.	24/24	B04-18		2.2	14	18			1200					
					10									
					7	19			NATIVE MATE		sand - well s	orted - wet	- greenish g	ray -
					7				slight napthale	ene odor				
	24/24			37.1	5	20			1209					
											•			
Logged b	y:		Steven `	Yanka:	y (EA)				_	Date:	06/04/2009		_	

Tony

Drilling Contractor:

Findling Drilling

	~ ®									Client:			Location:	
					ing, Scie						int - Coke Oven A		Sparrow's Poi	nt. MD
			and	Techno	ology, In	C.			Drilling Method			n. diameter	Boring No.	
EA Enginee	ring, Science logy, Inc.	e,							CME-75 with 14 lb				CT-H	SA-04
and recino	nogy, ilic.	LOG	OF SC	IL/RO	CK BOF	RING			Sampling Meth	nod: Continue	ous split spoon sa	ampling		
Coordina	ates:								with 3 in. diameter				Sheet 1 c	
Surface	Elevation	n:						•					Dri	lling
	Below Su							•	Water Level				Start	Finish
	ce Eleva							-	Time	_			4-Jun-09	4-Jun-09
	ce Desc:							-	Date				1020	1215
. 10.0.0.								•	Reference				.0_0	
Sample	Inches	Sample	Sudan	PID	Blows	Depth		LISCS	Surface Condi	tions: Slag	and coal			
Type	Drvn/In.	No.	IV	ppm	per	in		Log	Surface Corlai	tions. Glag	and coar			
	Recvrd	INO.	1 0	ррии	6 in.	Feet		Log						
	record					1 001								
					2	21		ł						
					5	21		ł						
	24/24			96.4	6	22		ł	BORING TER	MINATED	AT 22 FEET			
	27/27			30.4	U	22			DOMINO TEN	IVIIIVATED A	11 ZZ 1 LL 1			
						23		1						
						20		1						
						24		1						
						_ '		1						
						25		1						
								1						
						26								
								1						
						27		1						
						28								
								1						
						29		1						
						30								
						31								
						32								
						33		ļ						
						0.4								
						34								
						<u> </u>	_							
	.		.			35		ł						
						20	-	-						
						36	-	-						
						37	_	1						
						3/		ł						
						38		1						
						30		1						
						39		1						
						53		1						
						40		1						
								1						
								1						
							_							
Logged b	ov:		Steven	Yank	ay (EA)					Date:	06/04/2009			
. 3300 6	,				, \=/				-				•	
Drilling C	ontracto	r:	Findlin	g Drilli	ng				_	Driller:	Tony		_	

	A		EA Engi		-						int - Coke Oven A		Location: Sparrow's Poi	nt. MD
EA Engineer	ing, Science	e,	and Te	echnol	ogy, Inc.				Drilling Metho CME-75 with 14 II			n. diameter	Boring No. CT-H	SA-05
		LOG	OF SOI	L/ROC	K BORI	NG			Sampling Met			mpling		
Coordina									with 3 in. diamete	r spoons with a	acetate liners		Sheet 1 c	
Surface								•	\\/ = (= n 1 =	1	1	ī		lling
Casing E Reference								i	Water Level Time				Start 9-Jun-09	Finish 9-Jun-09
Reference		uon.						i	Date	-			1007	1231
recicione	о Возо.	i						ı	Reference				1007	1201
Sample	Inches	Sample	Sudan	PID	Blows	Depth		USCS		itions: Slad	- coal			
Type	Drvn/In.	No.	IV	ppm	per	in		Log		`				
	Recvrd				6 in.	Feet								
					7				1007 - SLAG/					
					79	1			subangular - <	<5% nonpla	stic silty fines	- no odor -	no staining	- black
	04/40			_	200/3	_			(10YR 2/2)					
	24/10			0	194/6	2								
						3								
	24/3					4			1030 - ACETA	ATE LINER	MANGLED IN	SPLIT SP	OON	
					200/6									
						5								
	0.4/5			_					1055					
	24/5			0	8	6			1055					
					100/2	7								
		CT-SO-				,								
COMP.	24/7	B05-8		0		8			1105					
					24									
					73	9	WL							
		CT-HSA-		_	70	4.0			4447					
	24/23	05 10-12 (NAPL)		0	87 47	10			1117					
		(INAPL)			37	11								
					32									
	24/12			0	48	12			1129					
					33									
					139/6	13								
	04/44			_		4.4			1126					
	24/11			0	 46	14			1136					
					276/6	15								
		CT-SO-												
COMP.	24/6	B05-16		2.7		16			1158					
					17									
					15	17								
	24/24			2.5	11	40			1015 01 107	Ell pas-	v corted fine to	n madium:	and and are	avol
	24/24			3.5	11 17	18			1215 - SLAG/ subangular - 1					
					21	19			black (10YR 2		one only illies	паршаны	10 0001 - 110	Janiny -
		CT-SO-			17				NATIVE MAT		I sorted fine sa	and - wet -	napthalene	odor - sheer
COMP.	24/14	B05-20	NEG	226	20	20			on soil - very					
									1222					
Logged b	y:	·	Steven `	Yanka	y (EA)				_	Date:	06/09/2009		_	

Dan Fincham

Findling Drilling

Drilling Contractor:

Coordina Surface Casing E Referen	ring, Science logy, Inc. ates: Elevation Below Succe Eleva ce Desc:	n: irface: tion:	and	Techno	ing, Scie ology, In	C.		1453406 Drilling Method CME-75 with 14 lt Sampling Met with 3 in. diamete Water Level Time Date	d: Hollow Steps. auto hamn	ous split spoon sa	n. diameter	Sheet 2 c	SA-05
Sample Type	Drvn/In.	Sample No.	Sudan IV	PID ppm	Blows	Depth in	USCS Log	Reference Surface Condi	I itions: Sla	g - coal			
	24/16		NEG		6 in. 9 10 8 7	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40		1231 - BORIN	G TERMIN	ATED AT 22 F	FEET		
Logged b		r.	Steven					-	Date:	06/09/2009 Dan Fincham			

Coordina Surface Casing E Reference	ring, Science logy, Inc. ates: Elevation Below Su ce Elevatice Desc:	n: irface: tion:		echnol	g, Sciendogy, Inc.					d: Hollow Ste bs. auto hamm hod: Continue	ous split spoon sa	n. diameter	Sheet 1 o	SA-05
	2000.								Reference				3000	.000
Sample		Sample			Blows	Depth			Surface Cond	itions: Slaç	g - coal			
Туре	Drvn/In. Recvrd	No.	IV	ppm	per 6 in.	in Feet		Log	** OFFSET 10) FEET NOT	RTHWEST**			
	Kecvid				92	reet			0939 - SLAG/			se sand ar	nd gravel - n	oorly sorted
					170	1			subangular - «	<5% nonpla	stic silty fines	- brick frag	ments - no	odor - no
	04/04				116				staining - blac	k (10YR 2/1	l)			
	24/24			0	77 36	2			0959 - SLAG/	FILL - poorl	y sorted medion of the sorted	um to coars	se sand and	gravel -
					136	3			subangulai to	SUDI DUI IUE	u - 10/6 HOHPI	asiic siily II	iies - biowii	(10114/3)
					100/3									
	24/16			0		4			1019					
					70 100/1	5		ł						
						5		1						
	24/8			0		6			1030					
_	_	_	-						1039 - AUGE	R REFUSAL	_ AT 6.5 FEET	- OFFSET	T 10 FEET N	ORTHWES
						7								
						8								
						9								
						10	WL							
						10	V V L							
						11								
						12								
						13								
						14								
						15								
						16								
						17								
						17								
						18								
_	_	_	-							-			-	
						19								
						20								
Logged b	y:		Steven `	Yanka	y (EA)				_	Date:	06/03/2009			
Drilling C	ontracto	r:	Findling	Drilling	g				_	Driller:	Tony			

	\bigwedge				ıg, Scien						oint - Coke Oven		Sparrow's Poi	nt. MD
EA Engineer	ring, Science	e.	and I	ecnnol	logy, Inc.				CME-75 with 14 II		em Auger - 6 1/4 in ner	n. diameter	Boring No. CT-H	SA-05
EA Engineer and Technol	logy, Inc.	_, LOG	OF SOI	L/ROC	CK BORI	NG					ous split spoon sa	ampling	0111	0,100
Coordina	ates:								with 3 in. diamete			<u>-</u> <u>-</u>	Sheet 1 c	of 1
Surface	Elevatior	า:						•					Dri	lling
Casing E									Water Level				Start	Finish
Reference									Time	-			3-Jun-09	3-Jun-09
Reference	ce Desc:								Date Reference				1050	1140
Sample	Inches	Sample	Sudan	PID	Blows	Depth		HSCS	Surface Cond	itions: Sla	g - coal			
	Drvn/In.		IV	ppm	per	in		Log	Surface Solid	itions. Ola	g coai			
	Recvrd			i i	6 in.	Feet		3	** OFFSET 20	FEET NO	RTHWEST**			
					92				1050- SLAG/F	ILL - coars	e to very coar	se sand an	d gravel - po	orly sorted -
					170	1			subangular - <			 brick frag 	ments - no c	odor - no
	24/24			0	116 77	2			staining - blac		1) ly sorted medi	um to occir	oo oond ond	grovol
	24/24			U	36	2					d - 10% nonpl			
					136	3			Subarigular to	Sabroariac	a 1070 Honpi	astic sitty ii	iico biowii	(1011(4/0)
					100/3									
	24/16			0		4			1121					
					70 100/1	_								
						5								
	24/8			0		6			1140 - AUGEI	R REFUSA	L AT 6.5 FEET	Γ - OFFSE	T 20 FEET N	IORTHWES
						7								
						8								
						0								
						9								
						10	WL							
						11								
						' '								
						12								
						13								
						14								
						14								
						15								
<u> </u>						16								
						17								
						''								
						18								
<u> </u>						19								
						20								
						20								
Logged b	y:		Steven '	Yanka	y (EA)				_	Date:	05/29/2009		<u>.</u>	
Drilling Co	ontracto	r:	Findling	Drillin	g					Driller:	Dan Finchan	า		

					ıg, Scien						int - Coke Oven A		Sparrow's Poi	nt. MD
EA Enginee	ring, Science	e,	and I	ecnnol	logy, Inc.				Drilling Metho CME-75 with 14 II			n. diameter	Boring No. CT-H	SA-05
and Techno	ring, Science logy, Inc.	LOG	OF SOI	L/ROC	CK BORI	NG			Sampling Met			mpling	0111	C/ (00
Coordina	ates:								with 3 in. diamete			F3	Sheet 1 c	of 1
Surface	Elevation	n:						•					Dri	lling
Casing E									Water Level				Start	Finish
Referen									Time	-			3-Jun-09	3-Jun-09
Referen	ce Desc:							i	Date Reference				1220	1250
Sample	Inches	Sample	Sudan	PID	Blows	Depth		LISCS	Surface Cond	itions: Sla	g - coal			
	Drvn/In.		IV	ppm	per	in		Log	Surface Soria	itions. Olaş	y coai			
71 -	Recvrd			1 1	6 in.	Feet			** OFFSET 10	FEET NOI	RTHWEST**			
					92				1050- SLAG/F	ILL - coars	e to very coar	se sand an	d gravel - po	oorly sorted -
					170	1			subangular - <			 brick frag 	ments - no c	odor - no
	24/24			0	116 77	2			staining - blac 1110 - SLAG/			ım to ocor	oo oond ond	groval
	24/24			U	36	2			subangular to					
					136	3			Subarigular to	Subrouriac	<u>a 1070 Hompi</u>	dollo only ii	iico biowii	(1011(4/0)
					100/3									
	24/16			0		4			1121					
					70 100/1	-								
						5								
	24/8			0		6			1140 - AUGEI	R REFUSAL	_AT 6.5 FEET	- OFFSE	T 20 FEET N	ORTHWES
						7								
						0								
						8								
						9								
						10	WL							
						4.4								
						11								
						12								
						13								
						4.4								
						14								
						15								
						. •								
						16								
						17								
						18								
						19								
						00					·			
						20								
Logged b	y:		Steven '	Yanka	y (EA)				_	Date:	05/29/2009		-	
Drilling C	ontrooto	r·	Findling	Drillin	a					Driller:	Dan Fincham			
ט מוווווום כ	บาเเสียใ	١.	FILIUITING	ווווווח	У				_	ווווט.	Dan Finchall	l .	-	

	∞				_				JOD. NO.	Client:			Location:	
					ıg, Scien						int - Coke Oven A		Sparrow's Poi	nt. MD
			and To	echnol	logy, Inc.				Drilling Metho	d: Hollow Ste	m Auger - 6 1/4 ir	n. diameter	Boring No.	
EA Engineer	ring, Science logy, Inc.	е,							CME-75 with 14 lb					SA-05
and Techno	logy, Inc.	LOG	OF SOI	L/ROC	CK BORI	NG			Sampling Met	hod: Continu	ous solit spoon sa	mpling		
Coordina	ates:		2. 00.		• . \ .				with 3 in. diamete			y	Sheet 1 c	of 1
Surface		٠.							o iii. diamete	. Spoons with	acciaio iilicio			lling
									\\/ = (= n ! !	1	1	1		
Casing E									Water Level				Start	Finish
Reference		tion:							Time	-			3-Jun-09	
Reference	ce Desc:								Date				1250	
									Reference					
Sample	Inches	Sample	Sudan	PID	Blows	Depth		USCS	Surface Cond	itions: Slag	g - coal			
	Drvn/In.	No.	IV	ppm	per	in		Log		•				
	Recvrd	-			6 in.	Feet		- 3	** OFFSET 40) FFFT FAS	ST**			
					92				1250- SLAG/F			co cond on	d graval na	orly corted
					170	4			1200- SLAG/F	FO/ nanala	e to very coars	briek from	manta na	odor no
						1			subangular - <	<5% nonpia	Stic slity fines	- brick frag	ments - no c	odor - no
					116	_			staining - blac	K (10YR 2/	1)			
	24/24			0	77	2			1306 - SLAG/	FILL - poorl	y sorted medi	um to coar	se sand and	gravel -
					36				subangular to	subrounde	d - 10% nonpl	astic silty fi	nes - brown	(10YR 4/3)
					136	3								
					100/3									
	24/16			0		4								
					70									
					100/1	5								
						Ĭ								
	24/8			2.9		6								
	27/0			2.0		U								
						7								
						7								
						8								
						9								
						10	WL							
						11								
						12								
						12								
						40	Н							
						13	\vdash							
						14								
						15								
						16								
						17								
						18	-							
						10	\vdash							
			ĺ			40	\vdash							
		-		.		19	Щ							
						20								
Logged b	y:		Steven '	Yanka	y (EA)				-	Date:	05/29/2009		_	

Dan Fincham

Drilling Contractor:

Findling Drilling

ONSHORE INVESTIGATION WELL COMPLETION LOGS

C 1 8590 1 2 3	(MDE USE ONLY)	STATE OF MARYLAND WELL COMPLETION REPORT	1915 HEPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.
(THIS NUMBER IS TO BE IN COLS. 3-6 ON ALL CAI		FILL IN THIS FORM COMPLETELY PLEASE TYPE	COUNTY NUMBER
ST/CO USE ONLY DATE Received	DATE WELL COMPI		PERMIT NO. FROM "PERMIT TO DRILL WE
8 13	_5_28 (22 /4 26	BA - 95 -303
	15 RSABL SOARROUS	(TO NEAREST FOOT)	28 29 30 31 32 33 34 35 3
	Lest name	first name	
SUBDIVISION	<u>* 40 JARRONS</u>		SKITO., MO. ZIDIG
	LOG	SECTION SECTION	LOT
	or driven wells	WELL HAS BEEN GROUTED (Circle Appropriate Box)	
STATE THE KIND OF FORMA	ATIONS PENETRATED, THEIR SS AND IF WATER BEARING	TYPE OF GROUTING MATERIAL (Circle one)	PUMPING TEST
DESCRIPTION (Use	FFFT check	CEMENT CM BENTONITE CLAY BC	HOURS PUMPED (nearest hour)
additional sheets if needed)	FROM TO bearing	NO. OF BAGS NO. OF POUNDS 5 46	DUMPINO DATE () NA .
		GALLONS OF WATER	PUMPING RATE (gal. per min.) // +/ ©
SUB	0 14' V	DEPTH OF GROUT SEAL (to nearest foot)	METHOD USED TO MEASURE PUMPING RATE
		from ft. to ft.	
		48 TOP 52 54 BOTTOM 58 (enter 0 if from surface)	WATER LEVEL (distance from land surface)
		casing CASING RECORD	BEFORE PUMPING 17 20 ft.
		types insert ST CO	WHEN PUMPINGft.
		(appropriate code STEEL CONCRETE	22 25
		below PLASTIC OTHER	TYPE OF PUMP USED (for test)
		MAIN Nominal diameter Total depth	A air P piston T turb
		CASING top (main) casing of main casing TYPE (nearest inch)! (nearest foot)	C centrifugal R rotary 0 (des
		PL 2 4	27 Communication 10 Com
		60 61 63 64 66 70	J jet S submersible
		E OTHER CASING (if used) A diameter depth (feet)	27 27
		H inch from to	PUMP INSTALLED
		š	DRILLER INSTALLED PUMP YES / N
		N	(CIRCLE) (YES or NO)
			IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.
		screen type SCREEN RECORD or open hole COLT TO THE	TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) 29
		insert STEEL BRASS OPEN	IN BOX 29.
		appropriate BRONZE HOLE	CAPACITY: GALLONS PER MINUTE
		below / PL OT	(to nearest gallon) 31
		PLASTIC OTHER	PUMP HORSE POWER
NUMBER OF UNSUCCESSFI	JL WELLS:	C 2 DEPTH (nearest ft.)	PUMP COLUMN LENGTH
	yes /no	IPL 4 14	(nearest ft.)
WELL HYDROFRACTURED	Y (N)	E 8 9 11 15 17 21	CASING HEIGHT (circle appropriate box and enter casing height)
CIRCLE APPROPE	RIATE LETTER	C 2 23 24 26 30 32 36	above LAND SURFACE
A WELL WAS ABANDONE WHEN THIS WELL WAS	VALUE TEN		(1000
E ELECTRIC LOG OBTAINE	D	R 38 39 41 45 47 51	below) 30 50 51 foo
P TEST WELL CONVERTED WELL		E SLOT SIZE 1 O 2 2 3 O	A LOCATION OF WELL ON LOT
HEREBY CERTIFY THAT THIS WELL CCORDANCE WITH COMAR 26.04.04		N DIAMETER /) (NEAREST	SHOW PERMANENT STRUCTURE SUCH /
CONFORMANCE WITH ALL COND APTIONED PERMIT, AND THAT THE EREIN IS ACCURATE AND COMP	HONS STATED IN THE ABOVE	OF SCREEN (NEARLEST INCH)	BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS
NOWLEDGE.	TETE TO THE BEST OF MY	from to	THAN TWO DISTANCES (MEASUREMENTS TO WELL)
ORILLERS LIC. NO. / M	GD0091	GRAVEL PACK 3 14	
	And the	IF WELL DRILLED WAS FLOWING WELL	SHEAR D
DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON	ADDI ICATIONS	INSERT F IN BOX 68 68	
		MDE USE ONLY NOT TO BE FILLED IN BY DRILLER)	1 1225
LIO. NO.1		T (ER.O.S.) W Q	E & BP-MW-25
		70 72	120.5
SITE SUPERVISOR (sign. of a esponsible for sitework if diffe	rent from permittee)	TELESCOPE LOG 74 75 76	
지난 어머니 선생님에 가는 하면 없는 것이 되었다.	たい へきかい かめ ぎおくり 特別 「新雅 」(CASING INDICATOR OTHER DATA	(1985) (#1965년 1975년 - 1984년 (1985년) 1 전 1984년 - 1984년 (1987년 - 1987년 - 1984년 - 1984년 - 1984년 - 1984년 - 1984년

C 1 3 (THIS NUMBER IS TO BE F	E ONCHED	E ONLY)	STATE OF MARYLAND WELL COMPLETION REPORT FILL IN THIS FORM COMPLETELY	THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED. COUNTY NUMBER
IN COLS. 3-6 ON ALL CAR ST/CO USE ONLY DATE Received MM DD YY 8 13		ELL COMPL	22 24 26	PERMIT NO. FROM "PERMIT TO DRILL WEI
OWNER SEVE	RSTAL S	PARRO	first name	28 29 30 31 32 33 34 35 3 BACTU MD 21219
SUBDIVISIONWELL	100		SECTION	LOT
Not required for			WELL HAS BEEN GROUTED (Circle Appropriate Box)	C 3
STATE THE KIND OF FORMAT COLOR, DEPTH, THICKNESS	TIONS PENETRATE	D, THEIR	(Circle Appropriate Box) TYPE OF GROUTING MATERIAL (Circle one)	PUMPING TEST
DESCRIPTION (Use additional sheets if needed)	FEET FROM TO	check if water bearing	CEMENT CM BENTONITE CLAY BC NO. OF BAGS 46 3 NO. OF POUNDS 45 862	HOURS PUMPED (nearest hour) $\frac{\Lambda/T}{8}$
SLAG	0 22'		GALLONS OF WATER DEPTH OF GROUT SEAL (to nearest foot)	PUMPING RATE (gal. per min.) METHOD USED TO MEASURE PUMPING RATE
			from	WATER LEVEL (distance from land surface)
GRAY SICT WI	22' 23.5		casing types insert CASING RECORD CO	BEFORE PUMPING 17 20 ft.
Sit	e mendete state st		appropriate code below PL OT	WHEN PUMPING 22 25 ft. TYPE OF PUMP USED (for test)
BROWN, GREEN, GRAS SANDWI	23.5 24°		MAIN Nominal diameter Total depth CASING top (main) casing of main casing	A air P piston T turbi
trace to some			TYPE (nearest inch)! (nearest foot) 2 /4 60 61 63 64 66 70	C centrifugal R rotary O des
Sid			E OTHER CASING (if used) A diameter depth (feet)	J jet S submersible
			H inch from to C A S	DRILLER INSTALLED PUMP YES
			N	(CIRCLE) (YES or NO) IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.
		*. * *	screen type or open hole STBRHO	TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29.
			insert appropriate code below STEEL BRASS OPEN BRONZE HOLE PL OT	CAPACITY: GALLONS PER MINUTE (to nearest gallon) 31
			PLASTIC OTHER C 2 DEPTH (nearest ft.)	PUMP HORSE POWER
NUMBER OF UNSUCCESSFU	L WELLS:	<u></u>	10/ 14/ 24	PUMP COLUMN LENGTH (nearest ft.)
WELL HYDROFRACTURED CIRCLE APPROPR	Y		A 8 9 11 15 17 21 C	CASING HEIGHT (circle appropriate box and enter casing height)
A WELL WAS ABANDONED WHEN THIS WELL WAS CO E ELECTRIC LOG OBTAINED	O AND SEALED OMPLETED		23 24 26 30 32 36 S C 3 R 38 39 41 45 47 51	LAND SURFACE LAND SURFACE (near foo
P TEST WELL CONVERTED WELL HEREBY CERTIFY THAT THIS WELL	HAS BEEN CONSTE	NICTED IN	E SLOT SIZE 1 2 3	LOCATION OF WELL ON LOT SHOW PERMANENT STRUCTURE SUCH A
CCORDANCE WITH COMAR 26.04.04 I CONFORMANCE WITH ALL CONDITION APPROVED PERMIT, AND THAT THE EREIN IS ACCURATE AND COMPINOWLEDGE.	TIONS STATED IN THE	HE ABOVE	DIAMETER (NEAREST OF SCREEN (NEAREST INCH) 56 60 from to	BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)
PRILLERS LIC. NO. 1 M	6000'		GRAVEL PACK	
DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON A	APPLICATION)		MDE USE ONLY NOT TO BE FILLED IN BY DRILLER)	SHIPYARD RD
LIC. NO. i 👝	D		T (E.R.O.S.) W.Q	(S) BP-MW-71)
SITE SUPERVISOR (sign. of desponsible for sitework if differ	riller or journeym	an i	70	

C[1]	(MDE USE	ONLY)	STATE OF MARYLAND WELL COMPLETION REPORT	45 DAYS AFTER WELL IS COMPLETED.
1 2 3 (THIS NUMBER IS TO BE IN COLS. 3-6 ON ALL CAP			FILL IN THIS FORM COMPLETELY PLEASE TYPE	COUNTY NUMBER
ST/CO USE ONLY DATE Received	DATE WELL		ETED Depth of Well	PERMIT NO. FROM "PERMIT TO DRILL WEL
MM DD YY 8 13	5.	12 C	<u>9</u> 22 H 26	BA - 95 - 3037
	15		(TO NEAREST FOOT)	28 29 30 31 32 33 34 35 36
OWNER SEVER	- lest name	<u>RORNU</u>	first name	20 - 12 N 21 N 172
SUBDIVISION	4.70 Sp. 1882	ROWS		5ACTO, MD. 21219
	LOG		SECTION	LOT
Not required for			WELL HAS BEEN GROUTED MI	<u>c i ŝ</u>
STATE THE KIND OF FORMA COLOR, DEPTH, THICKNES	TIONS PENETRATED,	THEIR	(Circle Appropriate Box) TYPE OF GROUTING MATERIAL (Circle one)	PUMPING TEST
	FEET FEET	check	CEMENT CM BENTONITE CLAY BC	HOURS PUMPED (nearest hour)
DESCRIPTION (Use additional sheets if needed)	FROM TO	if water bearing	NO. OF BAGS 3 NO. OF POUNDS 45 248 2	NA.
CIAC	0' 2.1'		GALLONS OF WATER	PUMPING RATE (gal. per min.) /// 11
SLAG	0' 24'	V	DEPTH OF GROUT SEAL (to nearest foot)	METHOD USED TO MEASURE PUMPING RATE
ti nata and and and and and and and and and an		Salah Salah Salah Salah Salah Salah Salah Salah Salah Salah Salah Salah Salah Salah Salah Salah Salah Salah Sa	from () ft to // ft	
GRAY, BROWN		,,,	48 TOP 52 54 BOTTOM 58 (enter 0 if from surface)	WATER LEVEL (distance from land surface)
SICT W/ TRACE	24' 25'		casing CASING RECORD	BEFORE PUMPING ft.
F-M SAND			types insert ST CO	17 20
TIM STIL			(appropriate) STEEL CONCRETE	WHEN PUMPING ${22}$ ft.
Lt. BROWN SICH F-M		/	below PLASTIC OTHER	TYPE OF PUMP USED (for test)
Sich F-M	25' 26'	_	MAIN Nominal diameter Total depth	A air P piston T turbin
SAND			CASING top (main) casing of main casing	27 27 27 other
			TYPE (nearest inch)! (nearest foot) PL 2 16	C centrifugal R rotary O (describelow
		1	60 61 63 64 66 70	
			E OTHER CASING (if used)	J jet S submersible
		1	diameter depth (feet) H inch from to	
			C	PUMP INSTALLED DRILLER INSTALLED PUMP VES No.
			Š !	(CIRCLE) (YES or NO)
			Ğ ——	IF DRILLER INSTALLS PUMP, THIS SECTION
			screen type SCREEN RECORD	MUST BE COMPLETED FOR ALL WELLS. TYPE OF PUMP INSTALLED
			or open hole ST BR HO	PLACE (A,C,J,P,R,S,T,O) 29
			appropriate STEEL BRASS OPEN	IN BOX 29. CAPACITY:
			code below BRONZE HOLE	GALLONS PER MINUTE (to nearest gallon) 31
			PLASTIC OTHER	
			DEPTH (nearest ft.)	PUMP HORSE POWER
IUMBER OF UNSUCCESSFU	JL WELLS:		7 2 ▼	PUMP COLUMN LENGTH (nearest ft.)
VELL HYDROFRACTURED	yes	PO=	1 P/ 16 26	CASING HEIGHT (circle appropriate box
	Y (N	A 8. 9 11 15 17 21	and enter casing height)
CIRCLE APPROPR			H ² 23 24 26 30 32 36	49 LAND SURFACE
A WELL WAS ABANDONE WHEN THIS WELL WAS (COMPLETED			below 3 (neare
E ELECTRIC LOG OBTAINE TEST WELL CONVERTED			R 38 39 41 45 47 51	49 50 51 foot
WELL			SLOT SIZE 1 2 3	A LOCATION OF WELL ON LOT
HEREBY CERTIFY THAT THIS WELL COORDANCE WITH COMAR 26,04,04 CONFORMANCE WITH ALL COND	"WELL CONSTRUCTIO	N" AND	DIAMETER 7 (NEAREST	SHOW PERMANENT STRUCTURE SUCH A BUILDING, SEPTIC TANKS, AND /OR
APTIONED PERMIT, AND THAT THE EREIN IS ACCURATE AND COMP	IF INFORMATION DOC	CAITED	OF SCREEN INCH)	LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES
NOWLEDGE /	/		from to	(MEASUREMENTS TO WELL)
PHILLERS LIC. NO. 1 M	1GD 009		BRAVEL PACK	1 - K
	when	١.	F WELL DRILLED VAS FLOWING WELL	
DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON	APPLICATION)		NSERT F IN BOX 68 68 MDE USE ONLY	\$ 000 SHID
LIC. NO.1	D	1 (NOT TO BE FILLED IN BY DRILLER)	as and ship
			T (E.R.O.S.) W Q	10° (8
SITE SUPERVISOR (sign. of a	delina de esta esta esta esta esta esta esta est		70 72	3/ % €
SPE SUPERVISOR (sign. of diffe	namer or journeyman rent from permittee)		ELESCOPE LOG 74 75 76 ASING INDICATOR OTHER DATA	1 BP-MW-04 \
大学工作 医克里耳氏征 医克尔二氏试验检尿病 医二氯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基	The state of the second second		ASING INDICATOR OTHER DATA	

C 1	(MDE USE	ONLY)	SIAIE UF MARYLAND	45 DAYS AFTER WELL IS COMPLETED.
1 2 3 (THIS NUMBER IS TO BE F	6 PUNCHED		WELL COMPLETION REPORT FILL IN THIS FORM COMPLETELY	COUNTY
ÎN COLS. 3-6 ON ALL CAR			PLEASE TYPE	NUMBER
ST/CO USE ONLY DATE Received MM DD YY	DATE WEL	L COMPL	LETED Depth of Well	PERMIT NO. FROM "PERMIT TO DRILL WELL"
8 13	15	7 0	22 26 20 (IO NEAREST FOOD)	<u>6A - 95 - 3036 </u>
		£ 17 03 1 13	(10 110 11001)	28 29 30 31 32 33 34 35 36 37
OWNER STREET OR RFD S//	lest name	KKOW Porkit	first page	SALTO 1110 : 7119
SUBDIVISION	/ (<u> </u>	TOWN/	LOT
WELL	LOG		GROUTING RECORD (yes) no	
Not required to	or driven wells		WELL HAS BEEN GROUTED (Circle Appropriate Box)	C 3
STATE THE KIND OF FORMA COLOR, DEPTH, THICKNESS	TIONS PENETRATED	THEIR	TYPE OF GROUTING MATERIAL (Circle one)	PUMPING TEST
DESCRIPTION (Use	FEET	check if water	CEMENT CM BENTONITE CLAY BC	HOURS PUMPED (nearest hour) /// 8 9
additional sheets if needed)	FROM TO	bearing	NO. OF BAGS NO. OF POUNDS 45 46	PUMPING RATE (gal. per min.)
			GALLONS OF WATER 5	METHOD USED TO
SLAG	0 14'		DEPTH OF GROUT SEAL (to nearest foot),	MEASURE PUMPING RATE
3410			from ft. to ft.	WATER LEVEL (distance from land surface)
	The second secon	Profit Control of the Control of Control	(enter 0 if from surface)	
			casing types CASING RECORD	BEFORE PUMPING 17 20 ft.
			insert STEEL CONCRETE	WHEN PUMPING ft.
	۹		code below PL OT	22 25
		,	PLASTIC OTHER	TYPE OF PUMP USED (for test) A air P piston T turbine
			MAIN Nominal diameter Total depth CASING top (main) casing of main casing	$\lfloor \frac{27}{27} \rfloor$
			TYPE (nearest inch)! (nearest foot)	C centrifugal R rotary O other (describe
			PL 0 4	27 27 Delow)
	12.00		60 61 63 64 66 70 E OTHER CASING (if used)	J jet S submersible
			A diameter depth (feet)	<u>27</u> <u>27</u>
			H inch from to	PUMP INSTALLED
			AS	DRILLER INSTALLED PUMP YES NO (CIRCLE) (YES or NO)
			Ň	IF DRILLER INSTALLS PUMP, THIS SECTION
			screen type SCREEN RECORD	MUST BE COMPLETED FOR ALL WELLS.
				TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) 29
v		. [insert appropriate STEEL BRASS OPEN OPEN OPEN OPEN OPEN OPEN OPEN OPEN	IN BOX 29. CAPACITY:
			code Bholivae Hole	GALLONS PER MINUTE
. Yes			below PLSTIC OTHER	(10 11001001 9011011)
			C 2 DEPTH (nearest ft.)	PUMP HORSE POWER 37 41
NUMBER OF UNSUCCESSFU	JL WELLS:	2 l	1 2	PUMP COLUMN LENGTH (nearest ft.)
WELL HYDROFRACTURED	yes	(no)	E 1 8 9 11 15 17 21	CASING HEIGHT (circle appropriate box
	Y (N)	A 8. 9 11 15 17 21	+ above and enter casing height)
CIRCLE APPROPR A WELL WAS ABANDONE			H 23 24 26 30 32 36	LAND SURFACE
MHEN THIS WELL WAS C	OMPLETED		S C 3	below 3 (nearest) foot)
P TEST WELL CONVERTED			R 38 39 41 45 47 51	49 50 51
WELL I HEREBY CERTIFY THAT THIS WELL	HAS BEEN CONSTRU	CTED IN	E SLOT SIZE 1 U 2 Z 3 O	A LOCATION OF WELL ON LOT SHOW PERMANENT STRUCTURE SUCH AS
IN CONFORMANCE WITH ALL CONDI	"WELL CONSTRUCTIONS STATED IN THE	N" AND	DIAMETER (NEAREST INCH)	BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS
CAPTIONED PERMIT, AND THAT TH HEREIN IS ACCURATE AND COMP KNOWLEDGE.	LETE TO THE BEST	OF MY	56 60	THAN TWO DISTANCES
	8-000		from to	(MEASUREMENTS TO WELL)
DRILLERS LIC. NO. 1 M	€ DOO A		GRAVEL PACK	
DRILLERS SIGNATURE			WAS FLOWING WELL: INSERT F IN BOX 68 68	STEVARD RD
(MUST MATCH SIGNATURE ON	APPLICATION)	•	MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)	1
LIC. NO. i 🔔	_D	- • 1	T (ER.O.S.) W Q	1
			70 72	\ <u>~```</u>
SITE SUPERVISOR (sign. of cresponsible for sitework if differ	Iriller or journeyma	n I	TELESCOPE LOG 74 75 76	\ BP-MW-05/
Hellin in Albane in architecture	en nom permittee	<u>' 1</u>	CASING INDICATOR OTHER DATA	1
DENV-CR00			OWNER	
도시는 하는 이번 강한 하루 사내 경기를 하고 있어?		alikysky.	:ON 25-17 TO SEE - SEE SEE SEE SEE SEE SEE SEE TO TO THE SEE SEE	나라다. 그 사람이 가면서 하는 사람들은 사람이 가게 하는 것들이 살고 생각하다.

1 2 3 (TING NUMBER 10 TO DE	(MDE USE ONL	WELL COMPLETION REPORT	45 DAYS AFTER WELL IS COMPLETED. COUNTY	
(THIS NUMBER IS TO BE IN COLS. 3-6 ON ALL CA		FILL IN THIS FORM COMPLETELY PLEASE TYPE	NUMBER	
ST/CO USE ONLY DATE Received	DATE WELL CO	IPLETED Depth of Well	PERMIT NO. FROM "PERMIT TO DRILL	
MM DD YY	MM DD 11	22 /6 26	BA - 95 - 30	
8 13	15	20 (TO NEAREST FOOT)	28 29 30 31 32 33 34 39	
OWNER <u>SEVE</u> STREET OR RFD	last name	first name	./. 8:4	
SUBDIVISION	430 SPARKI	SECTION	LOT	
	L LOG	GROUTING RECORD / yes \ no		
Not required	for driven wells	WELL HAS BEEN GROUTED (Circle Appropriate Box)	C 3 1	
STATE THE KIND OF FORM COLOR, DEPTH, THICKNE	MATIONS PENETRATED, THE ESS AND IF WATER BEARING	TYPE OF GROUTING MATERIAL (Circle one)	PUMPING TEST	
DESCRIPTION (Use	FEET ch	CEMENT CIM RENTONITE CLAV RIC	HOURS PUMPED (nearest hour) August	
additional sheets if needed)	FROM TO bea		PUMPING RATE (gal. per min.)	
		GALLONS OF WATER	METHOD USED TO	
SLAG	0' 16'	DEPTH OF GROUT SEAL (to nearest foot)	MEASURE PUMPING RATE	
3-40		from ft. to ft.	WATER LEVEL (distance from land surface)	
		(enter 0 if from surface) casing CASING RECORD	BEFORE PUMPING	
		tynes	BEFORE PUMPING 17 20	
		insert appropriate STEEL CONCRETE	WHEN PUMPING 22 25	
		code below PL OT	TYPE OF PUMP USED (for test)	
		PLASTIC OTHER	A air P piston T tu	
		MAIN Nominal diameter Total depth CASING top (main) casing of main casing	27 27 27	
		TYPE (nearest inch)! (nearest foot)	C centrifugal R rotary 0 (c	
		60 61 63 64 66 70		
		E OTHER CASING (if used)	jet S submersible	
		diameter depth (feet) H inch from to		
		C	PUMP INSTALLED DRILLER INSTALLED PUMP YES	
		5 1 N	(CIRCLE) (YES or NO)	
		G — C	IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.	
		screen type SCREEN RECORD or open hole	TYPE OF PUMP INSTALLED	
			PLACE (A,C,J,P,R,S,T,O) 2 IN BOX 29.	
		appropriate code BRONZE HOLE	CAPACITY: GALLONS PER MINUTE	
		below / PL OT	(to nearest gallon) 31	
		PLASTIC OTHER	PUMP HORSE POWER	
NUMBER OF UNSUCCESS	FUL WELLS:	C 2 DEPTH (nearest ft.)	PUMP COLUMN LENGTH	
	yes no	-101 6 16	(nearest ft.)	
WELL HYDROFRACTURED	Y	A 8 9 11 15 17 21	CASING HEIGHT (circle appropriate box and enter casing height	
CIRCLE APPROP		C 2 23 24 26 30 32 36	49 LAND SURFACE	
A WELL WAS ABANDON WHEN THIS WELL WAS	COMPLETED	S 3 32 36 36 36 36 36 36 36 36 36 36 36 36 36	below (ne	
E ELECTRIC LOG OBTAIN D TEST WELL CONVERTE		R 38 39 41 45 47 51	49 50 51	
WELL		E SLOT SIZE 1 2 2 3 0	LOCATION OF WELL ON LOT	
HEREBY CERTIFY THAT THIS WE ACCORDANCE WITH COMAR 26,04. N CONFORMANCE WITH ALL CON	04 "WELL CONSTRUCTION" AN DITIONS STATED IN THE ARCA	DIAMETER (NEAREST	SHOW PERMANENT STRUCTURE SUCH BUILDING, SEPTIC TANKS, AND /OR	
CAPTIONED PERMIT, AND THAT HEREIN IS ACCURATE AND COI KNOWLEDGE.	THE INFORMATION PRESENTE	OF SCREEN INCH)	LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES	
		from to	(MEASUREMENTS TO WELL)	
DRILLERS LIC. NO. 1	и і	GRAVEL PACK	s an al	
DRILLERS SIGNATURE		WAS FLOWING WELL INSERT F IN BOX 68 68	Still MAD POINT	
(MUST MATCH SIGNATURE O	N APPLICATION)	MDE USE ONLY	6/ 100	
LIC. NO.1 _	D	(NOT TO BE FILLED IN BY DRILLER) T (E.R.O.S.) W Q	1 1/151	
		70 72	1 2, 'a /	
SITE SUPERVISOR (sign. of esponsible for sitework if diff	driller or journeyman	76 /2 74 75 76 TELESCOPE LOG 74 75 76	BP-MW-06	
PAPARISIDIE IOI SICHOIK II OII	erent non betwittee)	CASING INDICATOR OTHER DATA	1 0 0 MIJ-00 /	

	(MDE USE ONLY)	WELL COMPLETION REPORT	45 DAYS AFTER WELL IS COMPLETED.	
1 2 3 (THIS NUMBER IS TO BE		FILL IN THIS FORM COMPLETELY	COUNTY	
IN COLS. 3-6 ON ALL CAP	DATE WELL COMP	PLEASE TYPE	NUMBER PERMIT NO.	
DATE Received	MM DD ,	YY.	FROM "PERMIT TO DRILL WELL"	
8 13	15	22 26 20 (TO NEAREST FOOT)	BA - 95 - 3041 28 29 30 31 32 33 34 35 36 37	
OWNER CEVE	CORRECORS	POINT		
STREET OR RFD_/	1 lest name	C-1	BALTA. MD 21219	
SUBDIVISION	3	SECTION	LOT	
	LOG or driven wells	GROUTING RECORD Yes no	- N C	
STATE THE KIND OF FORMA COLOR, DEPTH, THICKNES		WELL HAS BEEN GROUTED (Circle Appropriate Box)		
	S AND IF WATER BEARING FEET , check	TYPE OF GROUTING MATERIAL (Circle one) CEMENT CM BENTONITE CLAY BC	HOURS PUMPED (nearest hour)	
DESCRIPTION (Use additional sheets if needed)	FROM TO if water bearing	45 46	8 9	
		NO. OF BAGS NO. OF POUNDS	PUMPING RATE (gal. per min.)	
		DEPTH OF GROUT SEAL (to nearest foot)	METHOD USED TO MEASURE PUMPING RATE	
SLAG	0 16	from ft. to ft. to ft	WATER LEVEL (distance from land surface)	
The company of the co	and the state of t	(enter 0 if from surface)		
		casing CASING RECORD types	BEFORE PUMPING 17 20 ft.	
		insert STEEL CONCRETE	WHEN PUMPING ft.	
		code below PL OT	TYPE OF PUMP USED (for test)	
		PLASTIC OTHER	A air P piston T turbine	
		MAIN Nominal diameter Total depth CASING top (main) casing of main casing	27 27 other	
		TYPE (nearest inch)! (nearest foot)	C centrifugal R rotary O (describe	
		60 61 63 64 66 70	£1 £1	
		E OTHER CASING (if used)	J jet S submersible	
		C diameter depth (feet) H inch from to		
		C	PUMP INSTALLED DRILLER INSTALLED PUMP YES NO	
		N	(CIRCLE) (YES or NO)	
		G	IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.	
		screen type or open hole STEEL BRASS OPEN	TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29.	
		insert appropriate code BRASS BRONZE HOLE	CAPACITY: GALLONS PER MINUTE	
		below / PL OT	(to nearest gallon) 31 35	
		PLASTIC OTHER	PUMP HORSE POWER 37 41	
NUMBER OF UNSUCCESSFU	JL WELLS:	C 2 DEPTH (nearest ft.)	PUMP COLUMN LENGTH	
WEST HVDDOCDAOTHDED	yes no	E1 PC 6 16	(nearest ft.) CASING HEIGHT (circle appropriate box	
WELL HYDROFRACTURED	Y (N)	A 8. 9 11 15 17 21	CASING HEIGHT (circle appropriate box and enter casing height)	
CIRCLE APPROPE A WELL WAS ABANDONE		H ² 23 24 26 30 32 36 S	LAND SURFACE	
WHEN THIS WELL WAS O	COMPLETED	C 3	below (nearest)	
P TEST WELL CONVERTED		E	A LOCATION OF WELL ON LOT	
I HEREBY CERTIFY THAT THIS WELL ACCORDANCE WITH COMAR 26.04.04	HAS BEEN CONSTRUCTED IN	N SECTIONAL TO SECTION	SHOW PERMANENT STRUCTURE SUCH AS	
IN CONFORMANCE WITH ALL COND CAPTIONED PERMIT, AND THAT THEREIN IS ACCURATE AND COMP	TIONS STATED IN THE ADOLE .	DIAMETER (NEAREST INCH)	BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS	
HEREIN IS ACCURATE AND COMP	PLETE TO THE BEST OF MY	56 60 from to	THAN TWO DISTANCES (MEASUREMENTS TO WELL)	
DRILLERS LIC. NO.	LODDO.	GRAVEL PACK 4 1/0		
X 10 FW	L1	IF WELL DRILLED WAS FLOWING WELL	BP-MW-W-J	
DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON	APPLICATION)	INSERT F IN BOX 68 68 MDE USE ONLY	SUPPORT \	
LIC. NO.	D	(NOT TO BE FILLED IN BY DRILLER) T (E.R.O.S.) W.Q	1 (1 1%.)	
			\ \ < 5 & \	
SITE SUPERVISOR (sign. of	driller or journeyman	70		
responsible for sitework if diffe	rent from permittee)	TELESCOPE LOG CASING INDICATOR OTHER DATA		
DENV-CR00		OWNER		

91	(MDE USE	UNLY)	WELL COMPLETION REPORT	45 DAYS AFTER WELL IS COMPLETED.
1 2 3 (THIS NUMBER IS TO BE P IN COLS. 3-6 ON ALL CARI			FILL IN THIS FORM COMPLETELY	COUNTY NUMBER
ST/CO USE ONLY	DATE WELL	COMPL	PLEASE TYPE ETED Depth of Well	PERMIT NO.
DATE Received MM DD YY			22 1/2 26	FROM "PERMIT TO DRILL WE
8 13	15		20 (TO NEAREST FOOT)	15 A 15 306/ 28 29 30 31 32 33 34 35 3
OWNERSEVER	STAL SOA	0 ROW	SPORT LIC	
STREET OR RFD_///	last name	000	POUNT 1304/ EVAKO TOWN	BACTO., MD. 21219
SUBDIVISION			SECTION	LOT
WELL Not required for			GROUTING RECORD Yes NO WELL HAS BEEN GROUTED	C 3
STATE THE KIND OF FORMAT COLOR, DEPTH, THICKNESS		THEIR	(Circle Appropriate Box)	PUMPING TEST
······································	FEET FEET	RING check	TYPE OF GROUTING MATERIAL (Circle one) CEMENT CIM BENTONITE CLAY BIC	HOURS PUMPED (nearest hour)
DESCRIPTION (Use additional sheets if needed)	FROM TO	if water bearing	45-46	8 9
	·		NO. OF BAGS / NO. OF POUNDS 49 724 GALLONS OF WATER	PUMPING RATE (gal. per min.)
	127		DEPTH OF GROUT SEAL (to nearest foot)	METHOD USED TO MEASURE PUMPING RATE
SLAG	0 16	V	from $ft.$ to $ft.$	
diantantiki (pikana) di <mark>kapan kita maji kulang mp</mark> olonggama kumpeya komo nenjarinju e sejisi nisi managa inakan			48 TOP 52 54 BOTTOM 58 (enter 0 if from surface)	WATER LEVEL (distance from land surface)
,			casing CASING RECORD types	BEFORE PUMPING 17 20 ft.
			/ insert \ SI C O	WHEN PUMPING ft.
			code DII OIT	22 25
			below PLASTIC OTHER	TYPE OF PUMP USED (for test)
			MAIN Nominal diameter Total depth CASING top (main) casing of main casing	A air P piston T turb
			TYPE (nearest inch)! (nearest foot)	C centrifugal R rotary O (des
			60 61 63 64 66 70	27 27 belo
		ŀ	60 61 63 64 66 70 E OTHER CASING (if used)	J jet S submersible
			A diameter depth (feet) C inch from to	
				PUMP INSTALLED
		l	6 !	DRILLER INSTALLED PUMP YES (CIRCLE) (YES or NO)
			N G	IF DRILLER INSTALLS PUMP, THIS SECTION
			screen type SCREEN RECORD	MUST BE COMPLETED FOR ALL WELLS. TYPE OF PUMP INSTALLED
			or open hole ST BR HO insert STEEL BRASS OPEN	PLACE (A,C,J,P,R,S,T,O) 29 IN BOX 29.
			insert STEEL BRASS OPEN appropriate BRONZE HOLE	CAPACITY:
			code below PL OT	GALLONS PER MINUTE (to nearest gallon) 31
			PLASTIC OTHER	PUMP HORSE POWER
IUMBER OF UNSUCCESSFUL		-	DEPTH (nearest ft.)	PUMP COLUMN LENGTH
TOMOLITO ONSOCCESSFUL		<u></u>	(2)	(nearest ft.)
VELL HYDROFRACTURED	- I	N S	8 9 11 15 17 / 01	CASING HEIGHT (circle appropriate box and enter casing height
CIRCLE APPROPRI		=4	[2	49 Above LAND SURFACE
A WELL WAS ABANDONED WHEN THIS WELL WAS CO	AND SEALED	5	23 24 26 30 32 36	
E ELECTRIC LOG OBTAINED		F	38 39 41 45 47 51	below) (near
TEST WELL CONVERTED T		E	SLOT SIZE 1_ U2 2 3 0	A LOCATION OF WELL ON LOT
HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN CORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE			DIAMETER // (NEAREST	SHOW PERMANENT STRUCTURE SUCH A BUILDING, SEPTIC TANKS, AND JOR
EREIN IS ACCURATE AND COMPLETE TO THE REST OF UV			OF SCREEN 60 INCH)	LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES
() / _ /	<u> </u>		from to	(MEASUREMENTS TO WELL)
			RAVEL PACK 4 16	Len co
K Je littlandan IV			WELL DRILLED AS FLOWING WELL SERT F IN BOX 68 68	SHIPYARD RD
(MUST MATCH SIGNATURE ON A	PPLICATION)	N	IDE USE ONLY	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
LIC. NO. i	_D	1 (NOT TO BE FILLED IN BY DRILLER) T (E.R.O.S.) W Q	16-50 , T
			등하는 것이 되었다. 그 사람들은 사람들이 되었다. 그렇게 하고 말했다. 그 사람들이 되었다는 것이다. 그렇게 살아 되었다.	
SITE SUPERVISOR (sign. of dri sponsible for sitework if differe	iller or journeyman		72 74 75 76	82 MM-08
	والوارات والمؤافرة المناشرين المناسبين والمساور	27 to 27 to 3 2 7 3	ELESCOPE LOG	8.1 ファー 変元しても 整理器 さんた (単一で) おくり ニファ・アプラング いっぱい

	(MDE USE ONLY)	WELL COMPLETION REPORT	45 DAYS AFTER WELL IS COMPLETED.
THIS NUMBER IS TO BE IN COLS. 3-6 ON ALL CAR		FILL IN THIS FORM COMPLETELY PLEASE TYPE	COUNTY NUMBER
ST/CO USE ONLY DATE Received	DATE WELL COMP	LETED Depth of Well	PERMIT NO. FROM "PERMIT TO DRILL WEL
MM DD YY 8 13	MM DD 15	YY 22 /8 26	BA - 95 - 306;
	15	20 (TO NEAREST FOOT)	28 29 30 31 32 33 34 35 36
OWNER STREET OR RFD	iast name	first name	BACTON MID. 21219
SUBDIVISION		SECTION	LOT
WELL	LOG	GROUTING RECORD /Ves \ no	
	or driven wells	WELL HAS BEEN GROUTED (Circle Appropriate Box)	1 2 PUMPING TEST
COLOR, DEPTH, THICKNES	ATIONS PENETRATED, THEIR SS AND IF WATER BEARING	TYPE OF GROUTING MATERIAL (Circle one)	HOURS PUMPED (nearest hour)
DESCRIPTION (Use additional sheets if needed)	FEET check if water bearing	CEMENT C BENTONITE CLAY BC	8 9
40	Dearing	NO. OF BAGS NO. OF POUNDS	PUMPING RATE (gal. per min.) 11
		GALLONS OF WATER DEPTH OF GROUT SEAL (to nearest foot)	METHOD USED TO MEASURE PUMPING RATE
SLAG	0 /8 /	from ft. to 4 ft.	
Annual de la company de la com	igni vario, acquire estiguia artificia est comencializate accomo frectional as entrectivas forest to the extrem	48 TOP 52 54 BOTTOM 58 (enter 0 if from surface)	WATER LEVEL (distance from land surface)
		casing CASING RECORD	BEFORE PUMPING 17 20 ft.
*		types insert	WHEN PUMPING ft.
		appropriate code below PL OT	22 25
		below PLASTIC OTHER	TYPE OF PUMP USED (for test)
		MAIN Nominal diameter Total depth CASING top (main) casing of main casing	A air P piston T turbin
		TYPE (nearest inch)! (nearest foot)	C centrifugal R rotary O (desc
		60 61 63 64 66 70	27 27 below
		E OTHER CASING (if used)	J jet S submersible
		A diameter depth (feet) H inch from to	
		C	PUMP INSTALLED DRILLER INSTALLED PUMP YES N
		S 1 N	(CIRCLE) (YES or NO)
		Ğ — — — — — — — — — — — — — — — — — — —	IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.
		screen type SCREEN RECORD or open hole	TYPE OF PUMP INSTALLED
		insert ST BR HO OPEN	PLACE (A,C,J,P,R,S,T,O) 29 IN BOX 29.
		appropriate code BRONZE HOLE	CAPACITY: GALLONS PER MINUTE
		below PLASTIC OTHER	(to nearest gallon) 31
			PUMP HORSE POWER 37
NUMBER OF UNSUCCESSFU	UL WELLS:	DEPTH (nearest ft.)	PUMP COLUMN LENGTH (nearest ft.)
WELL HYDROFRACTURED	yes po	E PC 8 18	CASING HEIGHT (circle appropriate box
	Y (N)	A 8. 9 11 15 17 21	+ above and enter casing height)
CIRCLE APPROPE A WELL WAS ABANDONE		H ² 23 24 26 30 32 36 S	49 LAND SURFACE
WHEN THIS WELL WAS O	COMPLETED	C 3	below 3 (neare foot
P TEST WELL CONVERTED WELL		R 38 39 41 45 47 51	49 50 51
HERERY CERTIFY THAT THIS WELL	L HAS BEEN CONSTRUCTED IN	E SLOT SIZE 1 2 2 3 0	LOCATION OF WELL ON LOT SHOW PERMANENT STRUCTURE SUCH A
CCORDANCE WITH COMAR 26.04.04 I CONFORMANCE WITH ALL COND APTIONED PERMIT, AND THAT TH	INCOME STATED IN THE ABOVE	DIAMETER (NEAREST OF SCREEN INCH)	BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS
EREIN IS ACCURATE AND COMP NOWLEDGE.	PLETE TO THE BEST OF MY	56 60 from to	THAN TWO DISTANCES (MEASUREMENTS TO WELL)
PRILLERS LIC. NO. M	60000 ·	GRAVEL PACK 6 . 18	
X 1/0 5/10	元・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	IF WELL DRILLED WAS FLOWING WELL	SHUYAND PD - TI
DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON	APPLICATION)	INSERT FIN BOX 68 68	1 57 183.
LIC. NO.		MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)	(500, 09) BP-MV1-09 &
		T (ER.O.S.) W Q	Y 500, 7,09 / 2
		70	
SITE SUPERVISOR (sign. of a sponsible for sitework if diffe	driller or journeyman	74 75 76	를 통하는 경기를 하는 것이 없는 사람들이 되었다. 그는 사람들은 사람들이 되었다. 그 사람들이 되었다.

	(MDE USE O	NLY)	SIAIE UF MARYLAND	45 DAYS AFTER WELL IS COMPLETED.	
1 2 3 (THIS NUMBER IS TO BE	6 PLINCHED		WELL COMPLETION REPORT FILL IN THIS FORM COMPLETELY	COUNTY	
IN COLS. 3-6 ON ALL CAP			PLEASE TYPE	NUMBER	
ST/CO USE ONLY DATE Received	DATE WELL	COMPI	ETED Depth of Well	PERMIT NO.	
MM DD YY	MM DE		YY 22 /4½ 26	FROM "PERMIT TO DRILL WELL" RA - 95 - 3063	
8 13	15		20 (TO NEAREST FOOT)	28 29 30 31 32 33 34 35 36 37	
OWNER OF VER		WC 1	Point LLC		
STREET OR RFD/	Last name OCCLO	OWS	PAINT KOULE VAIKE TOWN	RELTU. MD. 21219	
SUBDIVISION	*		SECTION	LOT	
WELL	. LOG		GROUTING RECORD yes no	C 3	
Not required for	or driven wells		WELL HAS BEEN GROUTED (Circle Appropriate Box)		
STATE THE KIND OF FORMA COLOR, DEPTH, THICKNES	TIONS PENETRATED, THE	EIR	TYPE OF GROUTING MATERIAL (Circle one)	PUMPING TEST	
DESCRIPTION (Use	FFFT	check	CEMENT CM BENTONITE CLAY BC	HOURS PUMPED (nearest hour)	
additional sheets if needed)		water earing	45-46	^//a	
			NO. OF BAGS NO. OF POUNDS 45/24 GALLONS OF WATER 5	PUMPING RATE (gal. per min.)	
Clar			DEPTH OF GROUT SEAL (to nearest foot)	METHOD USED TO	
SLAG		W		MEASURE PUMPING RATE	
		po litica e que en en en en en en en en en en en en en	48 TOP 52 54 BOTTOM 58	WATER LEVEL (distance from land surface)	
			(enter 0 if from surface)	BEFORE PUMPING fr.	
			casing CASING RECORD types	BEFORE FUMPING 17 20 17.	
			/ insert \ SII CO	WHEN PUMPING ft.	
			(appropriate code STEEL CONCRETE	22 25	
			below PLSTIC OTHER	TYPE OF PUMP USED (for test)	
			MAIN Nominal diameter Total depth	A air P piston T turbine	
			CASING top (main) casing of main casing	27 27 27 other	
			TYPE (nearest inch)! (nearest foot)	C centrifugal R rotary 0 (describe	
t v			60 61 63 64 66 70	27 27 below)	
		ŀ	70	J jet S submersible	
			E OTHER CASING (if used) A diameter depth (feet)	27 27	
			H inch from to	PUMP INSTALLED	
			× —— —————————————————————————————————	DRILLER INSTALLED PUMP YES NO	
A Company of the Comp			Ĭ N	(CIRCLE) (YES or NO)	
		L	G	IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.	
		ſ	screen type SCREEN RECORD	TYPE OF PUMP INSTALLED	
				PLACE (A,C,J,P,R,S,T,O) 29	
			/ INSERT STEEL BRASS OPEN	IN BOX 29.	
			(appropriate code BRONZE HOLE	CAPACITY: GALLONS PER MINUTE	
		1	below PL OT OTHER	(to nearest gallon) 31 35	
				PUMP HORSE POWER	
NUMBER OF UNSUCCESSFU	II WELLS		C 2 DEPTH (nearest ft.)	PUMP COLUMN LENGTH	
				(nearest ft.)	
WELL HYDROFRACTURED	Yes n		E 1 2 7 7 7 7 21	CASING HEIGHT (circle appropriate box	
			ĉ,	+ above) and enter casing height)	
CIRCLE APPROPR ▲ A WELL WAS ABANDONE	D AND SEALED		H ² 23 24 26 30 32 36	49 LAND SURFACE	
WHEN THIS WELL WAS C	OMPLETED		S	_ below Z (nearest)	
E ELECTRIC LOG OBTAINED TEST WELL CONVERTED			R 38 39 41 45 47 51	49 50 51 foot)	
• WELL		1	SLOT SIZE 1 0 2 2 3 0	A LOCATION OF WELL ON LOT	
CCORDANCE WITH COMAR 26 ON ON TWELL CONCERNION TO			DIAMETER (NEAREST	SHOW PERMANENT STRUCTURE SUCH AS	
IN CONFORMANCE WITH ALL CONDI	TIONS STATED IN THE AB	OVE	OF SCREEN INCH)	N BUILDING, SEPTIC TANKS, AND JOR LANDMARKS AND INDICATE NOT LESS	
IEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY NOWLEDGE.			56 60 from to	THAN TWO DISTANCES (MEASUREMENTS TO WELL)	
DRILLERS LIC. NO. 1 M _ D				·通常型 化氯化物 化二乙烷 拉拉拉 网络巴拉尔 医皮肤囊炎 化二十二十二烷 多数	
			GRAVEL PACK F WELL DRILLED	AVARD RD. J	
DRILLERS SIGNATURE		1	VAS FLOWING WELL NSERT F IN BOX 68 68	SHIDYARD RD.	
(MUST MATCH SIGNATURE ON	APPLICATION)	- 1	ADE USE ONLY	1/ 325/	
LIC. NO.1	_ D	, [(NOT TO BE FILLED IN BY DRILLER)	1 1 1 1	
			T (E.R.O.S.) W Q	1 5 0 /	
OUT ON DESCRIPTION			70	SA PANUL 10 B	
SITE SUPERVISOR (sign. of d responsible for sitework if differ	riller or journeyman ent from permittee)		ELESCOPE LOG 74 75 76	1 40 1	
			ASING INDICATOR OTHER DATA	SIN COLUMN	
DENV-CR00			OWNER		
		F. C.			

C[1]	(MDE USE ONLY)	SIAIE UF MARTLAND	45 DAYS AFTER WELL IS COMPLETED.
1 2 3 (THIS NUMBER IS TO BE F	6 PUNCHED	WELL COMPLETION REPORT FILL IN THIS FORM COMPLETELY	COUNTY
IN COLS. 3-6 ON ALL CAR ST/CO USE ONLY	DATE WELL COMPL	PLEASE TYPE ETED Depth of Well	NUMBER PERMIT NO.
DATE Received MM DD YY	MM DD)	22 // 26	FROM "PERMIT TO DRILL WEI
8 13	15	20 (TO NEAREST FOOT)	28 29 30 31 32 33 34 35 36
OWNER SEVER	STAL COARRENIE	POINT LLC	
STREET OR RFD_/	FINE CPARROW	POULT BOULD first name TOWN	132150 MD 21219
WELL WELL	LOG	SECTION	LOT
Not required for		WELL HAS BEEN GROUTED (Circle Appropriate Box)	<u>C 3</u>
STATE THE KIND OF FORMA COLOR, DEPTH, THICKNESS	TIONS PENETRATED, THEIR	(Circle Appropriate Box) 44 44 TYPE OF GROUTING MATERIAL (Circle one)	PUMPING TEST
DESCRIPTION (Use	FEET check	CEMENT CIM BENTONITE CLAY BC	HOURS PUMPED (nearest hour)
additional sheets if needed)	FROM TO bearing	NO. OF BAGS NO. OF POUNDS 45 46	PUMPING RATE (gal. per min.)
		GALLONS OF WATER	METHOD USED TO
SLAG	0'18'	DEPTH OF GROUT SEAL (to nearest foot)	MEASURE PUMPING RATE
		from ft. to ft.	WATER LEVEL (distance from land surface)
		(enter 0 if from surface)	BEFORE PUMPING ft.
		/ types /	17 20 II.
		insert appropriate STEEL CONCRETE	WHEN PUMPING 22 25 ft.
•		code below PL OT	TYPE OF PUMP USED (for test)
		MAIN Nominal diameter Total depth	A air P piston T turbi
		CASING top (main) casing of main casing	27 27 27 othe
·		TYPE (nearest inch)! (nearest foot)	C centrifugal R rotary O (des
		60 61 63 64 66 70	J jet S submersible
		E OTHER CASING (if used) A diameter depth (feet)	27 27
		H inch from to	PUMP INSTALLED
		C	DRILLER INSTALLED PUMP YES IN
		Î 8 8	(CIRCLE) (YES or NO)
			IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.
		screen type or open hole SCREEN RECORD	TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) 29
		or open hole ST BR HO insert STEEL BRASS OPEN	IN BOX 29.
		appropriate BRONZE HOLE	CAPACITY: GALLONS PER MINUTE
		below PL OT PLASTIC OTHER	(to nearest gallon) 31
1		C 2 DEPTH (nearest ft.)	PUMP HORSE POWER
NUMBER OF UNSUCCESSFU	L WELLS:	T 2 →	PUMP COLUMN LENGTH (nearest ft.)
VELL HYDROFRACTURED		E 1 1 4 15 17 21	CASING HEIGHT (circle appropriate box
		A	and enter casing height)
CIRCLE APPROPR A WELL WAS ABANDONE	D AND SEALED	H 23 24 26 30 32 36	LAND SURFACE
WHEN THIS WELL WAS C E ELECTRIC LOG OBTAINED		C 3 B 38 39 41 45 47 51	below)
P TEST WELL CONVERTED WELL	TO PRODUCTION	E SLOT SIZE 1 0 2 2 3 0	A LOCATION OF WELL ON LOT
HEREBY CERTIFY THAT THIS WELL COORDANCE WITH COMAR 26.04.04	HAS BEEN CONSTRUCTED IN	N 0101 0121 1 2 3 10	SHOW PERMANENT STRUCTURE SUCH A
APTIONED PERMIT AND THAT THE	TIONS STATED IN THE ABOVE	OF SCREEN (NEAREST INCH)	BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS
FREIN IS ACCURATE AND COMPI	LETE TO THE BEST OF MY	from to	THAN TWO DISTANCES (MEASUREMENTS TO WELL)
RILLERS LIC. NO. 1 / M	15009, C	GRAVEL PACK 3 16	QD 02a
	1 x x x x x x x x x x x x x x x x x x x	F WELL DRILLED VAS FLOWING WELL	SHIPYARD RD
DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON .	APPLICATION)	NSERT F IN BOX 68 68 MDE USE ONLY	(220')
LIC. NO.1	_D	NOT TO BE FILLED IN BY DRILLER) T (E.R.O.S.) W Q	(- and + - 80)
			1-00-11-11/6
ITE SUPERVISOR (sign. of desponsible for sitework if differ	riller or journeyman	70 72 74 75 76	68-MW-11
	ing the second of the second second section in the second	ELESCOPE LOG 14 /3 /8 1	10、10×10、10×10、10、10、10、10×10、10×10×10、10、10、10、10、10、10、10、10、10、10、10、10、1

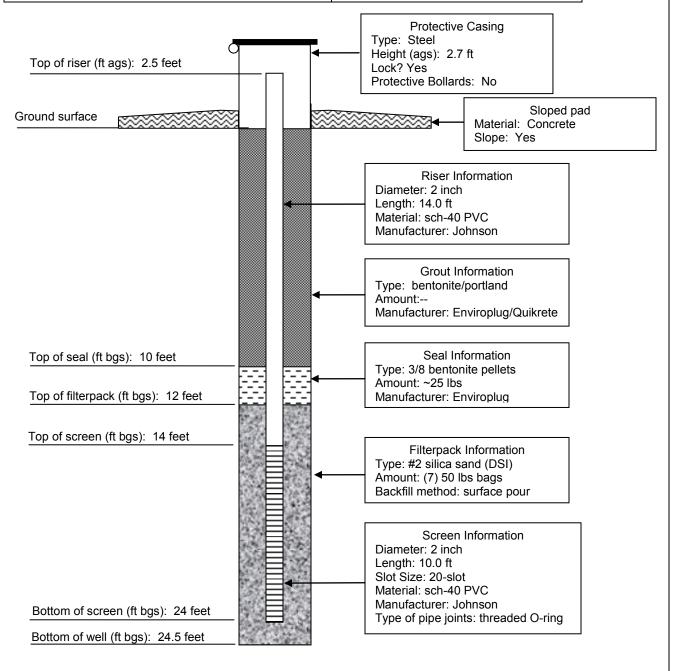
	MUE	E USE ONLY)	WELL COMPLETION REPORT	45 DAYS AFTER WELL IS COMPLETED.
1 2 3 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)			FILL IN THIS FORM COMPLETELY	COUNTY NUMBER
ST/CO USE ONLY		WELL COMF	PLEASE TYPE LETED Depth of Well	PERMIT NO.
DATE Received	мм	DD	YY 22 29 26	FROM "PERMIT TO DRILL WE
8 13	15		20 (TO NEAREST FOOT)	28 29 30 31 32 33 34 35
OWNER SEVER		DARROUS	PALLIT LLC first name	
STREET OR RFD	60 - 5	PARAULS	TOWN_	Bacto MD. 21219
WELL	LOG		SECTION	LOT
Not required fo		s	WELL HAS BEEN GROUTED V	
STATE THE KIND OF FORMAT COLOR, DEPTH, THICKNESS	IONS PENETI	RATED, THEIR	(Circle Appropriate Box) TYPE OF GROUTING MATERIAL (Circle one)	PUMPING TEST
DESCRIPTION (Use	FEET	check	CEMENT CM BENTONITE CLAY BC	HOURS PUMPED (nearest hour)
additional sheets if needed)	FROM	TO if water bearing	NO. OF BAGS 45 46 7 NO. OF POUNDS 45 46 7	PUMPING RATE (gal. per min.)
jana ^{ją ,}			GALLONS OF WATER	11
			DEPTH OF GROUT SEAL (to nearest foot)	METHOD USED TO MEASURE PUMPING RATE
SLAG	o l	45	from 48 TOP 52 ft. to 54 BOTTOM 58 ft.	WATER LEVEL (distance from land surface)
and the second s			(enter 0 if from surface)	DEFORE DUMPING
GRAT SILT			casing types CASING RECORD	BEFORE PUMPING 17 20 It.
51 COARSE SAME	14.5	18' /	insert appropriate STEEL CONCRETE	WHEN PUMPING 22 25 ft.
9 GRAVEL			code below PL OT	TYPE OF PUMP USED (for test)
		and the second s	PLASTIC OTHER	A air P piston T turb
GRAY CLAYE			MÅIN Nominal diameter Total depth CASING top (main) casing of main casing	27 27 27 othe
Sitt of F-IN	18'	201	TYPE (nearest inch)! (nearest foot)	C centrifugal R rotary 0 (dec
SAND & GRAVEL			60 61 63 64 66 70	J jet S submersible
/3 //- /	uur destarjaijesaajossa van b		OTHER CASING (if used)	27 27 Subifiersible
6KA J SIL+ W/	20' 7	221	diameter depth (feet) H inch from to	
f SANDW/ Mich		-6	C	PUMP INSTALLED DRILLER INSTALLED PUMP YES
9 CLAY TRACES	and a supplementary and an analysis of the supplementary and supplementary and supplementary and supplementary		N	(CIRCLE) (YES or NO)
GRAY BRUWN			10	IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.
Sich Chy 61	22 3	24	screen type SCREEN RECORD or open hole OLE I	TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) 29
MALO ROCK			insert STEEL BRASS OPEN	IN BOX 29.
Franks.	The second secon		code BRONZE HOLE	CAPACITY: GALLONS PER MINUTE
			below PL OT OTHER	(to nearest gallon) 31
				PUMP HORSE POWER 37
UMBER OF UNSUCCESSFUL	WELLS:		C 2 DEPTH (nearest ft.)	PUMP COLUMN LENGTH (nearest ft.)
ELL HYDROFRACTURED	yes	no	$E = \frac{1 D/}{89} \frac{1}{11} \frac{1}{15} \frac{72}{17} \frac{21}{21}$	CASING HEIGHT (circle appropriate box
	<u> Y</u>	N	C,	and enter casing height
CIRCLE APPROPRIA A WELL WAS ABANDONED	AND SEALE		H ² 23 24 26 30 32 36	49 LAND SURFACE
WHEN THIS WELL WAS CO	MPLETED		C 3	below 3 (near
TEST WELL CONVERTED T	O PRODUCT	TION	E	49 50 51
EREBY CERTIFY THAT THIS WELL			N 0101 0121 1 2 2 3 3	LOCATION OF WELL ON LOT SHOW PERMANENT STRUCTURE SUCH A
CORDANCE WITH COMAR 26.0.4 "WELL CONSTRUCTION" AND CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE PITOHED PERMIT, AND THAT, THE INFORMATION PRESENTED REINY IS ACCURATE AND COMPLETE TO THE BEST OF MY			DIAMETER (NEAREST OF SCREEN INCH)	BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS
OWLEDGE			56 60 from to	THAN TWO DISTANCES (MEASUREMENTS TO WELL)
PRIMERS LIC. NO. 1 W GD 009			SPAVEL PACK 1 10	
Ra @ Finland			F WELL DRILLED WAS FLOWING WELL	
DRILLERS SIGNATURE MUST MATCH SIGNATURE ON A	PPLICATION)		NSERT F IN BOX 66 68 MDE USE ONLY	CT-MW-01 12 \
LIC. NO.1	No.		NOT TO BE FILLED IN BY DRILLER)	[
			T (E.R.O.S.) W Q	- 1-25 - 7/5 /
TE SUPERVISOR (sign. of dri	ller or iourn	evman	70 72	⊕**' /\$` /®
ponsible for sitework if differe	nt from pern	nittee)	ELESCOPE LOG 74 75 76 CASING INDICATOR OTHER DATA	
	A CONTRACTOR OF THE PARTY OF			redesautem Grand (not betre 1966) i die 1974 fan die 1975 fan de 1974 fan 1974 fan 1974 fan 1974 fan die 1974

	(MDE USE ONLY)	SIAIE OF MARYLAND	45 DAYS AFTER WELL IS COMPLETED.	
1 2 3 6 (THIS NUMBER IS TO BE PUNCH	IFD	WELL COMPLETION REPORT FILL IN THIS FORM COMPLETELY	COUNTY	
IN COLS. 3-6 ON ALL CARDS)	1	PLEASE TYPE	NUMBER	
ST/CO USE ONLY DATE Received	DATE WELL COMPI	ETED Depth of Well	PERMIT NO. FROM "PERMIT TO DRILL WELL"	
MM DD YY	MM DD	22 2O 26	BA - 45 - 2039	
8 13	15	20 (TO NEAREST FOOT)	28 29 30 31 32 33 34 35 36 37	
OWNER SEVERST	1 Sparrows	Prist LLC		
	name GRARROUS	Point COULEVARD TOWN	BAUTO, MD. 21219	
SUBDIVISION		SECTION	LOT	
WELL LOG Not required for drive		GROUTING RECORD / yes no	C 3	
		WELL HAS BEEN GROUTED (Circle Appropriate Box)	1 2 PUMPING TEST	
STATE THE KIND OF FORMATIONS I COLOR, DEPTH, THICKNESS AND I		TYPE OF GROUTING MATERIAL (Circle one)	HOURS PUMPED (nearest hour)	
DESCRIPTION (Use additional sheets if needed) FRO	FEET check if water bearing	CEMENT CIM BENTONITE CLAY BC	8 9	
	Coarning	NO. OF BAGS 46 NO. OF POUNDS 45 6 7 7	PUMPING RATE (gal. per min.)	
		GALLONS OF WATER	METHOD USED TO	
SLAG C	D /8 V	DEPTH OF GROUT SEAL (to nearest foot)	MEASURE PUMPING RATE	
en per a comercio en comercio en en encomprenencia en entrepenta de la la procesión de maior como en en en en e La como en en en en en en en en en en en en en	i namunin majara ana andro manangana manana manana ina manana ana ana ana ana ana ana ana an	48 TOP 52 54 BOTTOM 58	WATER LEVEL (distance from land surface)	
SLAG C BROWN GRAY SAND WITRACE 18		(enter 0 if from surface) casing CASING RECORD	BEFORE PUMPING ft.	
CAN INTO ARE 10	20'	/ tunos \	17 20	
SAND WITHOUT IC	, 00	appropriate STEEL CONCRETE	WHEN PUMPING ft.	
SIF		code below PL OT	TYPE OF PUMP USED (for test)	
	and the second s	PLASTIC OTHER	A air P piston T turbine	
		MÅIN Nominal diameter Total depth CASING top (main) casing of main casing	27 27 27 other	
		TYPE (nearest inch)! (nearest foot)	C centrifugal R rotary (describe below)	
		60 61 63 64 66 70	£1 £1 £1	
			J jet S submersible	
		A diameter depth (feet)		
		C	PUMP INSTALLED	
		S S	DRILLER INSTALLED PUMP YES (NO (CIRCLE) (YES or NO)	
		N	IF DRILLER INSTALLS PUMP, THIS SECTION	
		screen type SCREEN RECORD	MUST BE COMPLETED FOR ALL WELLS.	
			TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) 29	
		insert ST BR HO OPEN	IN BOX 29.	
		appropriate code BRONZE HOLE	CAPACITY: GALLONS PER MINUTE	
		below PL OT OTHER	(to nearest gallon) 31 35	
			PUMP HORSE POWER 37 41	
NUMBER OF UNSUCCESSFUL WEL	LS:	C 2 DEPTH (nearest ft.)	PUMP COLUMN LENGTH (nearest ft.)	
	yes _no<	F1 DL 10 20	43 47	
WELL HYDROFRACTURED	Y (N)	A 8, 9 11 15 17 21	CASING HEIGHT (circle appropriate box and enter casing height)	
CIRCLE APPROPRIATE L		H 2 23 24 26 30 32 36	LAND SURFACE	
A WELL WAS ABANDONED AND WHEN THIS WELL WAS COMPLE	SEALED TED	S S S S S S S S S S S S S S S S S S S	below 3 (nearest)	
E ELECTRIC LOG OBTAINED		R 38 39 41 45 47 51	49 50 51 foot)	
P TEST WELL CONVERTED TO PR		E SLOT SIZE 1 02 23 0	A LOCATION OF WELL ON LOT	
I HEREBY CERTIFY THAT THIS WELL HAS BE ACCORDANCE WITH COMAR 26,04,04 "WELL	CONSTRUCTION" AND	N DIAMETER (NEAREST	SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND /OR	
IN CONFORMANCE WITH ALL CONDITIONS S CAPTIONED PERMIT, AND THAT THE INFORMEREN IS ACCURATE AND COMPLETE TO	DITATION DOCCERPTO	OF SCREEN 60 INCH)	LANDMARKS AND INDICATE NOT LESS	
KNOWLEDGE	O THE BEST OF MI	from to	THAN TWO DISTANCES (MEASUREMENTS TO WELL)	
DRILLERS LIC. NO. I LAM GE	009	GRAVEL PACK 7 , 20		
Y Jan W. two kas		IF WELL DRILLED WAS FLOWING WELL	CT-MW-05 8	
DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLIC		INSERT F IN BOX 68 68	is cking	
LIC. NO.1 D		MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)	1:18	
		T (E.R.O.S.) W Q	15° / []	
		70 72		
SITE SUPERVISOR (sign. of driller or responsible for sitework if different from	m permittee)	TELESCOPE LOG 74 75 76		
		CASING INDICATOR OTHER DATA		
DENV-CR00		OWNER		
	and the second second second second second	1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1997年,1	- March 1997年 - 1997	

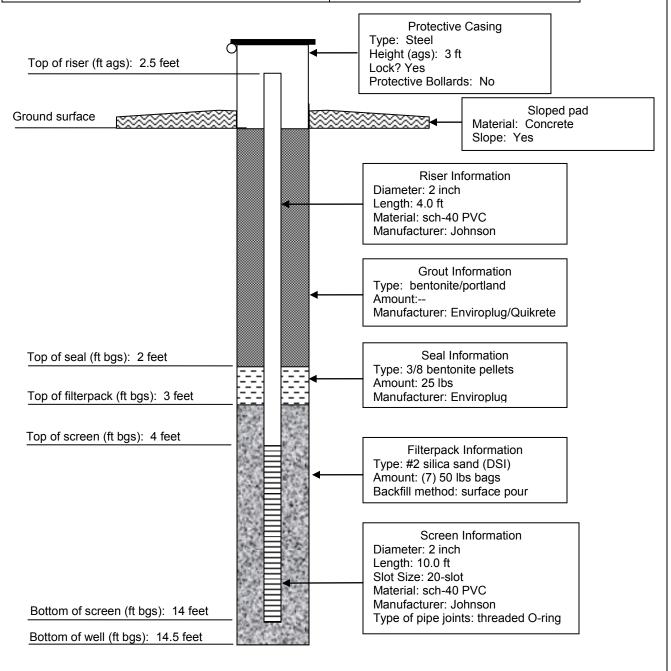
Selection of the Control of the Selection of the Selectio

MARYLAND DEPARTMENT OF THE ENVIRONM 1800 Washington Blvd., Baltimor	MENT, WATER MANAC re, Maryland 21230 (410	GEMENT ADMINISTR) 537-3784	ATION
WATER WELL ABANDONMEN	T-SEALING REPORT	FORM	
**************	*****	******	*****
* COUNTY ENVIRONMENT AGENCY (contact MDE, WMA if ad WELL OWNER * MDE, WATER MANAGEMENT ADMINISTRATION, WELL PR			
SERVICE LA LA	day/year)		
* PERMIT NUMBER OF ABANDONED WELL (if any)	B	4-95-	3039
* PERMIT NUMBER OF REPLACEMENT WELL	<u> </u>		
* PERSON ABANDONING WELL: DAN W. FINCHA	WELL DRILLI		
* OWNER'S NAME: <u>SEVERSTAL SPARROWS</u> POIN	17,440		RCLE: MWD/MSD/MGE
* WELL LOCATION:	<u> </u>	SITE LOCATION MAP	
COUNTY: BACTO COLLATTY NEAREST TOWN: BLOCK PARCEL		2	1
SUBDIVISION: Sparry Point SECTION: LOT:	CT-MW-05	7 A R.D.	1 1000
NEAREST ROAD: SHIPYARIS RD	[x /.	Z.	MAIE
	0	Ŧ Ĭ	Theory
			V
* TYPE OF WELL BEING ABANDONED:			
		LOG OF SEALI	NG MATERIÁI
DRILLED JETTED BORED/AUGERED HAND DUG OTHER (specify)		MATERIAL	FEET
* USE CODE:		0	FROM TO
		CEMENT WI BENTONITE	19.5' 0'
DOMESTICMUNICIPAL/PUBLIC IRRIGATION INDUSTRIAL GEOTHERMAL		DENIMIE	
* TYPE OF CASING:			
STEELPLASTICOTHER (specify)			
보고 있는 것이 많아 마셨다면 하는 것이 되는 것이 되는 것이 되었다. 그런 것이 되었다. 과 한 경기를 보고 있는 것이 되었다면 되었다.			
* SIZE OF CASING: 2 INCHES IN DIAMETER		VOLUME OF M	ATERIAL USED
* DEPTH OF WELL: $\frac{19.5}{}$ FEET DEEP	promotor standard management of the second of the	10 GALG	No
* WAS ANY CASING REMOVED? YES NO if yes, length removed, in feet:			
* WAS CASING RIPPED OR PERFORATED? YESNO			
SIGNATURE-MASTER WELL DRILLER OR SUPERVISING SANITARIA DENV 828 JULY 1997 4) WELL OWNE	맛이 많이 가지 않아 가게 하는데	MWD/MSD (MGD CIRCLE ONE	<i>O</i> /18/09 DATE ⊕

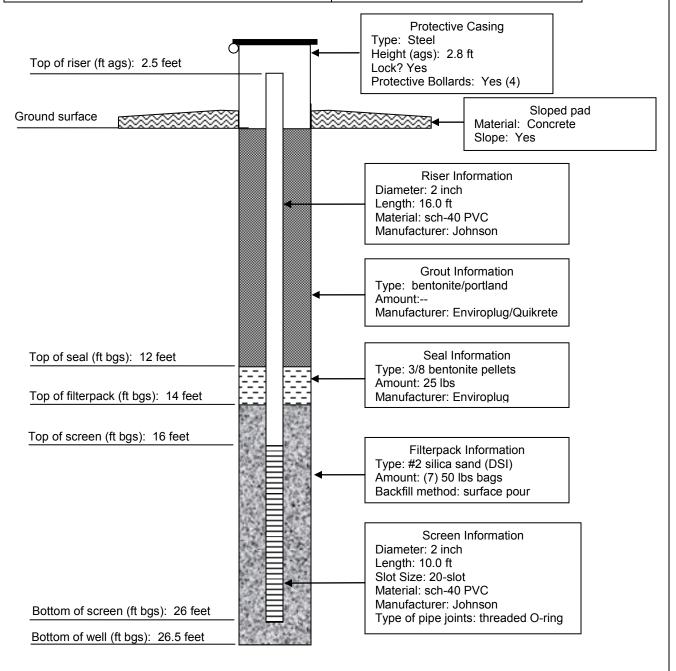
EA Engineering, Science, and Technology, Inc.	Monitoring Well/Soil Boring ID No.: BP-MW-02D
Project Title/ Project No.: Sparrows Point 1453406.0001.0004B	Date/Time Installed: 5/26/09 0815 Time Finished: 1130
Location: Baltimore, MD	Depth to Water: 8.0 ft BGS
Site Geologist: Steven Yankay	Drilling Method: Hollow Stem Auger



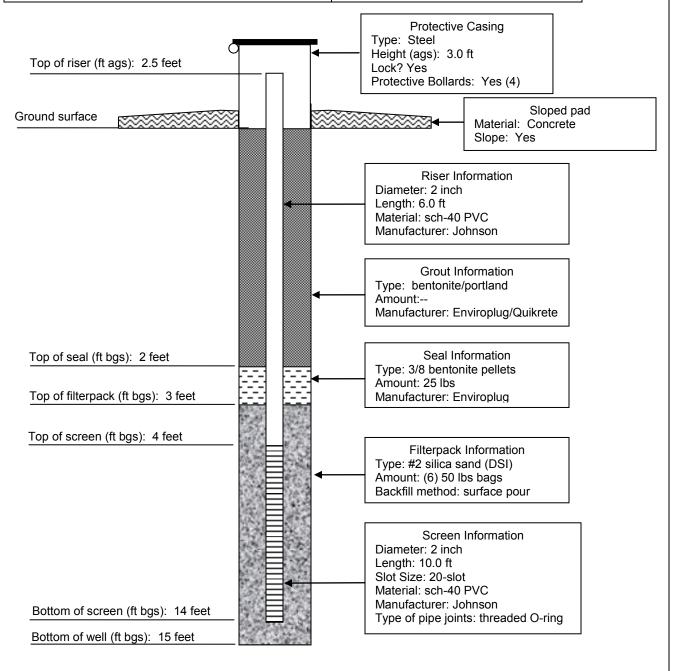
EA Engineering, Science, and Technology, Inc.	Monitoring Well/Soil Boring ID No.: BP-MW-02S
Project Title/ Project No.: Sparrows Point 1453406.0001.0004B	Date/Time Installed: 5/28/09 1140 Time Finished: 1256
Location: Baltimore, MD	Depth to Water: 9.0 ft BGS
Site Geologist: Steven Yankay	Drilling Method: Hollow Stem Auger



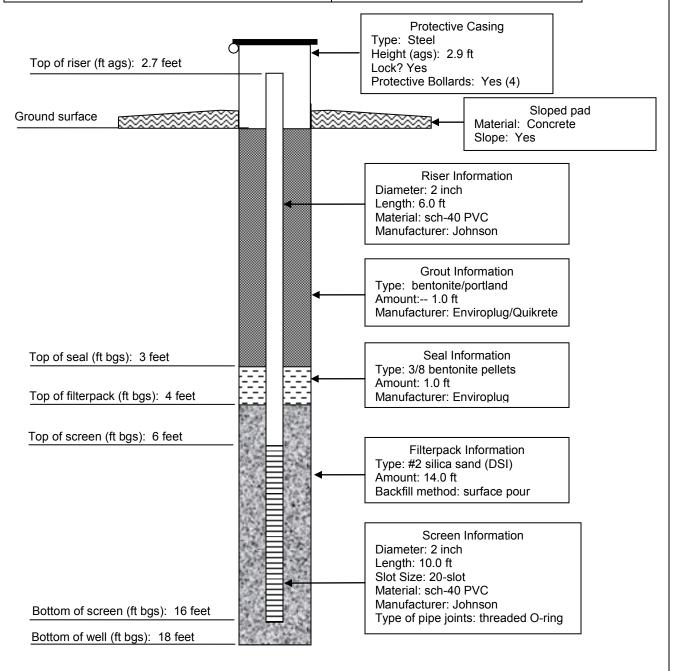
EA Engineering, Science, and Technology, Inc.	Monitoring Well/Soil Boring ID No.: BP-MW-04
Project Title/ Project No.: Sparrows Point 1453406.0001.0004B	Date/Time Installed: 5/22/09 0825 Time Finished: 1055
Location: Baltimore, MD	Depth to Water: 8.0 ft BGS
Site Geologist: Steven Yankay	Drilling Method: Hollow Stem Auger



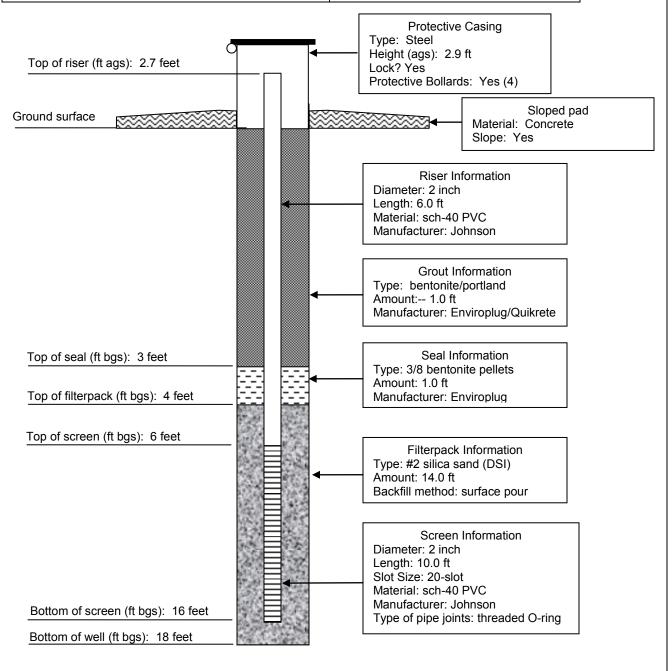
EA Engineering, Science, and Technology, Inc.	Monitoring Well/Soil Boring ID No.: BP-MW-05
Project Title/ Project No.: Sparrows Point 1453406.0001.0004B	Date/Time Installed: 5/27/09 1320 Time Finished: 1409
Location: Baltimore, MD	Depth to Water: 6.0 ft BGS
Site Geologist: Steven Yankay	Drilling Method: Hollow Stem Auger



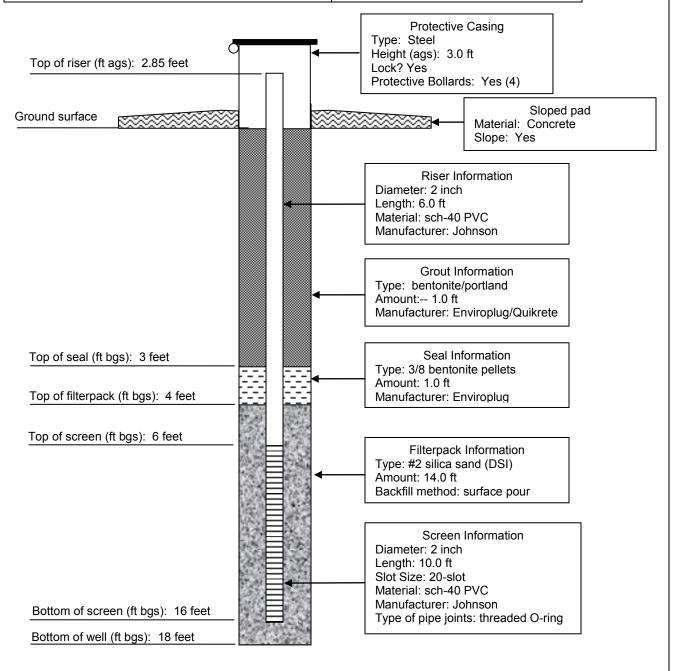
EA Engineering, Science, and Technology, Inc.	Monitoring Well/Soil Boring ID No.: BP-MW-06
Project Title/ Project No.: Sparrows Point 1453406.0001.0004B	Date/Time Installed: 6/11/09 0855 Time Finished: 1055
Location: Baltimore, MD	Depth to Water: 4.5 ft BGS
Site Geologist: Joseph Sawicki	Drilling Method: Hollow Stem Auger



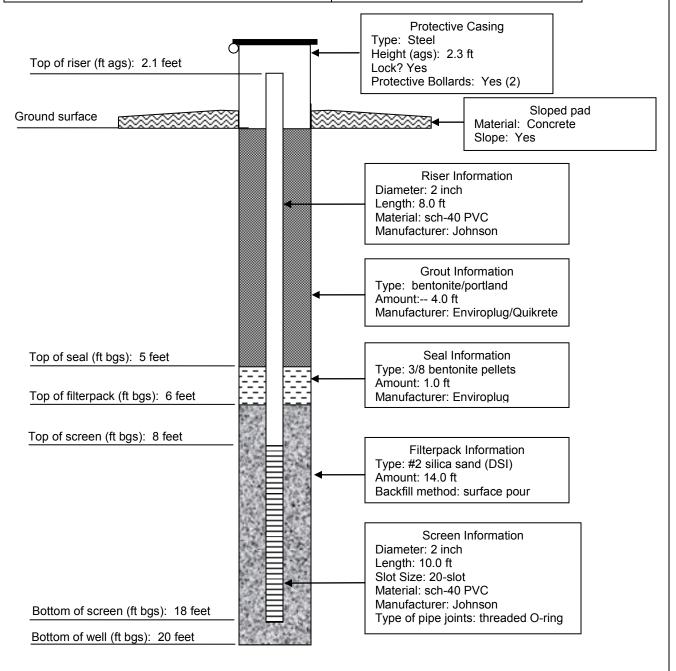
EA Engineering, Science, and Technology, Inc.	Monitoring Well/Soil Boring ID No.: BP-MW-07
Project Title/ Project No.: Sparrows Point 1453406.0001.0004B	Date/Time Installed: 6/11/09 1335 Time Finished: 1515
Location: Baltimore, MD	Depth to Water: 6.25 ft BGS
Site Geologist: Joseph Sawicki	Drilling Method: Hollow Stem Auger



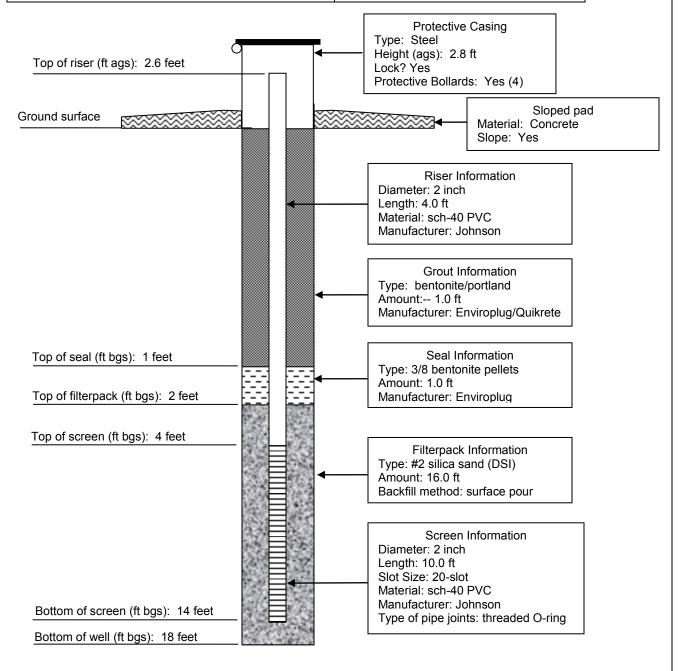
EA Engineering, Science, and Technology, Inc.	Monitoring Well/Soil Boring ID No.: BP-MW-08
Project Title/ Project No.: Sparrows Point 1453406.0001.0004B	Date/Time Installed: 6/15/09 0945 Time Finished: 1110
Location: Baltimore, MD	Depth to Water: 6.5 ft BGS
Site Geologist: Joseph Sawicki	Drilling Method: Hollow Stem Auger



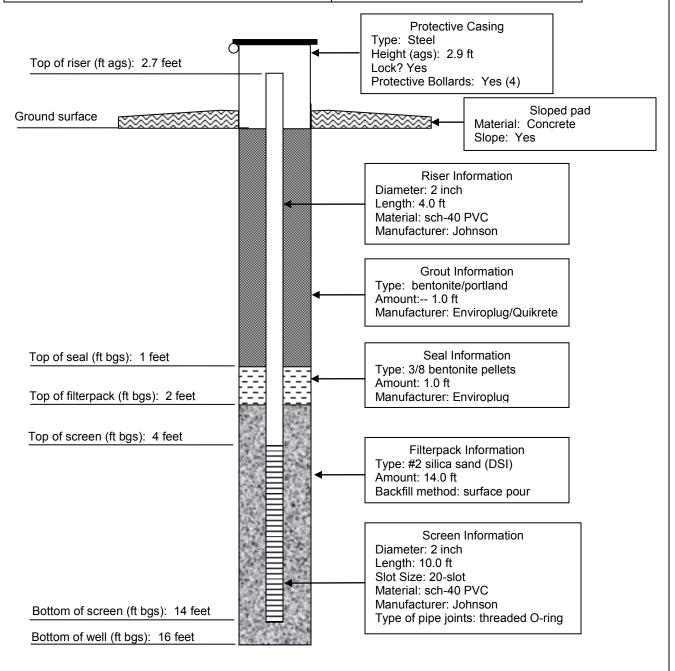
EA Engineering, Science, and Technology, Inc.	Monitoring Well/Soil Boring ID No.: BP-MW-09
Project Title/ Project No.: Sparrows Point 1453406.0001.0004B	Date/Time Installed: 6/15/09 1345 Time Finished: 1510
Location: Baltimore, MD	Depth to Water: 8.5 ft BGS
Site Geologist: Joseph Sawicki	Drilling Method: Hollow Stem Auger



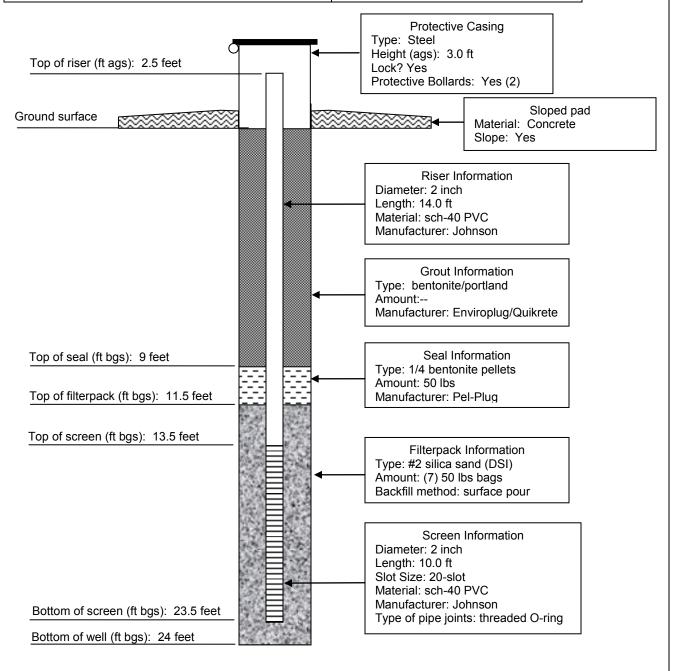
EA Engineering, Science, and Technology, Inc.	Monitoring Well/Soil Boring ID No.: BP-MW-10
Project Title/ Project No.: Sparrows Point 1453406.0001.0004B	Date/Time Installed: 6/19/09 1250 Time Finished: 1345
Location: Baltimore, MD	Depth to Water: 7.5 ft BGS
Site Geologist: Joseph Sawicki	Drilling Method: Hollow Stem Auger



EA Engineering, Science, and Technology, Inc.	Monitoring Well/Soil Boring ID No.: BP-MW-11
Project Title/ Project No.: Sparrows Point 1453406.0001.0004B	Date/Time Installed: 6/22/09 1255 Time Finished: 1410
Location: Baltimore, MD	Depth to Water: 6.5 ft BGS
Site Geologist: Joseph Sawicki	Drilling Method: Hollow Stem Auger



EA Engineering, Science, and Technology, Inc.	Monitoring Well/Soil Boring ID No.: CT-MW-01
Project Title/ Project No.: Sparrows Point 1453406.0001.0004B	Date/Time Installed: 6/2/09 1129 Time Finished: 1306
Location: Baltimore, MD	Depth to Water: 9.0 ft BGS
Site Geologist: Steven Yankay	Drilling Method: Hollow Stem Auger



EA Engineering, Science, and Technology, Inc.	Monitoring Well/Soil Boring ID No.: CT-MW-05
Project Title/ Project No.: Sparrows Point 1453406.0001.0004B	Date/Time Installed: 6/9/09 1300 Time Finished: 1419
Location: Baltimore, MD	Depth to Water: 9.0 ft BGS
Site Geologist: Steven Yankay	Drilling Method: Hollow Stem Auger

