APPENDIX A

Science Applications International Corporation
An Employee-Owned Company

L:\WP\FORMS\BORING LOGS.XLS

SOIL BORING LOG

Client: BSC-SPD
Project No.: 01-1633-00-1890-107

Boring/Well No.: HI08-P2M T.O.C. Elev.:
Location:
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0							0	
5		5/5	FILL: GRAVEL, CONCRETE FRAGS, SLAG STONES, REFRACTORY BRICK FRAGS - METAL WIRE BLACK STAINING AND HYDROCARBON ODOR @ CONTACT (0 - 8.6)	0.0 0.0 0.0 0.0 0.0 0.0 0.0			5	~30 GALLONS H_2O USED TO ADVANCE 6" O.D. CASING TO 15' BGL
10		7.8/10	SAND: GREENISH GRAY (10Y 6/1) MEDIUM TO COARSE GRAINED, SUB-ROUND TO ROUNDED QTZ - TRACE OF ORGANIC MATERIAL FRAGMENTS (8.6 - 12.8)	0.0 0.0 0.0 0.0			10	
15			ACCUMULATED LOST CORE		LOST CORE		15	
20		4.4/10	INTERBEDDED CLAY AND SILTY SAND: DARK GREENISH GRAY (10Y 4/1), SHELL FRAGS, FRAGMENTS OF ORGANIC MATERIAL, MED TO COARSE GRAINED SANDS, VERY SOFT AND LOOSE (15 - 19.4)	0.0 0.0 0.0			20	~20 GALLONS OF H_2O USED TO ADVANCE 6" O.D. CASING TO 25' BGL ~30 GALLONS USED TO WASH OUT MATERIAL FROM 6" O.D.
			ACCUMULATED LOST CORE		LOST CORE			ISOFLOW SAMPLES HI08-P2S-25
25			CLAYEY SILT: BLACK (2.5/N) SOFT, MOIST (25 - 28.9)	0.0 0.0 0.0			25	~30 GALLONS H_2O USED TO ADVANCE 6" O.D. CASING TO 35' BGL
30			CLAY: DARK GREENISH GRAY (10Y 4/1) SOFT, MOIST, OCCASIONAL SMALL PIECE PLASTIC, CONCRETE (28.9 - 34)	0.0 0.0			30	

Driller: PROSONIC, INC / RODNEY PARR	Well Casing: 2" Dia. Ø To 60.5	Seal Type: BENTONITE CHIPS (51.5-68.1) Quantity: 1-50lb BAG
Drilling Type/Size: 4x6" ROTARY SONIC	Casing Type: SCHEDULE 40 PVC-FLUSH JOINT THREADED	Filter Pack Type: #0 MORIE SAND #2 MORIE SAND Quantity: 30lb 1.5-50lb BAGS
Logged By: TODD EARY	Well Screen: 2" Dia. 60.5 To 70.5	Static Water Level:
Drilling Started: 1/28/03	Screen Type: SCHED. 40 PVC 2x3.5" U-PACK SCREEN	Date/Time:
Drilling Completed: 1/29/03	Slot Size: 0.010 SLOT	Notes: BENTONITE CHIP BACKFILL (71-75' BGL) 1-50lb BAG
Well Construction: 1/29/03	Grout Type: TYPE I/II PORTLAND ~5% BENTONITE Quantity: 6-94lb BAGS	FORMATION COLLAPSE (70.5-71), FORMATION COLLAPSE AND #2 MORIE SAND (68.1-70.5)
Blown/Bailed Yield:	(5-51.5')	

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SOIL BORING LOG

Boring/Well No.: HI08 T.O.C. Elev.:

ent:

oject No.:

Location:

Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
30							30	
35		10/10	Same as ABOVE (28.9 - 34) 34.2 SILTY SAND: OLIVE GRAY (5Y 4/3) CONSOLIDATED CLAY: DARK YELLOWISH BROWN (10YR 4/4) PLASTIC, MOIST GRAVELLY SAND: YELLOWISH BROWN (10YR 5/8) VERY COARSE GRAINED SAND, QTZ, SUB-ROUNDED GRAVEL UP TO 1 1/2" SMALL SHELL FRAGMENTS, WELL GRADED SAND SAND ZONE	0.0 0.0 0.0 0.1 0.0 0.0			35	
40		10/10		0.0 0.0 0.0 0.0 0.0			40	~40 Gallons of H_2O used to advance 6" O.D. casing to 45' B.G.L. ~20 Gallons of H_2O to wash manifold
45							45	Isoflow Sample HI08-RS-45
50		10/10	MORE GRAVEL LARGER UP TO 3" 50.5 51.5	0.0 0.0 0.0 0.0 0.0 0.0	51.5		50	~80 Gallons of H_2O to advance 6" O.D. casing to 55' B.G.L.
55				0.0 0.0			55	Isoflow Sample HI08-RS-55
60		7/10		0.0 0.0 0.0 0.0	60.1		60	~40 Gallons of H_2O used to advance 6" O.D. casing to 65' B.G.L. ~40 Gallons of H_2O used to wash out manifold

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Boring/Well No.: HLOB-RM T.O.C. Elev.:

ent:

oject No.:

Location:

Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
60		/					60	
			(35-62') SAME AS ABOVE	0.0				ISOFLOW SAMPLE HLOB-RS-75
			ACCUMULATED LOST CORE	0.0	LOST CORE			
65							65	
			SAME AS 35-62' INTERVAL	0.5				
			(65 - 70.2)	0.0				
70		10/10	1 COBBLE @ INTERFACE	0.0			70	
			70.4 Clay: Dark Grayish Brown (10YR 4/2) Plastic, Moist, Cohesive, Soft					
			Sand: White (10YR 8/1) Fine Grained Well Sorted, 1 Layer 1" Dry Cobble at Top	0.0				ISOFLOW SAMPLE HLOB-RS-75
			72.7 Clay: Grayish Brown (10YR 5/2) Plastic, Moist, Soft, Cohesive, Moderate Plasticity					
			73.4 Clay: Light Gray (5Y 7/1) Plastic, Moist, Cohesive, Moderately Soft	0.0				
			Clay: Reddish Yellow to (5YR 6/6) and Light Gray (5Y 7/1) Mottling, Moist, Plastic, Cohesive, Soft	0.0				
75		1	TD = 75'				75	
80							80	
85							85	
90							90	

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

...; BALTIMORE, MARYLAND 21224. HIO8 - P2

C 1 09187 — SEQUENCE NO. (MDE USE ONLY)
1 2 3 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY
DATE Received MM DD YY (8–13)

DATE WELL COMPLETED MM DD YY (15–20): 1 - 29 - 03

Depth of Well (22–26): 71 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" (28–36)

OWNER Bethlehem Steel Corporation (last name) Sparrows Point Division (first name)
STREET OR RFD 5111 North Point Blvd
SUBDIVISION _____ TOWN Sparrows Point, MD 21219
SECTION _____ LOT _____

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
Fill	0	9	
Sand - greenish gray w/ interbedded clay	9	25	✓
Clay with some clayey silt; black + dark green/grey	25	35	
Gravelly Sand, yellowish brown	35	70	✓
Sandy - grayish brown to red	70	75	

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED (yes Y / no N): N

CIRCLE APPROPRIATE LETTER
- A — A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- E — ELECTRIC LOG OBTAINED
- P — TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DRILLERS LIC. NO.: M __ D ____ I

ERS SIGNATURE (MATCH SIGNATURE ON APPLICATION)

LIC. NO.: __ D ____ I

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box) (yes Y / no N): Y (44) N (44)

TYPE OF GROUTING MATERIAL (Circle one)
CEMENT C M (45 46) BENTONITE CLAY B C

NO. OF BAGS 6 NO. OF POUNDS 94 (47 48)

GALLONS OF WATER _____

DEPTH OF GROUT SEAL (to nearest foot)
from 2 (48 TOP 52) ft. to 52 (54 BOTTOM 58) ft.
(enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)!	Total depth of main casing (nearest foot)
P L (PLASTIC)	2	61
(60 61)	(63 64)	(66 70)

S T STEEL; C O CONCRETE; P L PLASTIC; O T OTHER

OTHER CASING (if used) — EACH CASING

diameter inch	depth (feet) from	to

SCREEN RECORD
screen type or open hole — insert appropriate code below

S T STEEL; B R BRASS BRONZE; H O OPEN HOLE; P L PLASTIC; O T OTHER

C 2 (1 2)

DEPTH (nearest ft.)

SCREEN			
EACH 1	P L (8 9)	61 (11 15)	71 (17 21)
EACH 2	(23 24)	(26 30)	(32 36)
EACH 3	(38 39)	(41 45)	(47 51)

SLOT SIZE 1 0.01 2 ____ 3 ____

DIAMETER OF SCREEN 2 (56 60) (NEAREST INCH)

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68: from 52 to 58 (68)

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)
T (70) (E.R.O.S.) (72) W Q
TELESCOPE LOG (74 75 76)

C 3 (1 2)

PUMPING TEST
HOURS PUMPED (nearest hour) (8 9)

PUMPING RATE (gal. per min.) (11 15)

METHOD USED TO MEASURE PUMPING RATE

WATER LEVEL (distance from land surface)

BEFORE PUMPING (17 20) ft.

WHEN PUMPING (22 25) ft.

TYPE OF PUMP USED (for test) (27)
A air; P piston; T turbine; C centrifugal; R rotary; O other (describe below); J jet; S submersible

PUMP INSTALLED
DRILLER INSTALLED PUMP (CIRCLE) (YES or NO): YES / NO

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29. (29)

CAPACITY: GALLONS PER MINUTE (to nearest gallon) (31 35)

PUMP HORSE POWER (37 41)

PUMP COLUMN LENGTH (nearest ft.) (43 47)

CASING HEIGHT (circle appropriate box and enter casing height)
+ (49) above / − (49) LAND SURFACE
3 (nearest foot) (50 51)

N

Not Located

LOT
TURE SUCH AS
ND /OR
NOT LESS

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SOIL BORING LOG

Spaticuous Fuel N.I Angel Well Installation

Project No.: 01-1633-00-1890-107

Boring/Well No.: HI87-W27 T.O.C. Elev.:

Location: N side of Humphreys Impoundment

Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
+3				Protovac 20/30 #14637				
0			Black slag & fines (PID readings taken from top of augers) 0.0' - 2.0'	0.0ppm breathing zone				
5			Black slag, fines, augers grinding	0.0				
10			Black slag, fines, augers grinding hard drilling 13'-15' BGL	0.3				
15			Black slag & fines, hard drilling cuttings returns @ 15' BGL saturated.	0.6				
20			Black slag & large amount of fines (Blocked augers @ 25' BGL)	0.1				
25			Augers grinding to 30' BGL, reverse drilling 30'-30' BGL					
30								

Driller: Eichelbergers / Mode Mixer	Well Casing: Sch 40 PVC Dia. 2" +3.5 To 94	Seal Type: Bentonite Pellets Quantity:	
Drilling Type/Size: Augers / 6"	Casing Type: Steel +3.8' - 2.2'	Filter Pack Type: 3/8" x 3/16" gravel Quantity:	
Logged By: MJL	Well Screen: Sch 40 PVC Dia. 2" 94 To 104	Static Water Level: 93.2'	
Drilling Started: 1-2-03	Screen Type: Prepack	Date/Time: 1-9-03 / 1020	
Drilling Completed: 1-7-03	Slot Size: 0.010"	Notes:	
Well Construction: 1-7-03 - 1-9-03	Grout Type: Portland cement Quantity:		
Blown/Bailed Yield:	w/ bentonite crumbles		

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SOIL BORING LOG

Client: BSC Spacious Real Estate Investment Partnership
Project No.: 01-1633-02-1PK-1CT

Boring/Well No.: MW07-A2M T.O.C. Elev.:
Location: Next to Monitoring Well
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
			6" cuttings returns, easy drilling 35'-38' BGL					
			No returns, easy drilling 35'-40' BGL					
	4-4-6-10	16"/2.0'	Light olive brown (2.5Y5/4) fine to medium grained angular poorly sorted sand w/ some gravel Accumulated lost core 40'-42.0'	0.3 ppm				
		Auger	42'-45'					
	6-8-8-34	1.3'/2.0'	Olive yellow (2.5Y6/6) medium grained angular, firm, wet sand w/ small pebbles Accumulated lost core 45'-47.0'	0.0				
		Auger	47'-50'					
	10-13-13-15	1.2'/2.0'	Same as above, loose, wet sand Accumulated lost core 50'-52'	0.0				
		Auger	52'-55'					
	7-10-10-13	0.9'/2.0'	Light olive brown (2.5Y5/3) fine to medium grained, angular to subangular, sand, mixing with light olive brown (2.5Y6/3) silty sand Accumulated lost core 55'-57.0'	0.0				
		Auger	57.0'-60'					

Driller:	Well Casing:	Dia.	To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:			Filter Pack Type:	Quantity:
Logged By:	Well Screen:	Dia.	To	Static Water Level:	
Drilling Started:	Screen Type:			Date/Time:	
Drilling Completed:	Slot Size:			Notes:	
Well Construction:	Grout Type:		Quantity:		
Blown/Bailed Yield:					

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SOIL BORING LOG

Client: BSC Sparrows Point NSE Auger Well Installation
Project No.: 01-1633-00-1890-107

Boring/Well No.: HID7-P2M T.O.C. Elev.:
Location: N side of Humphreys Impoundment
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
60	58-8-10	1.2'/2.0'	Light yellowish brown (2.5Y 6/4) fine to medium grained, silty sand mixing with strong brown (7.5YR 4/6) coarse grained sand and gravel, wet. Accumulated lost core 61.8'-62.0'	0.0 ppm				
		Auger	62'-65'					
65	4-10-18-15	1.3'/2.0'	Light yellowish brown (2.5Y 6/4) fine to medium grained, angular, moist sand w/ gravel. Accumulated lost core 66.3'-67.0'	0.0				
		Auger	67'-70'					
70	11-2-4-15	2.0'/2.0'	Dark gray (2.5Y 4/1) soft, wet silt grading to light brownish gray (2.5Y 6/2) fine grained, firm, wet silty sand @ 71.8'	0.0				
		Auger	72'-75'					
75	7-7-11-15	1.6'/2.0'	Gray (2.5Y 6/1) soft, moist, silty sand. More sand than 71.2'-72' BGL. Accumulated lost core 76.6'-77'	0.0				
		Auger	77'-80'					
80	3-5-4-5	2.0'/2.0'	Dark gray (2.5Y 4/1) firm, moist clay w/ sand fringe (80'-81.8'), becoming soft clay 81.8'-82'	0.0				
		Auger	82'-85'					
85	4-6-8-15	2.0'/2.0'	Pinkish gray (7.5YR 7/2) fine to medium grained, subangular to sub rounded, firm, moist sand	0.0				
		Auger	87'-90'					
90								

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: BSC Sparrows Point N.E. Auger Well Installation
Project No.: 01-1638-00-1890-107

Boring/Well No.: MW07-P2M T.O.C. Elev.:
Location: N side of Humphreys Impoundment
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
	4-5-5-5	2.0'/2.0'	Brown (10YR 4/3) sat, wet clay, grading to sandy clay @ 91.7' to silty sand 91.7-92.0'	0.0 ppm				
	Auger 92'-95'							
	30-16-25-21	1.1'/3.0'	Mix yellow (2.5Y 7/3) wet, medium grained, sub-rounded, fine sand, grading @ 95.6' to olive yellow (2.5Y 6/8) wet, medium to coarse grained, fine sand & quartz gravel	0.0				0'-2' concrete +28'-2.8' steel 2.5'-94' riser 2'-89' grout 89'-92' pellets 94'-104' screen 92'-105' gravel
			Accumulated lost core 96.1'-97.8'					
	Auger 97'-100'							
	81-19-11-14	0.7'/3.0'	Olive yellow (2.5Y 6/8) wet, mod to coarse grained, med range sand, mixed with pale yellow sand from above	0.0				
			Accumulated lost core 100.7'-101'					
	Auger 102'-105'							
	10-19-27-49	1.2'/2.0'	Mix yellow (2.5Y 7/4) moist, med to coarse grained sand mixture 85.8 with olive yellow (2.5Y 6/8) moist, fine to med grained dense sand grading @ 16" to pale yellow (2.5Y 7/3) hard, dry, mottled silt	0.0				
	50/0.2'		Accumulated lost core 106.1'-107'					
		0.8'/0.2'	Auger to 107'					
			Residium brown (5YR 5/3) wet/hard dry, silt 107'-109.8'	0.0				

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: BSC - SPD
Project No.: 01-1633-00-1890-107

Boring/Well No.: GL18-PZM
Location: GRAYS LANDFILL
Surface Elevation:
T.O.C. Elev.:
Page 1 of 2

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0							0	
5		5/5	FILL: SLAG GRAVEL AND SAND, CHUNKS OF SLAG UP TO 5-6"	3.2 5.6 5.8 0.3 6.5 29.7 12.1 15 28.6			5	
			CREOSOTE LIKE ODOR					
			(0 - 7.3)					
10	MOIST LIGHT FILLER — REWORKED SOIL	10/10	CLAY: GREENISH GRAY (5GY 6/1) LB/YELLOWISH GRAY (10YR 6/2) MOTTLED, SOFT, PLASTIC, COHESIVE; SILT: GREENISH BLACK (5GY 2.5/1), DARK GREENISH GRAY (10YR 4/1) MOTTLED W/ 4% SUBRD GRAVEL; CLAY: SAMPLED 7.3-8.3' INTERVAL; SHELL FRAG REWORKED SAND GRAVEL	1.6 1.1 (7.3-8.3)			10	
			SILT: SAMPLED 8.3-9.5 INTERVAL	1.0				
			(9.7 - 12)					
			CLAY: SAME AS 7.3-8.3' INTERVAL (12 - 12.9)	1.3				
			SILT: SAME AS 8.3-9.5' INTERVAL W/ LARGE SLAG GRAVEL (12.9 - 13.8)	0.9				
15			SILT: SAME AS 8.3-9.5 - INCREASING ORGANIC MATERIAL TWIGS, ETC.	0.0			15	~30 GALLONS USED TO ADVANCE 6" O.D. CASING TO 25' BGL
			- HYDROCARBON ODOR	0.0				
			- RED BRICK FRAG	0.0				
			- TERRA COTTA PIPE FRAG (13.8 - 17.2)	0.0				
			17.6 SILT: BLACK (2.5/a), ORGANIC MATERIAL	0.0				
			18.1 SILTY SAND: DARK GREENISH GRAY (10Y 4/1), COARSE GRAINED SAND	0.0				
20		10/10	CLAYEY SILT: DARK GREENISH GRAY (10Y 4/1) FADING TO GREENISH GRAY (10GY 6/1), SOFT, MOIST (18.1 - 19.6)	0.0			20	
			SILT: GREENISH GRAY (10GY 6/1) W/ MINOR YELLOWISH BROWN (10YR 5/4) MOTTLING, SOFT, MOIST (19.6 - 21.5)					ISOFLOW SAMPLE GL18-RS-25
25			SILTY SAND: INTERMIXED OLIVE, YELLOW (2.5Y 6/6) AND GRAY (5Y 6/1), MEDIUM TO COARSE GRAINED, ~5% RTZ GRAVEL, ROUNDED, SAT. (21.5 - 25.5)				25	
			CLAY: LIGHT BROWNISH GRAY (10YR 6/2) W/ LIGHT GRAY (5Y 7/1) MOTTLING, SOFT, MOIST, PLASTIC, COHESIVE, 2-3% OLIVE BROWN (2.5Y 4/4) MINERALIZATION	0.0				~30 GALLONS H_2O USED TO ADVANCE 6" O.D. CASING TO 35' BGL
30			(25.5 - 29.8)	0.0			30	
			DESCRIPTION ON NEXT PAGE					

Driller: PRISONIC INC, RODNEY PARR	Well Casing: 2" Dia. Ø To 45.6	Seal Type: BENTONITE CHIPS (38-43.2) Quantity: 1.5-50 lb BAGS
Drilling Type/Size: 4X6" ROTARY SONIC	Casing Type: SCHEDULE 40 PVC	#0 MORIE SAND INSERT - 30 lbs Filter Pack Type: #2 MORIE SAND (38-45.6) Quantity: 2-50 lb BAGS
Logged By: TODD EMBY	Well Screen: 2" Dia. 45.6 To 55.6	Static Water Level:
Drilling Started: 1/26/03	Screen Type: 2x3.5" U-PACK, SCHEDULE 40 PVC	Date/Time:
Drilling Completed: 1/27/03	Slot Size: 0.010	Notes:
Well Construction: 1/27 - 1/28/03	Grout Type: PORTLAND / BENTONITE Quantity: 4 94lb BAGS	
Blown/Bailed Yield:	(14-38') / BENTONITE CHIPS (2-14') 3-50lb BAGS	

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SOIL BORING LOG

Client: BSC - SPD
Project No.: 01-1633-00-1890-107

Boring/Well No.: GL18-P2M T.O.C. Elev.:
Location: Grays Landfill
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
30							30	
		10/10	CLAY: DARK GREENISH GRAY (10Y 4/1), SOFT, PLASTIC, COHESIVE 8.3' COARSE SAND LENSE, SAME COLOR	0.0 0.0 0.0 0.0				
35				0.0 0.0			35	~38 GALLONS OF H_2O USED TO ADVANCE 6" O.D. CASING TO 45' BGL
40		10/10	(29.8 - 42.1) CLAY: GREENISH BLACK (10GY 2/1), SOFT, PLASTIC, COHESIVE 42.8 SAND: PALE YELLOW (2.5Y 8/2) MEDIUM TO COARSE GRAINED, SUB TO ROUNDED, QTZ	0.0 0.0 0.0 0.0			40	
			(42.8 - 46.2) SILTY W/ ~20% INTERBEDDED SAND: GREENISH GRAY (10Y 5/1), VERY FINE GRAINED SAND, SOFT, MOIST	0.0 0.0				ISOLATION SCREEN GL18-IRS-45
45			(46.2 - 48.5) SILTY SAND: PALE YELLOW (2.5Y 8/3) FINE TO COARSE GRAINED, QTZ, SILTY STRINGERS THROUGHOUT, MOIST, SOFT	0.0 0.0 0.0 0.0			45	~40 GALLONS OF H_2O USED TO ADVANCE 6" O.D. CASING TO 55' BGL
50		10/10					50	
55							55	
60							60	

Driller:	Well Casing: Dia. To	Seal Type: Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type: Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:
Drilling Started:	Screen Type:	Date/Time:
Drilling Completed:	Slot Size:	Notes:
Well Construction:	Grout Type: Quantity:	
Blown/Bailed Yield:		

SEE PAGE 1
SEE PAGE 1
SEE PAGE 1
SEE PAGE 1

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SOIL BORING LOG

Client: BSC Sparrows Point NPE Auger Well Installation
Project No.: 01-633-00-1890-107

Boring/Well No.: GL-19 - P2M T.O.C. Elev.:
Location: Grays Landfill
Surface Elevation: Page 1 of 1

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
3				Background 20/20 #14637				+2.5-2.5 - Steel
0	Auger 0'-5' BGL		Dark reddish gray (5YR 4/2) slag with silt & gravel, grading to reddish brown (5YR 4/4) silty sand & gravel, moist	0.0 ppm				0'-2' - Concrete
5	1,2,3,66	3.0/20"	Reddish brown (5YR 4/4) silt & gravel, saturated (6.6-6.5' BGL). Bluish gray (GLeyd 5/1) slag frags	0.0				2'-9.5' - Chip bentonite +2' - 11.5' - 2" riser
		Auger	7' - 10' BGL					
	7,8,8,8	30"/20"	Same as above, larger slag pcs, moist	0.0				22.5'-9.5' #1 Morie
		Auger	13' - 15' BGL					11.5' - 21.5' 2" Screen
	2,C,C,D	0.7"/20"	Very dark brown (7.6YR 2.5/3) silt and gravel, saturated. Auger refusal on hard coal 15.7' - 17.0'	0.0				
		Auger	17' - 80' BGL					
	15,8,11,9	20/20"	Very dark brown (7.5YR 2.5/3) silt & gravel, moist. Bluish gray (GLey2 5/1 slag pieces, Lithan 0.1 stained black, hydrocarbon odor	0.0				21.5'-22.5' #1 Mon
		Auger	22' - 25' BGL					
5	11,8,11,4	20"/20"	Very dark brown (7.5YR 2.5/3) silt & gravel, saturated. Bluish gray (GLey2 5/1 slag piece)	0.0 ppm				22.5' - 25' Abandoned with chip bentonite

Drilled: Enthalbergers / Nate Moyer	Well Casing: Sch 40 PVC Dia 2" +2' To 11.5'	Seal Type: Chip bentonite Quantity: 4 bgs
Drilling Type/Size: Auger / 4¼	Casing Type: Steel +2.5 - 2.5	Filter Pack Type: #1 Morie Sand Quantity: 6½ bgs
Logged By: MDL	Well Screen: Sch 40 PVC Dia 2" 11.5' To 21.5'	Static Water Level:
Drilling Started: 10/10/07	Screen Type: Sch 40 PVC	Date/Time:
Drilling Completed: 10/10/07	Slot Size: 0.010 slot	Notes:
Well Construction: 10/11/07	Grout Type: Quantity:	
Blown/Bailed Yield:		

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SOIL BORING LOG

lient: BSC Sparrows Point NE Auger Well
oject No.: 01-1633-00-1890-107

Boring/Well No.: GL00-P2A T.O.C. Elev.:
Location: Greys Landfill
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
				Protocol #WD ± 19637				0 - +2.5' steel casing 0 - +1.5' riser (2" ϕ
	Auger 0'-5' BGL		Dark reddish brown clay with silt and gravel (5YR 3/4) fines	0.0 ppm				0'-2' concrete
		0.5/10.0'	Black (5YR 2.5/1) silt with organic material, moist	0.0 ppm		riser		2'-10' Bentonite chips
			Accumulated lost core 5.5'-7.0' BGL					
	Auger		7'-10' BGL					
		0.6/5.0'	Black (5YR 2.5/1), moist silt with metal fragments,	0.0 ppm				10'-12' sand
			Accumulated lost core 10.5-12.0' BGL	0.0 ppm				
	Auger		12'-15' BGL Augers grinding @ 13' BGL					12'-22' sand around screen
		0.5/3.0'	Lost core Accumulated lost core 15'-17' BGL ∇ ~ 16' BGL			screen		
	Auger		17'-20' BGL					
		2.0/2.0'	Olive (5Y 4/4) silt, mixing with light olive brown (2.5Y 5/6) silt, some rock frags, hydrocarbon odor	65.1 ppm				
	Auger		22'-25' BGL					22'-23' Sand
		2.0/2.0'	light olive brown (2.5Y 5/6) silt to 24.5' BGL, rock & concrete frags 24.5'-27.0'	0.0 ppm				
	Auger		27'-30' BGL			Not Located		23'-32' Abandoned with bentonite chips

Driller: Environmental Probe Mayer	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size: Auger 4¼	Casing Type:	Filter Pack Type:	Quantity:
ed By: MJL	Well Screen: Dia. To	Static Water Level:	
Drilling Started: 12/10/02	Screen Type:	Date/Time:	
Drilling Completed: 12/10/02	Slot Size:	Notes:	
Well Construction: 12/10/02	Grout Type: Quantities:		
Blown/Bailed Yield: ¼			

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SOIL BORING LOG

Client: DSC Spacious Birth NPL Auger Wells
Project No.: 01-1633.

Boring/Well No.: GL20-P2R1 T.O.C. Elev.:
Location: Geeps Landfill
Surface Elevation:
Page 2 of 2

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
10	WH,3,5,4	2.0'/2.0'	Black oily sand & silt, hydrocarbon odor	0 Δ				
15			OTW 11.1' BGL @	1324				

Driller:	Well Casing: Sch 40 PVC Dia: 2" +1.5' To 11'	Seal Type: Bentonite Chips Quantity: 6 bgs
Drilling Type/Size:	Casing Type: Steel +2.5'	Filter Pack Type: #1 Morie Sand Quantity: 7 bgs
ed By:	Well Screen: Sch 40 PVC Dia. 2" 11' To 21'	Static Water Level: 14.35' BGL
Drilling Started:	Screen Type: 2" Schedule 40 PVC	Date/Time: 12/11/02 @ 1010
Drilling Completed:	Slot Size: 0.010 Slot	Notes:
Well Construction:	Grout Type: Quantity:	
Blown/Bailed Yield:		

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SOIL BORING LOG

Client: BSC - SPD
Project No.: 01-1633-00-1890-107

Boring/Well No.: CO33 - P2M T.O.C. Elev.:
Location:
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0		4" Core Barrell					0	See page 5 for Well Construction Details
5		5/5	FILL: SAND GRAVEL AND SILT/CLAY	0.5 4.5 29.1 12.9 8.8			5	
10		16/10	ROCK BOULDERS FINES AND WEATHERED BEDROCK FINES	2.2 22.3 7.3 9.6 3.2			10	~100 Gallons of H_2O used to advance 6" O.D. casing to 15' BGL
15				36.5 6.7 48.5 19.8 55.8			15	
20		10/10	(0' - 20.5)	12.2 71.7 15.1 12.8			20	~120 Gallons of H_2O used to advance 6" O.D. casing to 25' BGL
			CLAY: DARK GRAY (5Y 4/1), SAND STRINGERS - MEDIUM TO FINE GRAINED SAND, SHELL FRAGMENTS SOFT, MOIST, PLASTIC, COHESIVE [Talbot] (20.5 - 29.1)	57 22 8.0				Isoflow Sample CO33-RS-25
25			CLAY: LIGHT GRAY (5.5Y 7/1) DENSE, HARD, MINOR AMOUNTS (10Y 4/1) MOTTLING [Patapsco] (29.1 - 33.6)	9.2 0.0 0.0			25	~120 Gallons of H_2O used to advance 6" O.D. casing to 35' BGL
30			- SILTY BROWN (7.5YR 4/4) MOTTLING PRESENT SILTY SAND: DARK YELLOWISH BROWN (10YR 4/4) MEDIUM GRAINED, SOFT (28.6 - 28.5) SILTY CLAY: WHITE (5/4) w/ MINOR OLIVE YELLOW (2.5Y 6/6) MOTTLING, DENSE, VERY HARD, DRY (28.5 - 33.5)	0.0 0.0 0.0			30	

Driller: PROSONIC, INC. / RODNEY PARR	Well Casing: 2-inch Dia. 0 To 144 ft	Seal Type: Bentonite	Quantity: 2
Drilling Type/Size: 4x6 ROTARY SONIC	Casing Type: PVC Sch 40	Filter Pack Type: Morrie '0'	Quantity: 1/2
Logged By: TODD EARLY / J.D. HERMAN	Well Screen: 2x4'-inch Dia. 144 To 154 ft	Static Water Level:	
Drilling Started: 2/4/03	Screen Type: U-Pack PVC Sch 40	Date/Time:	
Drilling Completed: 2/14/03	Slot Size: 10	Notes: Morrie '2' used as filter outside of U Pack. (2 bg)	
Well Construction: 2/15/03	Grout Type: Portland Cement Quantity: 12		
Known/Bailed Yield: —	5% Bentonite Slurry		

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SOIL BORING LOG

Client: BSC - SPD
Project No.: 01-1633-00-1890-107

Boring/Well No.: CO33-PZM T.O.C. Elev.:
Location:
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
30							30	
35		10/10	SAME AS ABOVE (28.5 – 33.5)	0.1			35	ISOFLOW SAMPLE CO33-RS-35
			SAND: LIGHT OLIVE BROWN (2.5Y 5/6) QTZ, MED TO COARSE GRAINED	0.1				
			SAND: GREENISH GRAY (10BG 5/1) QTZ, MED TO COARSE GRAINED					
			SILTY SAND: YELLOWISH BROWN (10YR 5/6) MEDIUM GRAINED, QTZ, POORLY SORTED	0.8				~60 GALLONS OF H_2O USED TO ADVANCE 6" O.D. CASING TO 45' BGL
			SILTY SAND: SAME AS 28.5-33.5					
			SAND: TAN TO BROWN (10YR 5/3)					
			CLAY w/ SAND: LIGHT OLIVE BROWN (2.5Y 5/6) TO OLIVE BROWN (2.5Y 4/3) SAND: FINE TO MEDIUM, QTZ, POORLY SORTED	0.0				
			SAND: BLACK (2.5N) TO GREENISH BLACK (10GY 2.5/1) COARSE, POORLY SORTED, QTZ SAND (37.5 – 39.3)	0.0				
40		10/10	SAND: INTERMIXED GREENISH GRAY (5GY 5/1) AND GRAY (N5) COARSE TO VERY COARSE, POORLY SORTED QTZ SAND MINOR CLAY STRINGERS (39.3-40.4)	0.0			40	
			CLAYEY SILT: WHITE (2.5Y 8/1) HARD, DRY, VERY FINE GRAINED SAND < 5%,	13.6				
			VERY FINE GRAINED SAND INTERVAL OF SAME CLAY	9.1				
			INCREASING FINES TO ~15% (40.4 – 45.4)	31.6				
			SILTY SAND: WHITE (2.5Y 8/1) VERY FINE GRAINED QTZ SAND (45.4 – 46.3)	0.9			45	
			CLAYEY SILT: SAME AS 40.9-45.4 INTERVAL (46.3 – 48.3)	24.6				~80 GALLONS OF H_2O USED TO ADVANCE 6" O.D. CASING TO 65' BGL
				54.9				
				7.8				
		10/10	SAND: LIGHT GRAY (7/N) FINE GRAINED, QTZ ~10% SILT	2.6				
50			(48.3 – 51.8)	1.1			50	
				24.6				
				2.9				
			SANDY CLAY: LIGHT GRAY (7/N) TO WHITE (2.5Y 8/1) VERY FINE GRAINED SAND (51.8 – 53.5)	15.2				ISOFLOW SAMPLE CO33-RS-55
			SAND: SAME AS 48.3-51.8 SUBINTERVAL	3.0				
		53.5	SAND: LIGHT GRAY (2.5Y 7/1) MEDIUM TO FINE GRAINED, QTZ, POORLY SORTED	0.8				
55				13.3			55	
		10/10	(53.5 – 66)	46.3				~280 GALLONS OF H_2O USED TO ADVANCE 6" O.D. CASING TO 65' BGL
				97.8				
				133				
				94.5				
60				319			60	
				242				

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

lent: DSC - SPO
oject No.: 01-1633-00-1890-107

Boring/Well No.: C033-P8M
Location:
Surface Elevation:
T.O.C. Elev.:

Depth Feet	USC Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
60							60	
65		10/10	SAME AS ABOVE (53.5-66)	39.4 55.1 186 77.1 63.8 51.9 91.8			65	ISOFLOW SAMPLE C033-RS-65
70		10/10	SAND: WHITE (10YR 8/1) TO VERY PALE BROWN (10YR 8/2), FINE TO COARSE GRAINED ROUNDED TO SUB-ROUNDED QTZ, POORLY SORTED - LIGHT GRAY (N7) PLASTIC CLAY STRINGER	214 1265 806 1336 1376 833 367			70	~460 GALLONS OF H_2O USED TO ADVANCE 6" O.R. CASING TO 75' BGL + ___ gal? to wash hole on 2/6/02 + 100 gal to wash 2/7/
75	SP (with CL) lamina	10/16	- LIGHT GRAY (N7) PLASTIC CLAY STRINGER WHITE (10YR 8/1) TO VERY PALE BROWN (10YR 8/2), SATURATED, DENSE, SUBROUNDED TO SUBANGULAR QUARTZITIC, FINE TO MEDIUM GRAINED SAND, POORLY GRADED SAND - LIGHT GRAY (N7), STIFF, PLASTIC CLAY STRINGER 78' (LAMINA) - TRACE/STAINING AT 82'	219 381 101 244 189 228 129 107 91			75	ISOFLOW SAMPLE C033-RS-74 7" O.R. advanced to 75 2230 gallons of H_2O used to advance 6" OR. to 85' + 320 gal to wash heave
80							80	
85		10/10'	LIGHT GRAY PLASTIC CLAY STRINGER 85'	56.8 0.4 ND ND ND			85	ISOFLOW SAMPLE C033-RS-85 Used 850 gal H_2O to advance 6" to 95'
90			LIGHT GRAY PLASTIC CLAY STRINGER AT 89'	ND ND			90	

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
d By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: BSC - SPD
Project No.:

Boring/Well No.: C033-P2M T.O.C. Elev.:
Location:
Surface Elevation:

Depth Feet	USC Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
				(1-foot Intervals)				
90							90	
95	SP	10'/10'	Very pale brown (10YR 8/3), saturated, dense, subrounded to subangular, quartzitic, clean, fine to medium-grained poorly graded sand. grading at 97' to Very pale brown (10YR 7/4) dense, fine to med. grained poorly graded Sand with Silt	ND ND ND ND ND 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 N.D ↓ ND ↓ N.D ↓ ND			95	Isoflow Sample C033-RS-95
100	SP/SM	10'/10'	grading at 103.5' to White (10YR 8/1) dense, fine to med. grained, clayey Sand (Red (2.5YR 4/6) staining at 106' contact) grading at 106' to				100	200 gal H_2O to advance 6" to 105'
105	SC		Dark gray (10YR 4/1), hard, moist, plastic, micaceous, silty clay. slightly				105	Isoflow Sample C033-RS-105
110	CL/ML	10/10					110	280 gal water used No Isoflow Sample 7" O.R to 111.3' bgs (Sealed)
115		10/10					115	
120							120	

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: BSC-SPD
Project No.:
Boring/Well No.: C033-Pzm T.O.C. Elev.:
Location:
Surface Elevation:

Depth Feet	USC Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen (ppm)	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
120							120	
125	CL/ML	10/10	Dark gray (10YR4/1), moist, very stiff to hard, homogeneous, slightly plastic, micaceous Silty Clay. grading at 125' to Dark gray (10YR4/1), moist, hard, homogeneous, plastic Clay	ND ND			125	6-inch ϕ Hole to 155 ft 2-inch ϕ Sch. 40 PVC Riser to 144 ft Bentonite Seal 0 to 20 ft Grout Seal 20 to 136.1 ft (5% Bentonite)
136	CL	10/10	Reddish brown staining/mottling at 135' grading at 136' to	ND			136	Bentonite Seal from 136 to 141.7
	CL/ML		Brown (7.5YR 5/2), wet, soft, plastic, Silty Clay. grading at 137' to	N.D.				
140	CL	10/10	Gray (10YR 5/1) and reddish brown (5YR 4/3), laminated, dry, hard, plastic clay grading at 140.5' to	0.0 0.0 0.0 3.0			140	Morrie '2' Sand Pack and natural Formation from 141.7 to 155 ft 4x2-inch ϕ Sch 40 PVC 10-slot U-Pack Screen from 141 to 154 ft (Morrie '0' filter media) used in U-Pack
145	SP	5'/10'	Light gray (10YR 7/2) Wet, Subrounded & subangular, quartzitic, med. dense, fine to medium grained poorly graded Sand. (Reddish brown staining at 140.5') (Slight organic odor) Contact noted from sands grading at 145' to (next page)	0.0 0.0 0.0 0.0 0.0 NA			145	
151							151	

Driller:	Well Casing: 2" Dia. 0 To 144'	Seal Type: Bentonite	Quantity:
Drilling Type/Size:	Casing Type: PVC Sch 40	Filter Pack Type: U-Pack '0' Morrie	Quantity:
Logged By:	Well Screen: 4'x 2" Dia. 144 To 154	Static Water Level: Filter '2' Morrie	
Drilling Started:	Screen Type: U-Pack PVC Sch 40	Date/Time:	
Drilling Completed:	Slot Size: 10 (.010)	Notes:	
Well Construction:	Grout Type: Portland Cement Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: BSC-SPD
Project No.:

Boring/Well No.: C033-Rm T.O.C. Elev.:
Location:
Surface Elevation:

Depth Feet	USC Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
150			grading at 145' to				150	
155	SP	5/10'	White (10YR 8/2) to very pale brown (10YR 8/3) saturated, med. dense, subrounded to subangular, quartzitic, clean, fine to medium-grained poorly graded Sand.	NA			155	
			6" TD = 155 ft					

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Boring/Well No.: C034 P2 T.O.C. Elev.:

Client: BSC -SPD

Location:

Project No.: 01-1633-00-1890-107

Surface Elevation:

Depth Feet	USC Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0		4" Core Barrell					0	
5	F:11	5/5	F:11: Black to Dark brown, gravelly, angular, loose fill material (Concrete from 1 to 3') Refinery brick fragments evident.	0 0 20 gal H_2O Used 0				6" ϕ Hole (O.R.) to 65' (4" core barrell)
				0 0 0 0 0 (70 gpm) TOE				2-inch ϕ Sch 40 PVC Riser to 53 ft.
10	F:11	10/10		5.2 9.6 11.8 15.0			10	Bentonite Seal from 0 to 16 ft Grout Seal from 16 to 48 ft (5% Bentonite)
15			grading at 16' to Dark gray (5Y4/1), wet, med. dense, fine to medium grained, poorly graded sand w/trace of gravel	58.3 110 75.3				Bentonite Seal from 48 to 52 ft Morrie '2' Sand Pack from 52 to 65 ft (and natural formation)
	SP		grading at 17' Gray (10YR5/1) to brown (10YR5/3), soft, plastic clay	ND ND ND (40 gpm) TOE ND				4x2-inch ϕ Sch 40 PVC 10-slot U-Pack Screen from 53 to 63 ft.
20	CL	10/10		ND ND			20	(Morrie '0' filter media used in U-Pack
25	SC		grading at 24' Light brownish gray (10YR6/2), loose, saturated, subrounded to subangular, quartzitic, fine to medium grained clayey Sand.					
	CL	10/10	grading at 26' to Grayish brown (10YR5/2), moist, soft, mottled, plastic, clay with trace of gravel.	ND (40 gpm) TOE				
30							28	

Driller: Prosonic Inc / R. Parr	Well Casing: 2-inch Dia. 0' To 53'	Seal Type: Bentonite	Quantity: 2 bg
Drilling Type/Size: 4x6 Rotary Sonic	Casing Type: Sch 40 PVC	Filter Pack Type: Morrie '0'	Quantity: 1½ bags
Logged By: J.B. Herman / SAIC	Well Screen: 2x4-inch Dia. 53 To 63'	Static Water Level:	
Drilling Started: 2/15/03	Screen Type: Sch 40 PVC U-Pack	Date/Time:	
Drilling Completed:	Slot Size: 10	Notes: Morrie '2' Used as filler - 2½ bg	
Well Construction:	Grout Type: Portland Type I/II Quantity: 4 bg		
Blown/Bailed Yield:	5% Bentonite		

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SOIL BORING LOG

Boring/Well No.: CO34 PZ T.O.C. Elev.:

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Location:

.oject No.:

Surface Elevation:

Depth Feet	USC Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
30							30	
35	CL/ML	10/10	grading at ±30' to Very dark grayish brown (10YR3/2), moist, medium stiff, slightly plastic, silty clay; with some organic material.	N.D. (40 ppm) TDE			35	
			grading at 37' to Dark olive gray (5Y3/2) soft, moist, plastic clay with some organic material	ND				
40	CL	10/10	grading at 46' to Very dark grayish brown (10YR3/2) to black (10YR2/1), medium stiff, moist, slightly plastic silty clay high in organic matter. (Carbonized wood fragments), 'peat' at base of contact	(50 ppm) TDE			40	
45				ND			45	
	CL/ML	10/10	grading at 50' to Light brownish gray (10YR6/2), saturated, loose to medium dense, fine to medium grained silty	FSO Flow Sample ND (50 TDE ~~ppm~~ used)			50	
50	SM		grading at 52' to Sand:	Sample # CO34-RS-55 ND				
	CL		Gray (10YR5/1), soft, moist plastic clay beds.					
	SP	N.T. TDE	grading at 52.5' to					
55	SC		light brownish gray (10YR6/2), loose to med dense, saturated, Subrounded to Subangular, quartzite, fine to coarse grained, poorly graded sand with traces of gravel	No Sample ND				
	SP	10/10	grading at 54.5' to					
60	SM		Light gray (10YR7/2), saturated, loose to med. dense, fine to coarse grained clayey sand with trace of gravel (single subround quartz cobble observed)				60	

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
ling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
ged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Boring/Well No.: C034-P2 T.O.C. Elev.:
Location:
Surface Elevation:
Page 3 of 3

Depth Feet	USC Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
60			?. IDE				60	
	SM SP SC CL	10/10	grading at 56' to Very pale brown (10YR8/3), saturated, loose to med. dense, subround to subangular, quartzitic, fine to medium-grained, clean, poorly graded Sand.	No Sample ND				
65			grading at 58' white (10YR8/2), loose to med dense, fine to medium grained Silty Sand				65	
70			grading at 61' to Very pale brown (10YR 8/2), saturated, loose to med dense, clean, fine to coarse-grained poorly graded Sand					
			grading at 62.5' to Very pale brown, loose to med. dense, fine to coarse grained Clayey Sand.					
80			grading at 63.5' to light gray (10YR 7/1), moist, hard, plastic, Clay with Sand					
85								
90								

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

C : BSC Sparrows Point NTE Auger Well Installation
Project No.: 01-1633-00-1590-167

Boring/Well No.: COSS-12SI shallow T.O.C. Elev.:
Location: NW corner of Coke Ovens Area
Surface Elevation:
Page 1 of 1

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
				Ambient 20/20 @ 14:37				
			Black slag & fines, hard drilling 0'-5' (PID read. 0.0 taken @ top of augers.	Breathing zone 0.0 ppm				
				0.0				
			Same as above, easier drilling					
				0.0				
			Same as above, augers grinding 12'-13' BGL					
				0.0				
			Black slag, gravel & fines, easier drilling					
				0.0				
			Slag			Caliper		

+23'-27' Steel
0'-2' concrete
2'-8' seal
8'-10' riser
10'-20' screen
8'-20.5' sand

Driller: Eichelberger / Noble Meyer	Well Casing: Sch 40 PVC Dia 2" +2.0' To 10'	Seal Type: Bentonite chips	Quantity:
Drilling Type/Size: Auger / 4¼"	Casing Type: Steel +23' - 27'	Filter Pack Type: #1 Sand	Quantity:
Logged By: MJL	Well Screen: Sch 40 PVC Dia 2" 10' To 20'	Static Water Level:	
Drilling Started: 1-21-03	Screen Type:	Date/Time:	
Drilling Completed: 1-21-03	Slot Size: 0.010"	Notes:	
Well Construction: 1-21-03	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: DSC Sparrows Point N°E Auger Well Installation
Project No.: 01-1633-00-1890-107

Boring/Well No.: FM03-P2M T.O.C. Elev.:
Location: Acid Alley
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
				Release 20120 11637				
0			Dark clay fines, gravel with some sand Hand drilling (PID readings taken from top of augers 0.0' - 40.0'	Background zone: 0.0 ppm				
5			Dark clay fines, becoming wet @ ≈ 7' BGL. Easy drilling	0.0				
10			Dark gray clay fines, saturated @ 13' BGL. Easy drilling.	0.1				
15			Brown sat. silty clay @ ≈ 16' BGL. No cutting returns 16'-20'. Easy drilling.	0.1				
20			No cutting returns, easy drilling 20'-25' BGL	0.3				
			No cutting returns easy drilling 25'-30' BGL					
				0.8				

Driller: Eckelberger's / Nate Moyer	Well Casing: Sch 40 PVC Dia. 2" To 79'	Seal Type: Bentonite pellets Quantity:
Drilling Type/Size: Auger / 6¼"	Casing Type: Flush mount	Filter Pack Type: 2/8" x 3/16" gravel Quantity:
Logged By: MJL	Well Screen: Sch 40 PVC Dia. 2" 79' To 89'	Static Water Level: 12.84' BGL
Drilling Started: 1-8-03	Screen Type: Repack	Date/Time: 1-10-03 / 1000
Drilling Completed: 1-8-03	Slot Size: 0.010"	Notes:
Well Construction: 1-9-03	Grout Type: Portland Cement Quantity:	
Blown/Bailed Yield:	w/ bentonite crumbles	

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SOIL BORING LOG

Client: DSC Sparrows Point NE Auger Well Installation
Project No.: 01-1533-00-1890-107

Boring/Well No.: PM03-P2R T.O.C. Elev.:
Location: Acid Alley
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
30			No returns, easy drilling 30'-35' BGL					
35			No returns, easy drilling 35'-40' BGL	0.3				
40	[illegible]	20/20'	Dark greenish gray (5GY 4/1), very soft clayey silt, moist	0.3 0.4				
		Auger	42'-45'					
45	[illegible]	20/20'	Same as above to 46.3' grading to very dark gray (5Y 3/1), fine to medium grained, angular to subangular very loose, saturated, sand	0.0				Start running H2O @ 45' BGL
		Auger	47'-50'					
	Drillers missed spoon when tripping out and back in hole with her rods		50'-52', lost track of depth					
55	[illegible]	20/20'	Dark greenish gray (10GY 4/1), soft, moist, silty clay	0.5				
		Auger	57'-60'					
60								

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: DSC Sparrows Point NSE Augers Well Installation
Project No.: 01-1633-00-1840-167

Boring/Well No.: FM03-P2M T.O.C. Elev.:
Location: Arch Alley
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
60	WH-1-2-4	2.0/2.0	Dark greenish gray (10Y 4/1) medium soft, wet, silty clay mixing with black organic material	0.4 ppm				
			Auger 62'-65'					
65	4-5-4-4	0.8/2.0	SS split sample					
			Auger 67'-70'					
70	3-2-2-2	1.4/2.0	Greenish gray (10Y 5/1) very soft, wet, sticky, silt mixing with medium sand	0.0				
			Accumulated lost core 71.4'-72.0'					
			Auger 72'-75'					
75	16-19-41-37	1.2/2.0	Light gray (2.5Y 7/1) medium grained, subrounded & subangular, dense, moist (75.0'-75.5') olive to white (2.5Y 8/1) med. grained sand, subrounded to angular, dense, wet sand (76.5'-77')	0.0				
			Accumulated lost core 76.9'-77.0'					
			Auger 77'-80'					
80	39-50/0.4'	0.9/0.9'	White (2.5Y 8/1) med. grained, sub-rounded to angular, very dense, wet sand	0.0				
			Auger 80'-85'					
85	34-36-41-43	1.0/2.0'	White (2.5Y 8/1) very dense, med. grained, subrounded to angular, wet sand	0.0				
			Accumulated lost core 86.0'-87.0'					
			Auger 87'-90'					
90								

0'-2' concrete
0'-79' riser
2'-74' grout
74'-77' seal
79'-89' screen
77'-90' gravel

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
ed By:	Well Screen: Dia. To	Static Water Level:	
g Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: BSC Sparrows Point N&E Auger Well Installation
Project No.: 01-1533-00-1890-107

Boring/Well No.: FMW3-P2M T.O.C. Elev.:
Location: Acid Alley
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
90	27-34-37-50	0.4'/1.0'	Sand as above 90.0'-90.4' (10YR 4/4) fine, dry, Clayey Accumulated last core 90.9'-91.0'	0.0				
95								
100								
105								
110								
115								

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
...ed By:	Well Screen: Dia. To	Static Water Level:	
...g Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: BSC Sparrows Point N.E Auger Well Installed on
Project No.: 01-1633-00-1890-107

Boring/Well No.: TM04-P2M T.O.C. Elev.:
Location: N of Tin Mill Canal 1st attempt
Surface Elevation:
Page 1 of 1

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
				PID 20130 #14657				
0	Auger 0'-5'		Very dark gray (10YR3/1) silt, gravel, slag, some sand	0.0				
5	19/19/6/12	20"/20"	Black to gray silt, gravel, slag, some sand & quartz frag	0.0		Hole Abandoned with cuttings		
	Auger	7'-10'						
0	23-37-16-11	20"/20"	Black slag with yellow SS frags	0.0				
	Auger	12'-15'						
5	47-50/3	08"/08"	Rough slag and refusal on large piece of slag					
	Auger refusal @ 158 BGL							
0								
5								

Driller: Eichelbergers / Nate Mapes	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size: Auger 16"	Casing Type:	Filter Pack Type:	Quantity:
Logged By: MJL	Well Screen: Dia. To	Static Water Level:	
Drilling Started: 12-16-09	Screen Type:	Date/Time:	
Drilling Completed: 12-18-09	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: BSC Sparrows Point N.E Auger Well Installation
Project No.: 01-1633-00-1890-107
Boring/Well No.: TW4-PM
T.O.C. Elev.:
Location: N of Tin Mill Coal 2nd therapy
Surface Elevation:
Page 1 of 4

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0				PID 0/0 E 14637				
			Auger 0'-5' BGL Slag & Fines					
5			Auger 5'-10' BGL Slag & Fines					
			Auger 10'-15' BGL					
	2-5-8-7	0.5'/2.0'	Slag & gravel set with oily black substance Accumulated last core	0.0 ppm				
			Auger 17.0'-20.0'					
	3-3-14-5	1.0/2.0'	Slag & gravel set with oily (black) substance. Strong hydrocarbon odor with heavy sheen on water Accumulated last core	0.0				
			Auger 21'-25'					
	3-2-1-3	1.5/2.0'	Very dark blue/grey (5B 3/1) fine, moderately plastic wet, hydrocarbon odor silty clay. Accumulated last core	0.5				
			Auger 27.6'-30'					

Driller: Environmental / Nate Moyer	Well Casing: Sch 40 PVC Dia 2" +2' To 88'	Seal Type: Bentonite pellets Quantity: 1½ bucket
Drilling Type/Size: Auger / 6"ø	Casing Type: Steel +2.5'-2.5'	Filter Pack Type: 3/8" x 3/16" gravel Quantity: 4 bags
Logged By: MJL	Well Screen: Sch 40 PVC Dia 2" 88' To 98'	Static Water Level: 11.60' BGL
Drilling Started: 12-18-02	Screen Type: 2" Sch 40 pre pack screen	Date/Time: 12-23-02 / 1100
Drilling Completed: 12-20-02	Slot Size: 0.010"	Notes:
Well Construction: 12-23-02 : 12-27-02	Grout Type: Portland Cement Quantity: 21 bags	
Blown/Bailed Yield:	w/ 5% bentonite crumbles 2 bgs	

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SOIL BORING LOG

Client: BSC Sparrows Point N & E Auger Well Installation
Project No.: 01-1633-00-1890-107

Boring/Well No.: TMW4-P2M T.O.C. Elev.:
Location: Nof Tin Mill Canal
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
30	34-8-15	0.6/30'	Same as above gradually to black slag from @ 30.2'. Accumulated last above 30.3-32'	0.3 ppm				
		Auger	32'-35'					
35	11-13-16-23	30/30'	Black slag gravel, rock frags mixing with wet brown black (10YR2/1) fine sand	10.0				
		Auger	37'-40'					
40	34-38-31-6	30/30'	Dark greenish gray (10Y 4/1) silty clay mix with red (2.5YR 5/8) clay, slag, gravel, hydrocarbon odor	0.4				
		Auger	42'-45'	Broke bar end of hole @ 42' 12/19/03				
45	WH-WH-WH-1	30/30'	Dark gray (N4) highly plastic, soft, clay, moist	0.0				
		Auger	47'-50'					
	WH-WH-WH-WH	30/30'	Dark greenish gray (10Y 4/1) soft highly plastic clay, misc silt 45'-47', moist	0.0				
		Auger	52'-55'					
55	1-2-2-3	30/30'	Greenish gray (10Y 5/1), red to coarse grained, loose wet sand, gradually to dk yellowish brown (10YR 4/2) red grained, wet, clay loose sand at 56.5'	0.0				
		Auger	57'-60'					
60								

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: BSC Sparrows Point NFE Auger Well Installation
Project No.: 01-633-00-1890-107
Boring/Well No.: 1904-P37
Location: N of Tin Mill Canal
Surface Elevation:
T.O.C. Elev.:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
60	2-2-1-1	2.0'/2.0'	Light brown to gray (10YR 6/2) mod. sticky, wet, with black sand grains @ 61' to very dark gray (2.5Y 3/1) sandy silt with minor amounts of clay	0.0				
		Auger	63' - 65'					
65	WH-WH-1-WH	20'/20'	Dark greenish brown (2.5Y 4/2) soft silty clay. (65.0'-65.2' sandy clay)	0.0				
		Auger	67' - 70'					
70	1-1-2-1	2.0'/20'	Light yellowish brown (2.5Y 6/3) fine to medium grained, saturated, loose sand.	0.2				
		Auger	72' - 75'					
75	WH-WH-WH-WH	20'/20'	Light yellowish brown (2.5Y 6/3) fine to medium grained saturated loose sand. 75'-76.5' Color change to 2.5 to light olive brown (2.5Y 5/4).	0.1				
		Auger	77' - 80'					
80	4-4-4-4	0.2'/2.0'	Light yellowish brown (2.5Y 6/4) fine to med grained, saturated, loose sand. Accumulated lost core 80.2'-82'	0.0				
		Auger	80' - 85'					
85	WH-WH-WH-1	00'/20'	Slipped sample					
		Auger	87' - 95'					
90								

Driller:	Well Casing: Dia. To	Seal Type: Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type: Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:
Drilling Started:	Screen Type:	Date/Time:
Drilling Completed:	Slot Size:	Notes:
Well Construction:	Grout Type: Quantity:	
Blown/Bailed Yield:		

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SOIL BORING LOG

Client: BSC Sparrows Point NSE Auger Well Installation
Project No.: 01-1633-00-1890-103

Boring/Well No.: TMW-PZ17 T.O.C. Elev.:
Location: N of Tin Mill Canal
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0								
			Auger 81'-95'					
5			End of boring @ 95' BGL Boring open to 91' BGL					
0								78.75'-81.75' Steel 81.75'-81' riser 0'-3' concrete 3'-77' grout 77'-80' pellets 1½ bag 80' 88' 3/8"-3/4" gravel 4 bags 88'-91' formation collapse 88'-98' screen
5								
0								
5								
0								
5								

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
ed By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time:	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

APPENDIX B

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CO28 - PZM010 Tag: NO

Date of Purging: 6/15/04 Start Time: 1325 Finish Time: _____ Weather: 80-85 sun
Date of Collection: 6/15/04 Time of Collection: 1358

Well Status:

Good		Grout	Cracked
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	11.49
Depth of Bottom from Top of Casing (0.01 ft.)	20.10 after sample
Depth of Water in the Well (gallon)	—
Volume of water in the Well (gallon)	—
Depth of Water from Top of Casing (0.01 ft.) after purging	—
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	11.60
Sample Depth from Top of Casing	17.77

						Sample Reading			
Number of minutes purged	0	3	6	9	12	15	18	21	24
Temperature (°C)	24.2	22.3	21.9	22.1	21.8	21.9	21.5	21.4	21.2
pH	9.29	9.35	9.25	9.13	9.00	9.01	9.03	9.05	9.07
Specific Conductance (umhos/cm)	1735	1399	1243	1142	930	849	825	813	806
Dissolved Oxygen (mg/l)	4.41	2.49	1.78	1.26	1.33	1.39	1.15	1.15	0.92
Oxidation Reduction (eH)	-231.2	-226.8	-224.5	-220.3	-201.7	-189.1	-179.0	170.6	166.8
Turbidity (NTU)	-1.7	1.1	-2.3	-2.5	-4.3	-4.5	-5.1	-5.1	-5.1

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor No
Color clear

Rate of Purge 200 **milliliters / minute**

Comments: _____

Reference SOP Field-014
Readings were performed on date of sampling 6/15/04. (Tech – J. Duszynski)

HQN:groundisg.doc white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: C028 PZM048 Tag: No

Date of Purging: 6/15/04 Start Time: 1447 Finish Time: _____ Weather: 90-93 PT SUN
Date of Collection: 6/15/04 Time of Collection: 1510

Well Status:

Good _____	Grout _____
Good ✓	Casing _____
Good ✓	Lock _____
Good _____	Obstructions _____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	pvc
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.17
Depth of Bottom from Top of Casing (0.01 ft.)	60.99 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.55
Sample Depth from Top of Casing	55 ft

Number of minutes purged	0	3	6	9	12	15	Sample Reading 18	21
Temperature (°C)	25.3	21.4	21.6	21.3	20.8	21.0	21.1	21.1
pH	8.34	10.71	10.95	11.06	11.09	11.08	11.08	11.07
Specific Conductance (umhos/cm)	1551	2410	2570	2680	2709	2715	2712	2710
Dissolved Oxygen (mg/l)	3.70	1.98	1.79	1.38	1.19	0.96	0.89	0.79
Oxidation Reduction (eH)	-199.1	-228.8	-234.9	-241.0	-246.3	-249.2	-252.1	-255.0
Turbidity (NTU)	2.1	-1.0	-2.9	-4.1	-3.3	-1.5	-0.2	-2.7

Purging Equipment
~~Peristaltic Pump~~ _____
Bladder Pump ✓

Well Observation
Odor yes
Color clear

Rate of Purge 175 **milliliters / minute**

Comments: TURB NOT leveling out everything else OK

Reference SOP Field-014
Readings were performed on date of sampling 6/15/04. (Tech – J. Duszynski)

Microbac Laboratories, Inc.

Work Order Number: _____

ISG Site –Coke Oven

Contact: Mike Vogler Technician: _____ Groundwater Samples

Telephone: 410-388-6622 Fax:

Cooler #_____ Temperature Blank._____ °C

Site Contact: Telephone:

Due Date: _____

036 2

ANALYSIS	*METHODS*	*CONTAINER TYPE*	# CONTAINERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
				250AZ-FP-COC	500AZ-FP-COC	500AZ-FP-COC	500AZ-FP-COC	500AZ-FP-COC	500AZ-FP-COC	500AZ-FP-COC	500AZ-FP-COC	250AZ-FP-COC	250AZ-FP-COC	500AZ-FP-COC	500AZ-FP-COC	500AZ-FP-COC	500AZ-FP-COC	500AZ-FP-COC	500AZ-FP-COC	500AZ-FP-COC	500AZ-FP-COC
Volatile Organics	8260 B	2 VOA'S HCl to pH<2, Cool 4°C	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Semi-volatile Organics	8270 C	2 AMB LTR NEAT	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total Metals	6010B/7000	1 PLAS PT HNO3 to pH<2	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dissolved Metals	6010B / 6020 / 7470 A	1 PLAS PT HNO3 to pH<2	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total Cyanide	9010A / 9012A	1 PLAS PT Ascorbic Acid / NaOH to pH>12, Cool 4°C	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Available Cyanide	OIA-1677	1 PLAS PT Ascorbic Acid / NaOH to pH>12, Cool 4°C	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total Sulfide	9030 B / 9934	1 PLAS PT NEAT	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Relinquished By (signature)/Date & Time: Received By (signature)/Date & Time

Notes:

1. Follow standard Quality Control Protocol.
2. All Wells analyzed for FULL COPI LIST.

ISG.060704

JUN/15/2004/TUE 04:41 PM

P.004

Mike

DATE: 6/14/04 ISG Sparrows Point, Baltimore, MD

Well ID	Well ID, in.	Previous Depth to Water, ft	Depth to Water, ft	Time	Technician	Notes
TM05-PZM005	2	14.89	11.66	1122	MA	
TM05-PZM069	0.5	14.89	14.64	1121		
TM03-PZM004	2	10.90	11.02	1110		
TM03-PZM037	0.5	13.67	13.20	1110		
TM02-PZM009	2	9.42	10.25	1051		
TM02-PZM028	2	9.37	10.23	1052		
TM02-PZM062	0.5	11.52	11.22	1053		
TM04-deep	2	12.60	12.40	1056		
TM04-PZM006	2	11.94	12.38	1057		
TM04-PZM028	2	10.94	11.92	1058		
TM04-PZM056	0.5	14.14	13.95	1059		
TM06-PZM008	2	12.90	13.40	1102		
TM06-PZM034	0.5	14.02	14.04	1103		
TM07-PZM005 (1)	2	12.94	13.10	1130		PZM007 marked on well
TM07-PZM045	2	14.36	14.28	1131		
TM09-deep	2	9.78	9.82	1134		
TM09-PZM007	2	10.62	11.05	1135		
TM09-PZM047	0.5	11.71	11.71	1136		
TM11-PZM007	2	9.98	10.18	1147		DAMAGED CASING Open to atmosphere, manhole Tripping out
TM11-PZM034	0.5	NA	—	1148		DAMAGED TBP Flush mount - NO ENTRY
TM08-PZM007	2	9.01	9.22	1142		OCB
TM08-PZM038	0.5	10.10	10.12	1143		
TM13-PZM007	2	11.50	11.70	1151		
TM13-PZM046	0.5	10.26	12.08	1152		
TM15-PZM007	2	8.38	8.52	1157		
TM15-PZM011	2	7.79	7.98	1158		
TM15-PZM031	0.5	10.80	8.41	1159		
TM15-PZM065	0.5	11.24	11.02	1200		
SW05-PZM004	2	8.55	10.05	1211		
SW05-PZM039	0.5	16.01	16.12	1212		
FM04-PZM009	2	5.56	5.24	1229		
FM04-PZM036	0.5	12.25	12.15	1231		
FM04-PZM054	0.5	11.71	12.05	1230		
FM05-PZM004	2	4.27	4.55	1239		
FM05-PZM024	0.5	6.58	6.70	1240		
FM03-deep	2	12.32	12.20	1302		
FM03-PZM005	2	5.90	5.75	1301		
FM03-PZM026	0.5	NA	8.92	1300		
FM02-PZM002	2	5.20	4.96	1252		
FM02-PZM033	0.5	11.76	11.52	1251		
FM01-PZM003	2	3.40	3.50	1311		
FM01-PZM041	0.5	10.34	10.28	1312		
SW08-PZM003	2	0.50	—	1320		Buried Depth ~4 cu yard of DIRT
SW08-PZM053	0.5	8.11	—	1320		
SW06-PZM001	2	4.71	7.28	1400	BB	
SW06-PZM053	0.5	17.69	dry	1402	BB	obstruction @ 17.45'

DATE: 6/14/04 ISG Sparrows Point, Baltimore, MD

Well ID	Well ID, in.	Previous Depth to Water, ft	Depth to Water, ft	Time	Technician	Notes
SW10-PZM012	2	4.12	5.01	1409	BB	
SW10-PZM085	0.5	7.87	8.02	1410	BB	
SW09-PZM004	2	3.21	3.84	1407		
SW09-PZM028	0.5	8.20	8.56	1408		
SW09-PZM068	0.5	3.70	4.12	1409		
SW07-PZM004	2	11.26	11.46	1330		
SW07-PZM108	2	16.21	15.72	1331		
SW11-PZM005	2	3.19	3.64	1340		
SW11-PZM092	2	12.15	11.56	1341		
SW12-PZM100	2	19.45	18.95	1349		
SW12-PZP001	2	10.85	11.12	1345		

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site – Sparrows Point
Technician: _____
Fax: (410) 388-5263
Cooler # _____

Due Date: 21 Working Days
Groundwater Samples

Date Samples Collected: 7/8/04

Temperature Blank. _____ °C

Sample ID	Time Collected	# CONT.	VOC (8260B)	SVOC (8270C)	Total Metals (6010B/7000)	Dissolved Metals (6010B/7000)	Total Cyanide (9012A/9010A)	Available Cyanide (OIA-1677)	Total Sulfide (OIA-1677/9034)	Alkalinity (310.1)	Chloride (325.2)	Ferrous Iron (SM3500)	Nitrate (353.2)	Dissolved Iron (6010B)	Sulfonamides	Comments
SW18-PZM008	0845	9	X	X	X	X	X	X	X							
SW18-DUP008	0845	8	X	X	X	X	X	X	X	(3)						DUPLICATE
TM04-PZM006	1020	9	X	X	X	X	X	X	X							
TM04-PZM082	1145	9	X	X	X	X	X	X	X							
TM09-PZM047	1335	9	X	X	X	X	X	X	X							
TM09-EQB007	1415	8	X	X	X	X	X	X								EQUIP BLANK
TM09-PZM007	1450	9	X	X	X	X	X	X	X							
FIELD-03	1210	2	X													
TRIP BLANK-13	0620	2	X													

Relinquished By (signature)/Date & Time:

Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol. ISG.060704

JUL/08/2004/THU 03:33 PM

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: TM09-PZM047 Tag: No

Date of Purging: 7/8/04 Start Time: 1254 Finish Time: _____ Weather: 80 cloudy
Date of Collection: 7/8/04 Time of Collection: 1335

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	1/2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	11.80
Depth of Bottom from Top of Casing (0.01 ft.)	12.0 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	47.99
Sample Depth from Top of Casing	~~48~~ Ft ~47.5

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18	21	24	27	30
Temperature (°C)	20.7	20.3	20.0	19.9	19.8	19.9	19.9	19.9	20.1	20.1	20.5
pH	10.71	9.04	8.49	8.04	7.87	7.70	7.55	7.46	7.42	7.37	7.32
Specific Conductance (umhos/cm)	4342	4644	4773	4843	4873	4894	4919	4918	4928	4943	4962
Dissolved Oxygen (mg/l)	0.59	0.14	0.11	0.12	0.15	0.25	0.35	0.30	0.22	0.23	0.22
Oxidation Reduction (eH)	-95.6	-240.1	-333.5	-318.4	-314.2	-299.9	-279.9	-268.5	-261.8	-255.4	-250.1
Turbidity (NTU)	73.6	113.1	57.8	53.1	35.3	15.9	13.5	13.9	8.7	5.17	5.13

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation * COULD NOT MEASURE WATER level with tubing down well
Odor _____
Color Clear to slightly yellow

Rate of Purge 150 **milliliters / minute**

Comments: Approx 2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/8/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: SW18 - PZM008 Tag: ND

Date of Purging: 7/8/04 Start Time: 0817 Finish Time: _____ Weather: 68 cloudy
Date of Collection: 7/8/04 Time of Collection: 0845

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	pvc
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.60
Depth of Bottom from Top of Casing (0.01 ft.)	20.31 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.62
Sample Depth from Top of Casing	16 Ft

Number of minutes purged	0	3	6	9	12	15	Sample Reading 18
Temperature (°C)	19.4	18.1	18.0	18.0	18.0	18.0	18.0
pH	11.70	11.82	11.78	11.68	11.64	11.66	11.71
Specific Conductance (umhos/cm)	1854	1848	1826	1820	1824	1829	1839
Dissolved Oxygen (mg/l)	1.45	0.63	0.45	0.37	0.33	0.30	0.33
Oxidation Reduction (eH)	31.1	-47.0	-68.7	-80.0	-89.5	-98.6	-106.8
Turbidity (NTU)	-0.8	-1.1	-0.5	-1.2	-0.8	-0.7	-1.3

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear

Rate of Purge 500 **milliliters / minute**

Comments: Approx 2½ gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/8/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG
Site: Sparrows Point, MD
Well I.D.: TM04 - P2M006
Tag: ~~MD~~ BA-81440

Date of Purging: 7/8/04 Start Time: 0950 Finish Time: _____ Weather: 85 pt sun
Date of Collection: 7/8/04 Time of Collection: 1020

Well Status:

Good		Grout	
Good	✓	Casing	
Good	✓	Lock	Hinge on Lid cracked off
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	pvc
Depth of Water from Top of Casing (0.01 ft.) prior to purging	13.23
Depth of Bottom from Top of Casing (0.01 ft.)	20.95 after Sampling
Depth of Water in the Well (gallon)	~~~
Volume of water in the Well (gallon)	~~~
Depth of Water from Top of Casing (0.01 ft.) after purging	~~~
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	14.10
Sample Depth from Top of Casing	15.5 ft

Number of minutes purged	0	3	6	9	12	15	Sample Reading 18
Temperature (°C)	18.0	17.5	17.0	17.0	16.9	16.8	16.7
pH	10.34	10.32	10.36	10.41	10.41	10.33	10.23
Specific Conductance (umhos/cm)	1128	1184	1188	1193	1192	1185	1185
Dissolved Oxygen (mg/l)	2.89	2.15	1.45	1.09	0.89	0.85	0.80
Oxidation Reduction (eH)	-29.4	-42.9	-56.4	-64.4	-67.6	-64.2	-59.9
Turbidity (NTU)	2.6	0.9	1.0	0.6	0.7	0.4	0.1

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color clear

Rate of Purge 150-175 **milliliters / minute**

Comments: Approx 11/4 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/8/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: TM04-PZM082 Tag: NO

Date of Purging: 7/8/04 Start Time: 1111 Finish Time: _____ Weather: 80-85 cloudy
Date of Collection: 7/8/04 Time of Collection: 1145

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.65
Depth of Bottom from Top of Casing (0.01 ft.)	94.70 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	13.20
Sample Depth from Top of Casing	91 ft

Number of minutes purged	0	3	6	9	12	15	Sample Reading 18
Temperature (°C)	16.9	16.6	16.6	16.6	16.5	16.6	16.6
pH	8.35	8.34	8.34	8.33	8.32	8.31	8.30
Specific Conductance (umhos/cm)	3130	3139	3143	3149	3157	3158	3152
Dissolved Oxygen (mg/l)	1.21	1.13	0.91	0.81	0.69	0.66	0.60
Oxidation Reduction (eH)	-169.1	-169.9	-172.5	-174.1	-175.6	-177.7	-181.2
Turbidity (NTU)	7.3	4.8	4.9	4.3	3.5	3.7	4.9

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color _____

Purged out 1/2 gal first before starting readings

Rate of Purge 150-175 **milliliters / minute**

Comments: Approx 1 1/2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/8/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: TM09-PZM007 Tag: N/O

Date of Purging: 1/8/04 Start Time: 1423 Finish Time: _____ Weather: 85 PT SUN
Date of Collection: 1/8/04 Time of Collection: 1450

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	11.15
Depth of Bottom from Top of Casing (0.01 ft.)	18.40 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	11.16
Sample Depth from Top of Casing	18 FT

Number of minutes purged	0	3	6	9	12	15	Sample Reading 18
Temperature (°C)	19.5	19.2	19.2	19.2	19.3	19.3	19.3
pH	11.39	11.45	11.44	11.44	11.41	11.40	11.37
Specific Conductance (umhos/cm)	1462	1455	1438	1411	1373	1351	1329
Dissolved Oxygen (mg/l)	1.20	0.49	0.34	0.25	0.22	0.19	0.21
Oxidation Reduction (eH)	-172.1	-184.6	-189.8	-191.8	-190.4	-188.5	-184.3
Turbidity (NTU)	2.0	-0.3	-0.1	1.0	1.0	1.0	1.0

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color clear

Rate of Purge 500 **milliliters / minute**

Comments: Approx 2 1/2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 1/8/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: GL03-PZP001 Tag: BA 81 4629

Date of Purging: 7/13/04 Start Time: 1048 Finish Time: ____ Weather: 75 cloudy
Date of Collection: 7/13/04 Time of Collection: 1120

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	not locked
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	7.01
Depth of Bottom from Top of Casing (0.01 ft.)	19.86 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	7.65
Sample Depth from Top of Casing	15 ft

Number of minutes purged	0	3	6	9	12	15	18 (Sample Reading)	21	24
Temperature (°C)	19.0	18.9	18.7	18.7	18.6	18.6	18.6	18.6	18.8
pH	11.21	11.28	11.37	11.45	11.52	11.58	11.63	11.64	11.68
Specific Conductance (umhos/cm)	1056	1074	1082	1084	1083	1086	1088	1089	1087
Dissolved Oxygen (mg/l)	0.85	0.61	0.64	0.52	0.48	0.47	0.40	0.35	0.33
Oxidation Reduction (eH)	-247.9	-238.6	-233.8	-231.3	-229.7	-227.4	-227.0	-224.2	-223.7
Turbidity (NTU)	-0.1	-2.6	-2.8	-1.8	-1.8	-2.1	-1.8	-1.7	-1.3

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear

Rate of Purge 200 **milliliters / minute**

Comments: Approx 2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/13/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: GL03 - PZM013 Tag: BA PI 4631

Date of Purging: 7/13/04 Start Time: 1218 Finish Time: _____ Weather: 80 PT SUN
Date of Collection: 7/13/04 Time of Collection: _____

Well Status: * CONTINUED TO NEXT SHEET

Good ✓ Grout _____
Good ✓ Casing _____
Good _____ Lock NOT Locked
Good _____ Obstructions _____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	pvc
Depth of Water from Top of Casing (0.01 ft.) prior to purging	13.46
Depth of Bottom from Top of Casing (0.01 ft.)	33.81 after Sampling
Depth of Water in the Well (gallon)	—
Volume of water in the Well (gallon)	—
Depth of Water from Top of Casing (0.01 ft.) after purging	—
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	16.48
Sample Depth from Top of Casing	29 FT

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18	21	24
Temperature (°C)	19.2	19.6	19.8	19.9	19.6	19.5	19.5	19.7	19.7
pH	10.91	10.91	10.91	10.88	10.88	10.86	10.81	10.59	9.93
Specific Conductance (umhos/cm)	587	587	584	577	572	571	568	577	670
Dissolved Oxygen (mg/l)	1.12	0.72	0.64	0.59	0.55	0.55	0.50	0.45	0.31
Oxidation Reduction (eH)	-23.6	-22.3	-22.7	-26.0	-29.7	-31.4	-37.0	-44.4	-71.3
Turbidity (NTU)	43.8	44.2	45.2	43.0	44.7	42.2	35.6	38.9	43.4

	27	30	33	36	39
Temperature (°C)	19.6	19.8	19.7	20.1	19.9
pH	9.56	9.37	9.09	8.97	8.92
Specific Conductance (umhos/cm)	752	801	887	928	954
Dissolved Oxygen (mg/l)	0.24	0.18	0.13	0.12	0.09
Oxidation Reduction (eH)	-109.4	-147.9	-177.7	-221.4	-251
Turbidity (NTU)	30.1	15.5	7.0	1.4	0.9

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color _____

Rate of Purge 100 **milliliters / minute**

Comments: Approx 7.5 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/13/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: GL03 - PZM013 Tag: BA 81 4631

Date of Purging: 7/13/04 Start Time: 1218 Finish Time: _____ Weather: 80 PT SUN
Date of Collection: 7/13/04 Time of Collection: 1330

Well Status: * CONTINUED FROM PREVIOUS SHEET

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NOT Locked
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	13.46
Depth of Bottom from Top of Casing (0.01 ft.)	33.81 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	16.48
Sample Depth from Top of Casing	29 Ft

	420	450	480	510	540	Sample Reading 57
Number of minutes purged						
Temperature (°C)	19.4	19.6	19.5	19.3	19.4	19.4
pH	8.65	8.79	8.68	8.62	8.63	8.60
Specific Conductance (umhos/cm)	996	1013	1072	1099	1111	1127
Dissolved Oxygen (mg/l)	0.13	0.12	0.09	0.08	0.11	0.12
Oxidation Reduction (eH)	-283.9	-303.0	-309.6	-320.6	-329.0	-332.4
Turbidity (NTU)	-1.1	0.2	-2.0	-1.7	-4.0	-5.1

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear to slightly yellow

Rate of Purge 100 **milliliters / minute**

Comments: Approx 2.5 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/13/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: GL18-P2P002 Tag: ALS

Date of Purging: 7/13/04 Start Time: 0832 Finish Time: _____ Weather: 70 cloudy
Date of Collection: 7/13/04 Time of Collection: 0900

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	No Lock
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	7.75
Depth of Bottom from Top of Casing (0.01 ft.)	16.56 after Sampling 20.7
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	7.77
Sample Depth from Top of Casing	15 Ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18	21	24
Temperature (°C)	17.6	18.0	18.1	18.1	18.1	18.0	18.1	18.1	18.0
pH	10.12	10.36	10.48	10.54	10.57	10.60	10.62	10.64	10.63
Specific Conductance (umhos/cm)	2523	2530	2532	2544	2554	2561	2543	2552	2573
Dissolved Oxygen (mg/l)	1.24	0.30	0.23	0.18	0.16	0.14	0.13	0.12	0.11
Oxidation Reduction (eH)	-77.1	-149.0	-192.3	-226.5	-247.6	-268.1	-278.8	-288.8	-292.4
Turbidity (NTU)	-1.1	-1.7	0.0	1.1	-1.1	0.6	-1.4	-0.7	0.5

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor:
Color clear light yellow

Rate of Purge 500 **milliliters / minute**

Comments: Approx 5 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/13/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: GL18-PZM039 Tag: NN

Date of Purging: 7/13/04 Start Time: 0942 Finish Time: _____ Weather: 70-75 clouds
Date of Collection: 7/13/04 Time of Collection: 1010

Well Status:

Good	_____	Grout	_____
Good	✓	Casing	_____
Good	_____	Lock	NO LOCK
Good	_____	Obstructions	_____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	18.53
Depth of Bottom from Top of Casing (0.01 ft.)	Soft-58.30 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	18.85
Sample Depth from Top of Casing	55 Ft

						Sample Reading	
Number of minutes purged	0	3	6	9	12	15	18
Temperature (°C)	17.0	16.7	16.6	16.6	16.6	16.6	16.6
pH	6.94	6.61	6.53	6.53	6.50	6.47	6.43
Specific Conductance (umhos/cm)	2837	2860	2724	2536	2562	2610	2629
Dissolved Oxygen (mg/l)	1.52	0.77	0.61	0.48	0.43	0.40	0.38
Oxidation Reduction (eH)	-115.6	-97.8	-95.8	-102.7	-104.5	-104.7	-103.9
Turbidity (NTU)	268.2	166.1	151.9	113.4	69.1	72.0	50.7

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color a little cloudy gray

Rate of Purge 400 **milliliters / minute**

Comments: Approx 2½ gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/13/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site – Sparrows Point
Technician: SD
Fax: (410) 388-5263
Cooler # _____

Due Date: 21 Working Days
Groundwater Samples

Temperature Blank. _____ °C

Date Samples Collected: 7/13/04

Sample ID	Time Collected	CONT #	VOCs (8260B)	Semi-VOCs (8270C)	Total Metals (6010B/7000)	Dis. Metals (6010B/7000)	Total Cyanide (9014)	Available Cyanide (OIA-1677)	Total Sulfide (9030B/9034)	Alkalinity (310.1)	Chloride (325.2) Sulfate (9038)	Ferrous Iron (6010B)	Nitrate (353.2)	Total Phosphorus (6010B)	Methane	Comments
GL18-PZP002	0900	9	X	X	X	X	X	X	X							
GL18-PZM039	1010	9	X	X	X	X	X	X	X							
GL03-PZP001	1120	9	X	X	X	X	X	X	X							
GL03-EQB013	1200	8	X	X	X	X	X	X								EQUIP BLANK
GL03-PZM013	1330	9	X	X	X	X	X	X	X							
FIELD-04	0845	2	X													
TRIP BLANK-16	0610	2	X													

Relinquished By (signature)/Date & Time:	Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol.
ISG.060704

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site – Sparrows Point
Technician: JD
Fax: (410) 388-5263
Cooler # _____

Due Date: 21 Working Days
Groundwater Samples

Temperature Blank. _____ °C

Date Samples Collected: 7/14/04

Sample ID	Time Collected	Count #	VOCs (8260B)	Semi-VOCs (8270C)	TAL Metals (6010B / 7000)	Diss. Metals (6010B)	Total Cyanide (9012A)	Available Cyanide (OIA-1677)	Total Sulfide (9030B)	Alkalinity (310.1)	Chloride (325.3)	Sulfate (375.4)	Nitrate (353.2)	Total Ammonia (350.1)	Methane	Comments
SW10-PZM012	0815	9	X	X	X	X	X	X	X							
TS10-PDM008	0930	9	X	X	X	X	X	X	X							
TS10-PDM008	0930	8	X	X	X	X	X	X								MS
TS10-PDM008	0930	8	X	X	X	X	X	X								MSD
FM03-PZM005	1150	9	X	X	X	X	X	X	X							
FM03-EQB005	1110	8	X	X	X	X	X	X								EQUIP BLANK
FM03-PZM082	1240	9	X	X	X	X	X	X	X							
FIELD-05	1245	2	X													
GL02-PZM006	1430	2			X	X										
PURGE WATER-01	1450	2	X													
TRIP BLANK-17	0610	2	X													

Relinquished By (signature)/Date & Time:	Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol.
ISG.060704

JUL/14/2004/WED 03:34 PM
P. 008

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: FM03 PZM005 Tag: NO

Date of Purging: 7/14/04 Start Time: 1121 Finish Time: _____ Weather: 75 cloudy
Date of Collection: 7/14/04 Time of Collection: 1156

Well Status:

Good		Grout	cracked
Good	✓	Casing	
Good	✓	Lock	Bolted
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	pvc
Depth of Water from Top of Casing (0.01 ft.) prior to purging	6.01
Depth of Bottom from Top of Casing (0.01 ft.)	13.36 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	6.02
Sample Depth from Top of Casing	12 ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15	15
Temperature (°C)	23.2	23.6	23.7	23.7	23.7	23.7	23.7
pH	3.55	3.42	3.45	3.45	3.44	3.44	3.44
Specific Conductance (umhos/cm)	4338	3468	3249	3176	2971	2888	2817
Dissolved Oxygen (mg/l)	1.98	0.76	0.63	0.59	0.58	0.50	0.48
Oxidation Reduction (eH)	276.5	300.2	310.2	314.6	324.2	329.1	333.2
Turbidity (NTU)	33.4	16.2	7.4	5.1	2.6	0.6	0.2

Purging Equipment		Well Observation	
Peristaltic Pump	✓	Odor	
Bladder Pump		Color	clear

Rate of Purge 500 milliliters / minute

Comments: Approx 3 l total purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/14/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: SW10 - PZM012 Tag: A20

Date of Purging: 7/14/04 Start Time: 0748 Finish Time: _____ Weather: 75 cloudy
Date of Collection: 7/14/04 Time of Collection: 0815

Well Status:

Good		Grout	under dirt
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	7.12
Depth of Bottom from Top of Casing (0.01 ft.)	20.35 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	7.57
Sample Depth from Top of Casing	15 Ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15
Temperature (°C)	17.2	17.2	17.3	17.1	17.1	17.1
pH	6.02	5.67	5.49	5.40	5.36	5.33
Specific Conductance (umhos/cm)	511	466	457	446	443	441
Dissolved Oxygen (mg/l)	1.37	1.11	1.00	0.87	0.80	0.76
Oxidation Reduction (eH)	149.6	153.2	153.1	154.1	154.6	156.3
Turbidity (NTU)	68.1	76.4	51.8	43.9	35.3	23.1

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear

Rate of Purge 100 milliliters / minute

Comments: Approx 1 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/14/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: TS10 - PDM008 Tag: N10

Date of Purging: 7/14/04 Start Time: 0901 Finish Time: _____ Weather: 75 cloudy
Date of Collection: 7/14/04 Time of Collection: 0930 humid

Well Status:

Good		Grout	Cracked
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	5.87
Depth of Bottom from Top of Casing (0.01 ft.)	soft 13.60 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	5.87
Sample Depth from Top of Casing	10 Ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18
Temperature (°C)	17.1	17.0	17.2	17.2	17.2	17.2	17.2
pH	8.39	9.02	9.11	9.12	9.12	9.11	9.11
Specific Conductance (umhos/cm)	2213	1052	1013	1004	994	989	988
Dissolved Oxygen (mg/l)	1.20	0.70	0.47	0.40	0.32	0.31	0.31
Oxidation Reduction (eH)	-195.4	-239.0	-245.9	-254.3	-261.7	-269.0	-275.3
Turbidity (NTU)	29.0	52.7	35.1	16.3	8.1	2.6	0.8

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color slightly cloudy

Rate of Purge 500 **milliliters / minute**

Comments: Approx 3 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/14/04 (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: FM 03 - P2M 082 Tag: MW

Date of Purging: 7/14/04 Start Time: 1213 Finish Time: _____ Weather: 80 PT Sun
Date of Collection: 7/14/04 Time of Collection: 1240

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	Bolted
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.23
Depth of Bottom from Top of Casing (0.01 ft.)	89.40 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.28
Sample Depth from Top of Casing	86 Ft

Number of minutes purged	0	3	6	9	12	15	18	Sample Reading 21
Temperature (°C)	19.4	19.2	19.3	19.4	19.4	19.4	19.4	19.3
pH	6.15	6.28	6.40	6.48	6.57	6.62	6.67	6.70
Specific Conductance (umhos/cm)	223	223	222	222	222	219	218	218
Dissolved Oxygen (mg/l)	1.00	0.76	0.67	0.59	0.51	0.42	0.40	0.37
Oxidation Reduction (eH)	2.8	-37.8	-57.6	-73.9	-86.2	-97.7	-104.5	-109.5
Turbidity (NTU)	785.0	563.5	376.6	328.2	173.9	195.8	306.5	148.2

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color milky white

Rate of Purge 450 milliliters / minute

Comments: Approx 3 1/2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/14/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: GL02 - PZM006 Tag: BA 81 1435

Date of Purging: 7/14/04 Start Time: 1343 Finish Time: ____ Weather: 80 pt SUN
Date of Collection: 7/14/04 Time of Collection: 1430

Well Status:

Good		Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	18.65
Depth of Bottom from Top of Casing (0.01 ft.)	29.31
Depth of Water in the Well (gallon).	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	19.22
Sample Depth from Top of Casing	26 Ft

Number of minutes purged	0	3	6	9	12	15	18 (Sample Reading)	21	24
Temperature (°C)	20.7	19.2	19.3	19.0	19.0	19.2	19.2	19.1	19.0
pH	7.31	7.49	7.56	7.68	7.84	8.06	8.23	8.35	8.40
Specific Conductance (umhos/cm)	1816	1831	1830	1828	1825	1823	1822	1823	1825
Dissolved Oxygen (mg/l)	3.90	2.63	1.75	1.20	1.17	0.82	0.66	0.69	0.65
Oxidation Reduction (eH)	50.5	36.6	24.9	11.8	-6.2	-31.7	-52.0	-68.3	-80.3
Turbidity (NTU)	5.1	-0.3	0.7	-0.9	-1.4	-1.2	-1.8	-1.5	-1.2

Number of minutes purged	27	30	33	36	39
Temperature (°C)	18.9	18.9	18.8	18.8	19.0
pH	8.42	8.46	8.51	8.54	8.54
Specific Conductance (umhos/cm)	1824	1826	1826	1826	1826
Dissolved Oxygen (mg/l)	0.53	0.50	0.42	0.37	0.33
Oxidation Reduction (eH)	-90.2	-103.2	-114.4	-124.5	-133.5
Turbidity (NTU)	-0.9	-0.8	-1.1	-0.7	-1.1

Purging Equipment
Peristaltic Pump ✓
Bladder Pump ____

Well Observation
Odor ____
Color Clear

Rate of Purge 150 milliliters / minute

Comments: Approx 1 3/4 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/14/04 (Tech – J. Duszynski)

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site – Sparrows Point
Technician: _____
Fax: (410) 388-5263

Due Date: 21 Working Days
Groundwater Samples

Cooler # _____

Date Samples Collected: 7/12/04

Temperature Blank _____ °C

Sample ID	Time Collected	# CONT	BTEX (8021B)	Sulfate (375.4)	Iron (6010B)	Total Metals (6010B) Fe, Mn	Total Cyanide (9014)	Available Cyanide (SW9010)	Total Phenols (9065)	Alkalinity (310.1)	Chloride (325.3)	Sulfide (376.1)	Nitrate (353.2)	Ammonia (350.1)	Hardness (130.2)	Comments
CP10-PZM008	0855	2			X	X										
GL19-PZM003	1010	9	X	X	X	X	X	X	X							
GL19-PZM003	1010	8	X	X	X	X	X	X								MATRIX SPIKE
GL19-PZM003	1010	8	X	X	X	X	X	X								MATRIX SPIKE DUP.
GL20-EQB004	1115	9	X	X	X	X	X	X								EQUIP BLANK
GL20-PZM004	1205	9	X	X	X	X	X	X	X							
GL20-DUP004	1205	8	X	X	X	X	X	X								DUPLICATE
GL02-PZM017	1415	2			X	X										
GL02-PZM028	1458	2			X	X										
TRIP BLANK-15	0650	2	X													

Relinquished By (signature)/Date & Time:

Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol.
ISG.060704

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: GL02-PZM028 Tag: NO

Date of Purging: 7/12/04 Start Time: 1438 Finish Time: ____ Weather: 80 cloudy
Date of Collection: 7/12/04 Time of Collection: 1458

Well Status:

Good ____	Grout ____
Good ✓	Casing ____
Good ____	Lock NO LOCK
Good ____	Obstructions ____

Diameter of Well Casing (inches)	1/2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	20.38
Depth of Bottom from Top of Casing (0.01 ft.)	51.10 after Sampling 48.03
Depth of Water in the Well (gallon)	____
Volume of water in the Well (gallon)	____
Depth of Water from Top of Casing (0.01 ft.) after purging	____
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	20.35
Sample Depth from Top of Casing	45 FT

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18
Temperature (°C)	19.5	19.2	18.9	18.7	18.9	18.9	18.9
pH	6.63	6.63	6.64	6.64	6.65	6.65	6.65
Specific Conductance (umhos/cm)	9129	9226	9207	9203	9204	9210	9207
Dissolved Oxygen (mg/l)	0.85	0.66	0.58	0.45	0.40	0.37	0.35
Oxidation Reduction (eH)	-77.2	-78.5	-79.8	-80.7	-81.6	-82.4	-83.1
Turbidity (NTU)	26.8	9.7	8.7	8.5	7.0	8.3	7.3

Purging Equipment
Peristaltic Pump ✓
Bladder Pump ____

Well Observation COULD NOT MEASURE WATER LEVEL WITH TUBING DOWN well
Odor ____
Color clear to slightly yellow

Rate of Purge 175 milliliters / minute

Comments: Approx 1¼ gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/12/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG. Site: Sparrows Point, MD
Well I.D.: CP10-PZM008 Tag: N0

Date of Purging: 7/12/04 Start Time: 0838 Finish Time: _____ Weather: 75 cloudy
Date of Collection: 7/12/04 Time of Collection: 0855

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	35.91
Depth of Bottom from Top of Casing (0.01 ft.)	42.40 after Sampling (44.16)
Depth of Water in the Well (gallon)	—
Volume of water in the Well (gallon)	—
Depth of Water from Top of Casing (0.01 ft.) after purging	—
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	36.10
Sample Depth from Top of Casing	40 Ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15
Temperature (°C)	22.3	21.9	22.1	21.9	22.0	22.0
pH	12.59	12.62	12.63	12.65	12.66	12.66
Specific Conductance (umhos/cm)	8560	8580	8705	8843	8860	8889
Dissolved Oxygen (mg/l)	0.64	0.37	0.30	0.26	0.24	0.23
Oxidation Reduction (eH)	-172.5	-196.4	-209.7	-220.0	-226.3	-231.6
Turbidity (NTU)	-0.3	-1.2	-1.0	-1.4	-0.4	-1.5

Purging Equipment
Peristaltic Pump
Bladder Pump ✓

Well Observation
Odor _____
Color clear

Rate of Purge 350 **milliliters / minute**

Comments: Approx 1 3/4 gal purge water

Reference SOP-Field-014
Readings were performed on date of sampling 7/12/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: GL9-PZM003 Tag: MW

Date of Purging: 7/12/04 Start Time: 0950 Finish Time: _____ Weather: 75 cloudy
Date of Collection: 7/12/04 Time of Collection: 1010

Well Status:

Good ✓ Grout _____
Good ✓ Casing _____
Good _____ Lock No Lock
Good _____ Obstructions _____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	18.68
Depth of Bottom from Top of Casing (0.01 ft.)	23.39 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	18.74
Sample Depth from Top of Casing	21.5 Ft

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	17.7	16.4	16.2	16.2	16.0	
pH	10.94	10.91	10.95	10.97	10.99	
Specific Conductance (umhos/cm)	1406	1409	1408	1409	1409	
Dissolved Oxygen (mg/l)	3.04	1.87	1.76	1.66	1.56	
Oxidation Reduction (eH)	-3.5	13.3	22.4	29.7	36.7	
Turbidity (NTU)	1.0	0.9	-1.5	-0.6	-0.5	

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color Clear

Rate of Purge 450-500 **milliliters / minute**

Comments: Approx 1 3/4 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/12/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: 6L20 - PZM004 Tag: ND

Date of Purging: 7/12/04 Start Time: 1135 Finish Time: _____ Weather: 75-80 cloudy
Date of Collection: 7/12/04 Time of Collection: 1205

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	no lock
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	13.70
Depth of Bottom from Top of Casing (0.01 ft.)	25.80 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	13.81
Sample Depth from Top of Casing	21.5 FT

Number of minutes purged	0	3	6	9	12	Sample Reading 15	Sample Reading 18
Temperature (°C)	17.1	16.7	16.6	16.6	16.6	16.6	16.5
pH	10.17	10.05	10.14	10.17	10.16	10.19	10.19
Specific Conductance (umhos/cm)	459	443	449	445	443	449	445
Dissolved Oxygen (mg/l)	0.64	0.33	0.28	0.24	0.21	0.19	0.18
Oxidation Reduction (eH)	-65.7	-75.3	-65.0	-89.8	-93.8	-98.1	-101.9
Turbidity (NTU)	4.5	0.1	0.1	1.0	0.8	-0.6	-1.8

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color clear

Rate of Purge 450 milliliters / minute

Comments: Approx 4 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/12/04 (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: GL02-P2M017 Tag: BA 81 4635

Date of Purging: 7/12/04 Start Time: 1347 Finish Time: _____ Weather: 80 cloudy
Date of Collection: 7/12/04 Time of Collection: 1415

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	no Lock
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	20.68
Depth of Bottom from Top of Casing (0.01 ft.)	42.15 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	20.95
Sample Depth from Top of Casing	32.5 FT

	0	3	6	9	12	15	18	Sample Reading 21	24
Number of minutes purged									
Temperature (°C)	22.0	20.9	20.7	20.6	20.5	20.4	20.2	20.1	20.1
pH	6.94	6.51	6.39	6.33	6.27	6.25	6.23	6.21	6.20
Specific Conductance (umhos/cm)	3694	3845	3883	3974	4267	4538	4656	4703	4728
Dissolved Oxygen (mg/l)	1.98	1.40	1.04	0.85	0.74	0.68	0.56	0.51	0.50
Oxidation Reduction (eH)	-113.3	-84.5	-79.1	-77.8	-77.5	-78.1	-79.0	-79.5	-79.2
Turbidity (NTU)	0.1	-0.3	0.7	1.0	-0.5	10.8	0.1	2.9	1.4

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color clear

Rate of Purge 175 **milliliters / minute**

Comments: Approx 13/4 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/12/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP03-PZM025 Tag: NO

Date of Purging: 7/9/04 Start Time: 1217 Finish Time: _____ Weather: 80 sun
Date of Collection: 7/9/04 Time of Collection: 1240

Well Status:

Good	_____	Grout	cracked around edges
Good	✓	Casing	
Good	_____	Lock	NO LOCK
Good	_____	Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	30.16
Depth of Bottom from Top of Casing (0.01 ft.)	50.50 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	30.26
Sample Depth from Top of Casing	58.5 Ft

	0	3	6	9	12	15	Sample Reading 18
Number of minutes purged							
Temperature (°C)	23.3	22.0	20.4	20.3	~~20.2~~	20.2	20.1
pH	7.18	6.92	6.83	6.78	6.76	6.75	6.74
Specific Conductance (umhos/cm)	8107	8119	8119	8158	8205	8245	8265
Dissolved Oxygen (mg/l)	4.57	1.76	3.39	1.93	1.73	1.76	1.62
Oxidation Reduction (eH)	-118.9	-124.4	-121.0	-120.0	-123.6	-125.7	-126.4
Turbidity (NTU)	6.6	10.9	12.9	12.2	6.5	5.5	5.3

Purging Equipment
Peristaltic Pump _____
Bladder Pump ✓

Well Observation
Odor _____
Color clear

Rate of Purge 225 **milliliters / minute**

Comments: Approx 2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/9/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP06-PZM009 Tag: NO

Date of Purging: 7/9/04 Start Time: 1337 Finish Time: _____ Weather: 80-85 sun
Date of Collection: 7/9/04 Time of Collection: 1410

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	57.50
Depth of Bottom from Top of Casing (0.01 ft.)	64.91
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	62.30
Sample Depth from Top of Casing	64 Ft

Number of minutes purged	0	3	6	9	12	15	18	21	24
						Sample Reading			
Temperature (°C)	27.3	27.3	27.3	27.3	27.3	27.3	27.2	27.3	27.3
pH	12.43	12.42	12.43	12.43	12.43	12.43	12.42	12.42	12.41
Specific Conductance (umhos/cm)	8550	8567	8571	8563	8580	8536	8493	8452	8420
Dissolved Oxygen (mg/l)	0.69	0.40	0.33	0.65	0.63	0.35	0.22	0.22	0.21
Oxidation Reduction (eH)	-243.0	-270.5	-278.4	-277.1	-273.0	-282.4	-289.6	-295.3	-300.1
Turbidity (NTU)	19.1	14.6	14.4	11.6	13.6	15.4	13.4	12.2	11.7

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear

Rate of Purge 100 **milliliters / minute**

Comments: Approx 1 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/9/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: TM09 - PZM 067 Tag: No

Date of Purging: 7/9/04 Start Time: 0815 Finish Time: _____ Weather: 70 sun
Date of Collection: 7/9/04 Time of Collection: ~~0840~~ 0915

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

76.5

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	9.94
Depth of Bottom from Top of Casing (0.01 ft.)	78.02 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	18.18
Sample Depth from Top of Casing	73.5 ft

purged out 1/3 gal before starting readings

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	20.1	20.1	20.1	20.0	20.0	
pH	6.13	6.14	6.15	6.14	6.14	
Specific Conductance (umhos/cm)	556	556	557	557	557	
Dissolved Oxygen (mg/l)	1.90	1.73	1.40	1.28	1.24	
Oxidation Reduction (eH)	-34.9	-42.1	-46.7	-48.5	-50.2	
Turbidity (NTU)	53.9	52.7	39.0	35.7	29.3	

↓ let well recharge 1 Ft then Sampled

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color mostly clear a little cloudy

Rate of Purge 100 **milliliters / minute**

Comments: Approx 1 1/2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/9/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc:
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP03-PZM008 Tag: ND

Date of Purging: 7/9/04 Start Time: 1100 Finish Time: _____ Weather: 75-80 sun breezy
Date of Collection: 7/9/04 Time of Collection: 1135

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	29.80
Depth of Bottom from Top of Casing (0.01 ft.)	32.46
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	29.82
Sample Depth from Top of Casing	32.5 Ft

Number of minutes purged	0	3	6	9	12	15	18	Sample Reading 21	24	27	30
Temperature (°C)	23.5	23.6	21.5	20.9	20.8	20.6	20.4	20.4	20.3	20.2	20.2
pH	11.51	11.54	11.57	11.56	11.57	11.57	11.58	11.60	11.59	11.61	11.62
Specific Conductance (umhos/cm)	1895	1915	1892	1866	1862	1859	1857	1857	1856	1854	1854
Dissolved Oxygen (mg/l)	5.25	5.26	3.33	1.52	1.16	0.93	0.64	0.49	0.51	0.44	0.38
Oxidation Reduction (eH)	-173.6	-172.9	-188.6	-208.2	-213.9	-220.1	-225.9	-235.4	-240.6	-242.2	-241.9
Turbidity (NTU)	45.7	37.9	18.5	10.2	14.5	6.8	5.0	3.1	3.5	2.1	1.3

Purging Equipment
Peristaltic Pump
Bladder Pump ✓

Well Observation
Odor
Color clear to slightly yellow

Rate of Purge 150 **milliliters / minute**

Comments: Approx 1 3/4 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/9/04. (Tech – J. Duszynski)

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site – Sparrows Point
Technician: JD
Fax: (410) 388-5263
Cooler # _____

Due Date: 21 Working Days
Groundwater Samples

Date Samples Collected: 7/9/04

Temperature Blank. _____ °C

Sample ID	Time Collected	# of Containers	VOCs (8260B)	Semi-VOCs (8270C)	Total Metals (6010B/7000)	Dis. Metals (6010B/7000)	Total Cyanide (9012A)	Weak Cyanide (9014)	Available Cyanide (OIA-1677)	Total Sulfide (9030B/9034)	Alkalinity (SM4)	Chloride (325.3)	Sulfate (375.4)	Ferrous Iron (6010B)	Nitrate (353.2)	Total Phosphorus (365.4)	Methane (RSK)	Comments
TM09-PZM067	0915	9	X	X	X	X	X	X	X	X								
CP03-PZM008	1135	2			X	X												
CP03-PZM025	1240	2			X	X												
CP06-PZM009	1410	2			X	X												
TRIP BLANK-14	0630	2	X															

Relinquished By (signature)/Date & Time:

Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol. ISG.060704

JUL/09/2004/FRI 03:38 PM

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site – Sparrows Point
Technician: SD
Fax: (410) 388-5263
Cooler # _____

Due Date: 21 Working Days
Groundwater Samples

Temperature Blank _____ °C

Date Samples Collected: 7/7/04

Sample ID	Time Collected	CONT	MOC (8260B)	Semi-VOC (8270C)	Total Metals (6010B / 7000)	Dis. Metals (6010B / 7000)	Total Cyanide (9012A)	Amenable Cyanide (OIA-1677)	Total Sulfide (9030B/9034)	Alkalinity (310.1)	Chloride (325.3, Stuttgart 19th Ed.)	Ferrous Iron (3500-Fe B)	Nitrate (353.2)	Total Phosphorus (365.3)	Methanol	Comments
CP08-PZM034	0900	15	X	X	X	X	X	X	X	X	X	X	X	X	X	
HI07-PZM005	1040	9	X	X	X	X	X	X	X							
HI07-PZM094	1205	9	X	X	X	X	X	X	X							
HI08-PZM060	1310	9	X	X	X	X	X	X	X							
HI08-PZP003	1435	9	X	X	X	X	X	X	X							
TRIP BLANK-13	0615	2	X													

Relinquished By (signature)/Date & Time:

Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol. ISG.060704

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: HI07 - PZM005 Tag: NO

Date of Purging: 7/1/04 Start Time: 1016 Finish Time: _____ Weather: 85 sun
Date of Collection: 7/1/04 Time of Collection: 1040

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	10.32
Depth of Bottom from Top of Casing (0.01 ft.)	17.20 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	17.20 10.47
Sample Depth from Top of Casing	13 ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18
Temperature (°C)	17.5	16.6	16.5	16.5	16.4	16.4	16.4
pH	11.63	11.94	11.98	11.98	11.97	11.92	11.91
Specific Conductance (umhos/cm)	1778	1780	1787	1783	1774	1760	1751
Dissolved Oxygen (mg/l)	1.12	0.49	0.37	0.40	0.38	0.36	0.38
Oxidation Reduction (eH)	-94.6	-82.8	-65.8	-54.6	-44.6	-34.8	-27.4
Turbidity (NTU)	0.9	0.0	-0.2	0.0	-0.4	-0.2	-0.1

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear

Rate of Purge 500 **milliliters / minute**

Comments: Approx 2½ gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/7/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP08 -PZM034 Tag: No

Date of Purging: 7/7/04 Start Time: 0832 Finish Time: _____ Weather: 75 sun
Date of Collection: 7/7/04 Time of Collection: 0900

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	No LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	25.40
Depth of Bottom from Top of Casing (0.01 ft.)	60.04 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	28.75
Sample Depth from Top of Casing	56.5 FT

	0	3	6	9	12	Sample Reading 15
Number of minutes purged						
Temperature (°C)	20.5	21.6	21.5	21.5	21.9	22.0
pH	7.20	7.16	7.13	7.11	7.10	7.08
Specific Conductance (umhos/cm)	8416	8444	8466	8496	8530	8606
Dissolved Oxygen (mg/l)	4.21	3.92	3.44	3.21	2.91	2.59
Oxidation Reduction (eH)	-80.1	-93.4	-100.7	-108.3	-115.3	-119.8
Turbidity (NTU)	39.7	30.8	28.0	21.9	16.7	14.7

Purging Equipment
Peristaltic Pump _____
Bladder Pump ✓

Well Observation
Odor _____
Color clear to light yellow

Rate of Purge 100 **milliliters / minute**

Comments: Approx 1gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/7/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: HT08 - P2M060 Tag: N/O

Date of Purging: 7/7/04 Start Time: 1251 Finish Time: ____ Weather: 90 sun
Date of Collection: 7/7/04 Time of Collection: 1310

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	13.61
Depth of Bottom from Top of Casing (0.01 ft.)	73.08 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	13.62
Sample Depth from Top of Casing	70 Ft

	0	3	6	9	12	15 (Sample Reading)
Number of minutes purged						
Temperature (°C)	19.2	18.9	18.8	18.9	18.9	18.9
pH	7.01	6.81	6.78	6.76	6.76	6.76
Specific Conductance (umhos/cm)	2611	2870	2847	2798	2791	2796
Dissolved Oxygen (mg/l)	0.93	0.80	0.58	0.48	0.44	0.42
Oxidation Reduction (eH)	-154.9	-139.3	-141.2	-142.4	-143.1	-143.5
Turbidity (NTU)	37.8	36.6	39.8	17.3	25.0	13.5

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor ____
Color clear to slightly yellow

Rate of Purge 500 **milliliters / minute**

Comments: Approx 2½ gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/7/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: HI08 - PZP003 Tag: ND

Date of Purging: 7/7/04 Start Time: 1405 Finish Time: _____ Weather: 90 sun
Date of Collection: 7/7/04 Time of Collection: 1435

Well Status:

Good		Grout	Cracked
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	16.27
Depth of Bottom from Top of Casing (0.01 ft.)	17.93 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	16.28
Sample Depth from Top of Casing	17 Ft

Number of minutes purged	0	3	6	9	12	15	Sample Reading 15	21	24
Temperature (°C)	19.0	18.5	18.3	18.1	17.9	17.8	17.8	17.7	17.8
pH	8.09	8.21	8.24	8.24	8.25	8.27	8.28	8.28	8.29
Specific Conductance (umhos/cm)	2155	2187	2203	2208	2216	2240	2248	2223	2219
Dissolved Oxygen (mg/l)	1.71	1.71	1.76	1.80	1.81	2.04	1.80	1.87	1.88
Oxidation Reduction (eH)	83.3	110.8	148.6	164.4	178.9	187.7	193.2	202.3	210.3
Turbidity (NTU)	2.0	0.6	1.6	6.0	1.2	0.7	4.5	2.1	6.3

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear

Rate of Purge 500 **milliliters / minute**

Comments: Approx 3½ gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/7/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: HI07 -P2M094 Tag: N.O

Date of Purging: 7/7/04 Start Time: 1121 Finish Time: _____ Weather: 85-90s cw
Date of Collection: 7/7/04 Time of Collection: 1205

Well Status: * CONTINUE ON TO NEXT SHEET

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.67
Depth of Bottom from Top of Casing (0.01 ft.)	after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.89
Sample Depth from Top of Casing	162 ft

Number of minutes purged	0	3	6	9	12	15	18	Sample Reading 21	24	27	30
Temperature (°C)	17.8	17.7	17.7	17.6	17.6	17.5	17.4	17.4	17.3	17.2	17.4
pH	7.87	8.73	8.81	8.55	8.19	7.90	7.60	7.30	7.08	6.89	6.76
Specific Conductance (umhos/cm)	6776	7286	7708	8013	8130	8164	8207	8250	8276	8298	8320
Dissolved Oxygen (mg/l)	0.85	0.73	0.68	0.51	0.45	0.42	0.42	0.43	0.44	0.43	0.42
Oxidation Reduction (eH)	-28.2	-110.1	-150.2	-180.3	-215.3	-207.8	-183.0	-150.9	-125.9	-103.2	-87.6
Turbidity (NTU)	14.6	10.6	8.0	5.4	8.0	7.0	6.8	6.4	5.0	8.0	9.4

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color

purged out 1/2 gal first before starting reading #

Rate of Purge 400 milliliters / minute

Comments: Approx 5 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/7/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: HI07-PZM094 Tag: ND

Date of Purging: 7/7/04 Start Time: 1121 Finish Time: _____ Weather: 90 sun
Date of Collection: 7/7/04 Time of Collection: 1205

Well Status: * CONTINUED FROM PREVIOUS SHEET

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	ND 60 clc
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.67
Depth of Bottom from Top of Casing (0.01 ft.)	106.35 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.89
Sample Depth from Top of Casing	102 Ft

	0	33	36	39	42	Sample Reading
Number of minutes purged						
Temperature (°C)		17.4	17.4	17.4		
pH		6.63 ~~8356~~	6.54	6.46		
Specific Conductance (umhos/cm)		8356	8373	8386		
Dissolved Oxygen (mg/l)		0.41	0.41	0.40		
Oxidation Reduction (eH)		-73.4	-64.3	-55.8		
Turbidity (NTU)		11.3	16.5	21.1		

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear to light yellow

Rate of Purge 400 **milliliters / minute**

Comments: Approx 5 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/7/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP16-PZM035 Tag: NO

Date of Purging: 7/6/04 Start Time: 1106 Finish Time: ____ Weather: 85 sun
Date of Collection: 7/6/04 Time of Collection: 1130

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	19.66
Depth of Bottom from Top of Casing (0.01 ft.)	55.63 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	19.82
Sample Depth from Top of Casing	52 Ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18	21
Temperature (°C)	20.4	19.5	19.2	19.0	19.1	19.4	19.2	19.1
pH	12.73	12.75	12.76	12.77	12.77	12.76	12.76	12.76
Specific Conductance (umhos/cm)	7566	7601	7644	7639	7625	7662	7690	7710
Dissolved Oxygen (mg/l)	3.17	2.34	1.84	1.37	1.08	0.90	0.81	0.71
Oxidation Reduction (eH)	-206.9	-242.2	-256.6	-267.1	-275.3	-278.2	-278.9	-282.2
Turbidity (NTU)	24.6	8.2	18.2	22.1	12.8	17.2	19.3	19.7

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear

Rate of Purge 200 **milliliters / minute**

Comments: Approx 1 1/2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/6/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP16-PZM018 Tag: MD

Date of Purging: 7/6/04 Start Time: 1000 Finish Time: _____ Weather: 80-85 sunny
Date of Collection: 7/6/04 Time of Collection: 1030

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	No Lock
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	19.98
Depth of Bottom from Top of Casing (0.01 ft.)	38.02 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	19.98
Sample Depth from Top of Casing	34 FT

Number of minutes purged	0	3	6	9	12	15	18	Sample Reading 21
Temperature (°C)	18.7	17.9	17.9	17.8	17.8	17.7	17.7	17.7
pH	12.79	12.82	12.82	12.84	12.85	12.86	12.87	12.87
Specific Conductance (umhos/cm)	7208	7252	7244	7248	7239	7253	7247	7248
Dissolved Oxygen (mg/l)	1.42	0.62	0.50	0.39	0.35	0.30	0.31	0.30
Oxidation Reduction (eH)	-268.2	-290.4	-304.6	-314.9	-322.7	-328.5	-332.7	-335.2
Turbidity (NTU)	24.3	11.1	19.5	11.5	24.9	8.9	9.2	7.6

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear

Rate of Purge 400 milliliters / minute

Comments: Approx 2 3/4 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/6/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP14 -PZM062 Tag: ND

Date of Purging: 7/6/04 Start Time: 0854 Finish Time: _____ Weather: 80 sun
Date of Collection: 7/6/04 Time of Collection: 1250

Well Status:

Good _____ Grout _____
Good ✓ Casing _____
Good _____ Lock NO Lock
Good _____ Obstructions _____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	13.70
Depth of Bottom from Top of Casing (0.01 ft.)	70.60 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	14.45
Sample Depth from Top of Casing	72.5 ft

Number of minutes purged	0	3	6	9	12	15	18	Sample Reading 21	24
Temperature (°C)	18.3	18.1	18.4	18.3	18.2	18.2	18.2	18.2	18.2
pH	8.58	8.65	8.71	8.76	8.79	8.93	9.18	9.42	9.58
Specific Conductance (umhos/cm)	4231	4212	4212	4207	4203	4204	4203	4197	4196
Dissolved Oxygen (mg/l)	1.65	0.95	0.95	0.94	0.92	0.87	0.80	0.69	0.64
Oxidation Reduction (eH)	-117.8	-162.9	-179.5	-186.1	-189.5	-197.8	-197.4	-194.9	-189.1
Turbidity (NTU)	8.2	7.8	5.4	3.9	4.6	6.3	6.0	12.1	4.8

	27	30	33
	18.3	18.2	18.1
	9.73	9.83	9.87
	4208	4207	4192
	0.58	0.55	0.53
	-180.5	-174.5	-168.0
	14.3	6.4	14.9

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color clear

Rate of Purge 125 milliliters / minute

Comments: Approx 1¼ gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/6/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP08-PZM008 Tag: NO
Date of Purging: 7/6/04 Start Time: 1346 Finish Time: _____ Weather: 85 sun
Date of Collection: 7/6/04 Time of Collection: 1415

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	24.05
Depth of Bottom from Top of Casing (0.01 ft.)	32.52 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	24.11
Sample Depth from Top of Casing	27 ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18
Temperature (°C)	18.2	17.0	17.1	17.1	17.0	17.0	17.0
pH	12.09	12.09	12.01	11.96	11.95	11.94	11.95
Specific Conductance (umhos/cm)	2588	2425	2179	2159	2167	2161	2173
Dissolved Oxygen (mg/l)	0.90	0.40	0.45	0.47	0.47	0.41	0.46
Oxidation Reduction (eH)	-112.6	-96.4	-120.1	-122.2	-124.6	-126.6	-129.6
Turbidity (NTU)	4.5	4.9	4.6	5.5	6.8	11.7	5.7

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear

Rate of Purge 450 **milliliters / minute**

Comments: Approx 2 1/2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 7/6/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site – Sparrows Point
Technician: JD
Fax: (410) 388-5263
Cooler # _____

Due Date: 21 Working Days
Groundwater Samples

Temperature Blank. _____ °C

Date Samples Collected: 7/6/04

Sample ID	Time Collected	# CONT.	VOC (8260B)	Semi-VOC (8270C)	Total Metals (6010B / 7000)	Dissolved Metals (6010B / 7000)	Total Cyanide (9010B/9012A)	Available Cyanide (OIA-1677)	Total Sulfide (9030B/9034)	Alkalinity (310.1)	Chloride (325.3)	Sulfate (9038)	Ferrous Iron (SM3500)	Nitrate (353.2)	Total Phosphorus (365.3)	Ammonia (350.1)	Comments
CP14-PZM06Z	1250	9	X	X	X	X	X	X	X								
CP16-PZM01B	1030	9	X	X	X	X	X	X	X								
CP16-PZM03S	1130	9	X	X	X	X	X	X	X								
CP08-PZM00B	1415	15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
FIELD Blank-02	1205	2	X														
TRIP Blank-12	0650	2	X														

Relinquished By (signature)/Date & Time:	Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol.

ISG.060704

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site – Sparrows Point
Technician: MA
Fax: (410) 388-5263
Cooler # _____

Due Date: 21 Working Days
Groundwater Samples

Temperature Blank _____ °C

Date Samples Collected: 7/2/04

Sample ID	Time Collected	CONT. #	BTEX (8021)	Semi-VOCs (8270)	Total Metals (6010/7000)	Total Cyanide (9010)	Total Sulfide (9030)	Total Sulfate (9038)	Alkalinity	Chloride	Ferrous Iron (3500)	Nitrate (353.2)	Total Phosphorus (365.4)	Methane	Comments
CP15-Pzm042	0810	10	X	X	X	X	X	X	X						Add'l container for Sulfide (LABQC)
CP09-Pzm047	0946	9	X	X	X	X	X	X	X						
CP09-Pzm016	0907	9	X	X	X	X	X	X	X						
CP05-Pzm128	1100	9	X	X	X	X	X	X	X						
CP05-Pzm028	1150	9	X	X	X	X	X	X	X						
CP14-Pzm009	1300	9	X	X	X	X	X	X	X						
TRIP Blank-11	0630	2	X												

Relinquished By (signature)/Date & Time:	Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol. ISG.060704

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP05-PZM125 Tag: _____

Date of Purging: 7/2/04 Start Time: 1034 Finish Time: 1052 Weather: 85° Sunny
Date of Collection: 7/2/04 Time of Collection: 1100

Well Status:

Good	✓	Grout	
Good	✓	Casing	Flush mount
Good	Bent	Lock	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	8.65
Depth of Bottom from Top of Casing (0.01 ft.)	194.85
Depth of Water in the Well (gallon)	136.3
Volume of water in the Well (gallon)	21.81
Depth of Water from Top of Casing (0.01 ft.) after purging	12.0
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.0
Sample Depth from Top of Casing	142.0

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	18.86	18.58	18.46	18.36	18.86	18.76
pH	8.58	6.68	6.37	6.27	6.18	6.17
Specific Conductance (umhos/cm)	268	529	565	562	585	589
Dissolved Oxygen (mg/l)	3.76	1.55	1.03	0.90	0.76	0.67 *
Oxidation Reduction (eH)	73.5	-117.5	-126.6	-76.9	-70.0	-68.9
Turbidity (NTU)	211.6	636.6	575.5	611.0	638.1	630.1

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor —
Color Cloudy

Rate of Purge 250 ~~300~~ milliliters / minute

Comments: 2 gal/purged.
* Gas Bubbles in line from well.
Reference SOP Field-014
Readings were performed on date of sampling 7/2/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP15-Pzm042 Tag: _____

Date of Purging: 7/2/04 Start Time: 0752 Finish Time: 0807 Weather: 75° Sunny
Date of Collection: 7/2/04 Time of Collection: 0810

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	no	Lock	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	7.43
Depth of Bottom from Top of Casing (0.01 ft.)	50.45
Depth of Water in the Well (gallon)	43
Volume of water in the Well (gallon)	6.88
Depth of Water from Top of Casing (0.01 ft.) after purging	7.2
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	7.2
Sample Depth from Top of Casing	45

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	19.95	19.88	19.86	19.98	20.01	20.01
pH	8.31	8.19	8.17	8.07	7.96	7.93
Specific Conductance (umhos/cm)	12160	12330	12390	12330	12320	12340
Dissolved Oxygen (mg/l)	0.78	0.28	0.14	0.13	0.09	0.18 / 0.10
Oxidation Reduction (eH)	-100.9	-161.7	-175.8	-184.9	-184.5	-179.4
Turbidity (NTU)	305.1	329.1	8.2	3.5	7.3	7.0

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear

Rate of Purge 380 **milliliters / minute**

Comments: 2 gal / purged

Reference SOP Field-014
Readings were performed on date of sampling 7/2/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

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Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP09-PZM047 Tag: _____

Date of Purging: 7/2/04 Start Time: 1985 Finish Time: 0944 Weather: 80° Sunny
Date of Collection: 7/2/04 Time of Collection: 0946

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	NO	Lock	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	6.62
Depth of Bottom from Top of Casing (0.01 ft.)	54.55
Depth of Water in the Well (gallon)	47.93
Volume of water in the Well (gallon)	7.67
Depth of Water from Top of Casing (0.01 ft.) after purging	7.0
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	7.0
Sample Depth from Top of Casing	52

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	18.78	18.98	18.92	18.88	19.01	18.90
pH	7.66	7.38	7.24	7.22	7.48	7.48
Specific Conductance (umhos/cm)	12900	13170	13500	13580	13600	13660
Dissolved Oxygen (mg/l)	0.39	0.20	0.09	0.15	0.23	0.12
Oxidation Reduction (eH)	-217.9	-213.6	-212.7	-215.8	-199.8	-265.6
Turbidity (NTU)	65.5	69.4	54.7	50.0	34.6	35.1

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor —
Color clear

Rate of Purge 300 **milliliters / minute**

Comments: 2 gal purge

Reference SOP Field-014
Readings were performed on date of sampling 7/2/04. (Tech – ~~J. Duszynski~~ MA)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CL09 PLM-010 Tag: _____

Date of Purging: 7/2/04 Start Time: 0846 Finish Time: 0902 Weather: 80° Sunny
Date of Collection: 7/2/04 Time of Collection: 0907

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	NO	Look	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	7.00
Depth of Bottom from Top of Casing (0.01 ft.)	18.06
Depth of Water in the Well (gallon)	11.06
Volume of water in the Well (gallon)	1.76
Depth of Water from Top of Casing (0.01 ft.) after purging	7.0
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	7.0
Sample Depth from Top of Casing	12

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	19.44	18.87	18.86	18.84	18.75	18.74
pH	12.35	12.27	12.27	12.30	12.32	12.33
Specific Conductance (umhos/cm)	8026	8040	8021	8030	8039	8040
Dissolved Oxygen (mg/l)	1.52	1.17	1.09	0.79	0.86	0.86
Oxidation Reduction (eH)	-114.6	-111.3	-108.5	-102.1	-99.9	-100.6
Turbidity (NTU)	3.0	3.6	3.6	3.0	2.1	1.9

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor —
Color Clear

Rate of Purge 300 **milliliters / minute**

Comments: 1½ gallon purge

Reference SOP Field-014
Readings were performed on date of sampling 7/2/04. (Tech – J. ~~Dubzynski~~ MD)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG
Well I.D.: CP05-Pzm 6258
Site: Sparrows Point, MD
Tag: _____

Date of Purging: 7/2/04 Start Time: 1130 Finish Time: 1147 Weather: 85° Sunny
Date of Collection: 7/2/04 Time of Collection: 1150

Well Status:

Good	✓	Grout	
Good	✓	Casing	Flush mount
Good	Bolts	Lock	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	0.5
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	6.58
Depth of Bottom from Top of Casing (0.01 ft.)	34.88
Depth of Water in the Well (gallon)	28.3
Volume of water in the Well (gallon)	0.28
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	6.78
Sample Depth from Top of Casing	33

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18	S.R.
Temperature (°C)	19.86	19.17	19.03	18.87	18.92	18.81	18.81	19.17
pH	12.21	12.30	12.35	12.38	12.39	12.41	12.41	12.44
Specific Conductance (umhos/cm)	8413	8926	9021	9067	9083	9096	9098	90
Dissolved Oxygen (mg/l)	0.77	0.52	0.44	0.09	0.08	0.09	0.32	0.35
Oxidation Reduction (eH)	-251.5	-267.0	-287.5	-305.0	-314.4	-320.3	-337.0	-303.0
Turbidity (NTU)	27.8	26.9	49.5	40.4	38.0	28.8	12.3	10.5

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor —
Color Clear

Rate of Purge 150 **milliliters / minute**

Comments: 2 Purge gallon
& Rinse Rope
Reference SOP Field-014
Readings were performed on date of sampling 7/2/04. (Tech – ~~J. Duszynski~~ MM)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP14-PZM ~~009~~ 009 (MW) Tag: _____

Date of Purging: 7/2/04 Start Time: 1238 Finish Time: 1258 Weather: 86 Sunny
Date of Collection: 7/2/04 Time of Collection: 1300

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	NO	Lock	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PV
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.5
Depth of Bottom from Top of Casing (0.01 ft.)	21.00
Depth of Water in the Well (gallon)	8.5
Volume of water in the Well (gallon)	1.36
Depth of Water from Top of Casing (0.01 ft.) after purging	12.65
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.65
Sample Depth from Top of Casing	16

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	12.81	17.13	17.13	17.07	16.98	16.93
pH	12.88	12.86	12.87	12.88	12.89	12.90
Specific Conductance (umhos/cm)	6831	6848	6864	6864	6870	6874
Dissolved Oxygen (mg/l)	0.41	0.31	0.27	0.14	0.30	0.23
Oxidation Reduction (eH)	-154.6	-163.8	-165.7	-165.9	-166.6	-163.8
Turbidity (NTU)	43.9	16.4	13.7	10.5	10.6	9.8

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color clear

Rate of Purge _____ **milliliters / minute**

Comments: 2 gal purge

Reference SOP Field-014
Readings were performed on date of sampling 7/2/04. (Tech – ~~J. Duszynski~~ (MW))

HQN:groundisg.doc.white

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site – Sparrows Point
Technician: MA
Fax: (410) 388-5263
Cooler # _____

Due Date: 21 Working Days
Groundwater Samples

Temperature Blank. _____ °C

Date Samples Collected: 6/08/04

Sample ID	Time Collected	CONT #	TCL VOCs (8260B)	TCL SVOCs (8270C)	Total Metals (6010B/7470A/7471A)	Dissolved Metals (6010B/7470A/7471A)	Total Cyanide (9012A)	Amenable Cyanide (OIA-1677)	Total Sulfide (9034)	Ammonia (350.1)	Chloride (325.3)	Sulfate (9056)	Ferrous Iron (SM3500)	Nitrate (353.2)	Total Organic Carbon (9060)	Alkalinity	Comments
SW13-PZM-003	0845	15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CO27-PZM122	1055	15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CO27-PZM046	1215	15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CO27-PZM012	1345	15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
SW14-PZM004	1545	9	X	X	X	X	X	X	X		X						
SW14-DUP004	1545	9	X	X	X	X	X	X	X@								
TRIP BLANK-09	0720	2	X														

Relinquished By (signature)/Date & Time:

Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol. ISG.060704

JUN/28/2004/MON 04:47 PM

P. 002

Page 1 of 2

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: SW-14 PZ MW604 Tag: _____

Date of Purging: 6/25/04 Start Time: 1445 Finish Time: 1530 Weather: 85° Sunny
Date of Collection: 6/25/04 Time of Collection: 1645

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	~	Lock	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	6.08
Depth of Bottom from Top of Casing (0.01 ft.)	17.52
Depth of Water in the Well (gallon)	11.44
Volume of water in the Well (gallon)	1.85
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	6.90
Sample Depth from Top of Casing	6.90 13.0

	0	3	6	9	12	15	Sample Reading 18.0		
Number of minutes purged								21.0	24.0
Temperature (°C)	17.56	17.31	17.21	17.17	17.04	16.86	16.82	16.77	16.78
pH	7.88	7.33	7.14	7.09	7.00	6.82	6.72	6.64	6.49
Specific Conductance (umhos/cm)	1.006	1.004	1.000	1.003	1.006	1.080	1.074	1.103	1282
Dissolved Oxygen (mg/l)	0.43	0.21	0.18	0.18	0.15	0.18	0.16	0.14	0.11
Oxidation Reduction (eH)	210.8	-57.2	-40.4	-34.1	-19.9	24.9	33.6	38.6	45.4
Turbidity (NTU)	215.1	141.4	169.3	217.3	314.9	458.0	386.8	317	1844

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color _____

Rate of Purge 300 **milliliters / minute**

Comments: 6 Gal.

Reference SOP Field-014
Readings were performed on date of sampling ____/____/____. (Tech – J. Duszynski)

Page 2 of 2

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: SW14-12MW09 Tag: _____

Date of Purging: 6/28/04 Start Time: _____ Finish Time: _____ Weather: _____
Date of Collection: 6/28/04 Time of Collection: 1340

Well Status:

Good _____ Grout _____
Good _____ Casing _____
Good _____ Lock _____
Good _____ Obstructions _____

Diameter of Well Casing (inches) _____
Depth Measurements Performed (PVC/Metal) _____
Depth of Water from Top of Casing (0.01 ft.) prior to purging _____
Depth of Bottom from Top of Casing (0.01 ft.) _____
Depth of Water in the Well (gallon) _____
Volume of water in the Well (gallon) _____
Depth of Water from Top of Casing (0.01 ft.) after purging _____
Depth of Water from Top of Casing (0.01 ft.) at time of sampling _____
Sample Depth from Top of Casing _____

						Sample Reading	
Number of minutes purged	0	3	6	9	12		
Temperature (°C)	16.58	16.57	16.54	16.45	16.37	16.42	16.38
pH	6.25	6.21	6.16	6.12	6.07	6.02	5.99
Specific Conductance (umhos/cm)	1.498	1.548	1.570	1.606	1624	1640	1.657
Dissolved Oxygen (mg/l)	0.08	0.07	0.06	0.06	0.05	0.03	0.05
Oxidation Reduction (eH)	53.4	57.4	60.1	63.7	67.3	70.0	71.9
Turbidity (NTU)	60.6	31.8	28.8	21.1	16.0	12.5	10.3

Purging Equipment
Peristaltic Pump _____
Bladder Pump _____

Well Observation
Odor _____
Color _____

Rate of Purge _____ **milliliters / minute**

Comments: _____

Reference SOP Field-014
Readings were performed on date of sampling 6/28/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CO27 - PZM 012 Tag: _____

Date of Purging: 6/28/04 Start Time: 1325 Finish Time: 1341 Weather: 85° Sunny
Date of Collection: 6/28/04 Time of Collection: 1345

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	4.84
Depth of Bottom from Top of Casing (0.01 ft.)	17.68
Depth of Water in the Well (gallon)	12.84
Volume of water in the Well (gallon)	8.35
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	4.84
Sample Depth from Top of Casing	14.0

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	17.76	17.63	17.59	17.46	17.44	17.39
pH	10.94	10.52	10.39	10.62	10.66	10.68
Specific Conductance (umhos/cm)	1.693	1.578	1.600	1.625	1.641	1646
Dissolved Oxygen (mg/l)	0.65	0.30	0.24	0.20	0.16	0.13
Oxidation Reduction (eH)	-265.8	-309.7	-310.7	-316.6	-317.1	-353.0
Turbidity (NTU)	69.1	36.0	20.4	10.0	7.0	7.2

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor ✓
Color ✓

Rate of Purge 400 **milliliters / minute**

Comments: 4 gal. purged

Reference SOP Field-014
Readings were performed on date of sampling 6/28/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: ~~SOC027-Pzm Dec8 122~~ Tag: _____

Date of Purging: 6/28/04 Start Time: 1015 Finish Time: 1054 Weather: _____
Date of Collection: 6/28/04 Time of Collection: 1055

Well Status:

Good _____ Grout _____
Good _____ Casing _____
Good _____ Lock _____
Good _____ Obstructions _____

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	6.92
Depth of Bottom from Top of Casing (0.01 ft.)	122.05
Depth of Water in the Well (gallon)	120.13
Volume of water in the Well (gallon)	19.22
Depth of Water from Top of Casing (0.01 ft.) after purging	7.12
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	7.12
Sample Depth from Top of Casing	124.00

	0	3	6	9	12	Sample Reading		
Number of minutes purged								
Temperature (°C)	17.93	17.61	17.55	17.77	17.77	17.15	17.68	17.98
pH	5.33	6.50	6.77	6.76	6.77	6.78	6.80	6.68
Specific Conductance (umhos/cm)	0.491	0.580	0.655	0.670	0.682	0.726	0.766	0.783
Dissolved Oxygen (mg/l)	2.48	0.96	0.9	0.82	0.81	1.04	0.93	2.43
Oxidation Reduction (eH)	49.9	-106.7	-156	-158	154.8	-162.1	-165.1	-139
Turbidity (NTU)	66.=	80.8	33.75	72.9	218.6	37.9	2	38.5

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor —
Color clear

Rate of Purge 300 **milliliters / minute**

Comments: 6 gal/purged

Reference SOP Field-014
Readings were performed on date of sampling 6/28/04. (Tech – J. ~~Duszynski~~ MA)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: C027-Perm ~~Dup~~ 046 Tag: _____

Date of Purging: 6/28/04 Start Time: 1157 Finish Time: 1224 Weather: 85° Sunny
Date of Collection: 6/28/04 Time of Collection: 1225

Well Status:

Good _____	Grout _____
Good _____	Casing _____
Good _____	Lock _____
Good _____	Obstructions _____

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	7.40
Depth of Bottom from Top of Casing (0.01 ft.)	51.18
Depth of Water in the Well (gallon)	43.58
Volume of water in the Well (gallon)	6.97
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	7.60
Sample Depth from Top of Casing	~~47.60~~ 47.0 ft

Number of minutes purged	0	3	6	9	12	Sample Reading
Temperature (°C)	17.34	17.46	17.22	17.29	17.25	17.32
pH	8.17	8.21	8.16	8.17	8.16	8.15
Specific Conductance (umhos/cm)	1.145	1.172	1.186	1.189	1196	1.1196
Dissolved Oxygen (mg/l)	2.09	0.94	0.85	0.77	0.74	0.79
Oxidation Reduction (eH)	-321	-327.2	-330.6	-333.8	-334.5	-335.5
Turbidity (NTU)	516	432	281	21.8	19.4	17.6

Purging Equipment ✓
Peristaltic Pump _____
Bladder Pump _____

Well Observation
Odor _____
Color _____

Rate of Purge 400 milliliters / minute

Comments: 4 gal purged

Reference SOP Field-014
Readings were performed on date of sampling 6/28/04. (Tech ~~J. Duszynski~~ GM)

HQN:groundisg.doc.white

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site – Sparrows Point
Technician: mA
Fax: (410) 388-5263
Cooler # _____

Due Date: 21 Working Days
Groundwater Samples

Temperature Blank: _____ °C

Date Samples Collected: 7/1/04

Sample ID	Time Collected	CONT. #	VOC (8260B)	SVOC (8270C)	Total Metals (6010B/7000)	Dis. Metals (6010B/7000)	Total Cyanide (9012A)	Available Cyanide (OIA-1677)	Total Sulfide (9034)	Alkalinity (SM2320B)	Chloride (9253/SM4500)	Ferrous Iron (SM3500B)	Nitrate (353.2)	Total Sulfate (9038)	Methane (RSK-175)	Comments
SW14-Pzm 099	0900	9	X	X	X	X	X	X	X							
SW14-Pzm 099	0900	8	X	X	X	X	X	X								MS
SW14-Pzm 099	0900	8	X	X	X	X	X	X								MSD
CP17-Pzm 013	1045	15	X	X	X	X	X	X	X	X	X	X	X	X	X	
CP17-EQB 056	1120	~~8~~ 8	X	X	X	X	X	X								
CP17-Pzm 058	1215	15	X	X	X	X	X	X	X	X	X	X	X	X	X	
CP14-Pzm 010	1330	15	X	X	X	X	X	X	X	X	X	X	X	X	X	
CP11-Pzm 040	1440	15	X	X	X	X	X	X	X	X	X	X	X	X	X	
CP15-Pzm 020	1545	9	X	X	X	X	X	X	X							
TRIP BLANK-10	0640	2	X													

Relinquished By (signature)/Date & Time:	Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol.
ISG.060704

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: SW14-02m 09q Tag: _____

Date of Purging: 6/7/04 Start Time: 0822 Finish Time: 0852 Weather: 82° P. Sunny
Date of Collection: 7/8/04 Time of Collection: 0900

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	NO	Lock	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	15.15
Depth of Bottom from Top of Casing (0.01 ft.)	111.42
Depth of Water in the Well (gallon)	96.27
Volume of water in the Well (gallon)	15.40
Depth of Water from Top of Casing (0.01 ft.) after purging	15.6
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	15.6
Sample Depth from Top of Casing	105.0

Number of minutes purged	0	3	6	9	12	* 15	18	Sample Reading 21	
Temperature (°C)	18.32	18.83	18.27	18.21	18.24	18.07	18.17	18.14	18.19
pH	6.69	6.67	6.69	6.72	6.74	6.74	6.73	6.77	6.73
Specific Conductance (umhos/cm)	0.504	0.505	0.504	0.504	0.505	0.510	0.519	0.521	0.535
Dissolved Oxygen (mg/l)	0.85	0.71	0.62	0.53	0.44	0.60	0.45	0.36	0.33
Oxidation Reduction (eH)	-106.2	-116.0	-118.1	-124.5	-128.6	-102.5	-114.2	-123.0	-126.3
Turbidity (NTU)	72.3	86.2	102.4	157.7	226.3	131.4	89.0	131.0	120

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color _____

Rate of Purge 300 **milliliters / minute**

Comments: ✓ clean/rinse flowcell prior to contamination. Gas bubbles noted during purge
Collect MS + MSD 3 X qual project
Reference SOP Field-014
Readings were performed on date of sampling 7/1/04. (Tech – ~~J. Buszynski~~)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CPM-PZM013 Tag: _____

Date of Purging: 7/1/04 Start Time: 1036 Finish Time: 1040 Weather: 85° Sunny
Date of Collection: 7/1/04 Time of Collection: 1045

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	8.50
Depth of Bottom from Top of Casing (0.01 ft.)	22.48 (after purge)
Depth of Water in the Well (gallon)	13.98
Volume of water in the Well (gallon)	2.24
Depth of Water from Top of Casing (0.01 ft.) after purging	8.50
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	8.50
Sample Depth from Top of Casing	~~15.19~~

Number of minutes purged	0	3	6	9	12	Sample Reading
Temperature (°C)	17.43	17.29	17.30	17.22	17.25	17.24
pH	12.49	12.49	12.51	12.52	12.53	12.53
Specific Conductance (umhos/cm)	4.159	4.163	4.166	4.174	4.175	4.178
Dissolved Oxygen (mg/l)	0.66	0.51	0.39	0.32	0.29	0.34
Oxidation Reduction (eH)	-132.9	-150.9	-167.9	-175.6	-180.3	-181.0
Turbidity (NTU)	3.8	3.8	3.2	3.2	2.6	1.5

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor —
Color clear

Rate of Purge 300 **milliliters / minute**

Comments: 2 gal. purged

Reference SOP Field-014
Readings were performed on date of sampling 7/1/04. (Tech – J. ~~Duszynski~~) MA

HQN:ground/sg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP17-PZM058 Tag: _____

Date of Purging: 7/1/04 Start Time: 1153 Finish Time: 1209 Weather: 85° Sunny
Date of Collection: 7/1/04 Time of Collection: 1215

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	NO	Lock	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	10.16
Depth of Bottom from Top of Casing (0.01 ft.)	69.75
Depth of Water in the Well (gallon)	59.59
Volume of water in the Well (gallon)	9.53
Depth of Water from Top of Casing (0.01 ft.) after purging	11.46
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	11.46
Sample Depth from Top of Casing	64.5 ft

Number of minutes purged	0	3	6	9	12	Sample Reading
Temperature (°C)	16.97	19.19	19.20	19.19	19.14	19.14
pH	11.46	11.52	11.56	11.57	11.58	11.57
Specific Conductance (umhos/cm)	6599	6720	6246	6252	6307	6532
Dissolved Oxygen (mg/l)	0.79	0.66	0.65	0.46	0.41	0.38
Oxidation Reduction (eH)	-132.9	-146.4	-153.6	-156.8	-162.0	-169.9
Turbidity (NTU)	19.9	13.5	7.1	13.2	14.7	14.0

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor —
Color clear

Rate of Purge 300 **milliliters / minute**

Comments: 2½ gallon purge

Reference SOP Field-014
Readings were performed on date of sampling 7/1/04. (Tech – J. Paszynski) (MP)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP11-PZM010 Tag: _____

Date of Purging: 7/1/04 Start Time: 1314 Finish Time: 1327 Weather: 85 sunny
Date of Collection: 7/1/04 Time of Collection: 1330

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	Log	Lock	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	8.48
Depth of Bottom from Top of Casing (0.01 ft.)	17.76
Depth of Water in the Well (gallon)	9.28
Volume of water in the Well (gallon)	1.48
Depth of Water from Top of Casing (0.01 ft.) after purging	8.48
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	8.48
Sample Depth from Top of Casing	13

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	19.94	20.11	20.05	20.13	20.00	19.95
pH	12.60	12.62	12.62	12.62	12.62	12.62
Specific Conductance (umhos/cm)	7981	7972	7972	7969	7980	7975
Dissolved Oxygen (mg/l)	0.61	0.40	0.35	0.32	0.30	0.30
Oxidation Reduction (eH)	-147.9	-158.2	-159.0	-158.6	-156.5	-154.0
Turbidity (NTU)	5.8	4.3	4.1	2.8	3.6	2.5

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color clear

Rate of Purge 300 **milliliters / minute**

Comments: 1½ gallon purge

Reference SOP Field-014
Readings were performed on date of sampling 7/1/04. (Tech – ~~J. Duszynski~~)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP11-PZM 040 Tag: _____

Date of Purging: 7/1/04 Start Time: 1406 Finish Time: 1427 Weather: 85° Sunny
Date of Collection: 7/1/04 Time of Collection: 1440

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	NO	Lock	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	~~Steel~~ PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	~~46.22~~ 8.45
Depth of Bottom from Top of Casing (0.01 ft.)	46.22
Depth of Water in the Well (gallon)	37.80
Volume of water in the Well (gallon)	6.05
Depth of Water from Top of Casing (0.01 ft.) after purging	8.5
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	8.5
Sample Depth from Top of Casing	59.5

Number of minutes purged	0	3	6	9	12	Sample Reading
Temperature (°C)	18.89	19.43	19.34	19.35	19.41	19.33
pH	9.85	9.64	9.36	9.35	9.32	9.30
Specific Conductance (umhos/cm)	11920	12070	12040	12070	12080	12070
Dissolved Oxygen (mg/l)	0.98	0.60	0.44	0.42	0.31	0.23
Oxidation Reduction (eH)	-359	-60.3	-67.3	-68.5	-71.5	-73.0
Turbidity (NTU)	354.0	48.4	21.3	360 clear spikes	17.5	* 21.1

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor —
Color Clear

Rate of Purge 300 **milliliters / minute**

Comments: * Chris Mascoll / Clear sample
2½ gal purge
Reference SOP Field-014
Readings were performed on date of sampling 7/1/04. (Tech – J Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CP15-Pzm-020 Tag: _____

Date of Purging: 7/1/04 Start Time: 1535 Finish Time: 1540 Weather: 87° Sunny
Date of Collection: 7/1/04 Time of Collection: 1545

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	no	Lock	
Good	✓	Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	7.02
Depth of Bottom from Top of Casing (0.01 ft.)	27.03
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	7.05
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	7.05
Sample Depth from Top of Casing	24

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	21.22	21.60	21.48	21.40	21.38	21.28
pH	12.57	12.56	12.58	12.59	12.59	12.59
Specific Conductance (umhos/cm)	8273	8273	8286	8300	8315	8321
Dissolved Oxygen (mg/l)	1.90	1.96	1.17	1.84	~~0.55~~ 1.55	1.33
Oxidation Reduction (eH)	-154.8	-161.9	-166.0	-168.3	-168.4	-168.4
Turbidity (NTU)	3.1	2.4	2.3	3.0	3.0	2.7

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor —
Color clear

Rate of Purge 300 **milliliters / minute**

Comments: 1½ gallon purged

Reference SOP Field-014
Readings were performed on date of sampling 7/1/04. (Tech – ~~I. Dzbynski~~ MJ)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: SW13 - PZM 111 Tag: NO

Date of Purging: 6/25/04 Start Time: 0948 Finish Time: _____ Weather: 75 cloudy
Date of Collection: 6/25/04 Time of Collection: 1015

Well Status:

Good	✓	Grout	chipped
Good	✓	Casing	
Good		Lock	NO Lock
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	16.48
Depth of Bottom from Top of Casing (0.01 ft.)	soft bottom * 126.1 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	18.02
Sample Depth from Top of Casing	122 Ft

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	19.6	19.6	19.5	19.5	19.5	
pH	11.86	11.85	11.86	11.86	11.86	
Specific Conductance (umhos/cm)	1692	1693	1694	1670	1670	
Dissolved Oxygen (mg/l)	1.23	1.12	0.99	0.94	0.90	
Oxidation Reduction (eH)	-102.2	-98.6	-94.8	-92.3	-90.6	
Turbidity (NTU)	21.7	32.4	29.9	32.6	40.6	

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color Clear

Purged out 1/2 gal before starting readings

Rate of Purge 150 **milliliters / minute**

Comments: Approx 1¼ gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/25/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: SW13 -PZM025 Tag: ND

Date of Purging: 6/25/04 Start Time: 1118 Finish Time: _____ Weather: 75-80 cloudy
Date of Collection: 6/25/04 Time of Collection: 1150

Well Status:

Good _____	Grout _____
Good ✓	Casing _____
Good _____	Lock ND
Good _____	Obstructions _____

Diameter of Well Casing (inches)	1/2
Depth Measurements Performed (PVC/Metal)	pvc
Depth of Water from Top of Casing (0.01 ft.) prior to purging	16.95
Depth of Bottom from Top of Casing (0.01 ft.)	42.65 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	17.5
Sample Depth from Top of Casing	36.25 ft

	0	3	6	9	12	15	18	Sample Reading 21
Number of minutes purged								
Temperature (°C)	19.8	19.4	19.4	19.5	19.6	19.4	19.6	19.4
pH	6.78	6.68	6.67	6.57	6.54	6.52	6.50	6.49
Specific Conductance (umhos/cm)	2562	2556	2559	2559	2559	2560	2561	2559
Dissolved Oxygen (mg/l)	0.98	0.72	0.52	0.39	0.32	0.27	0.28	0.26
Oxidation Reduction (eH)	-98.0	-92.7	-90.0	-89.1	-88.7	-89.4	-89.9	-89.8
Turbidity (NTU)	5.0	5.1	5.3	7.6	7.1	4.2	6.8	5.5

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color clear

Rate of Purge 150 milliliters / minute

Comments: Approx 1 1/2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/25/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: SW17 - PZM038 Tag: NO

Date of Purging: 6/25/04 Start Time: 0808 Finish Time: _____ Weather: 70 clouds
Date of Collection: 6/25/04 Time of Collection: 0845

Well Status:

Good	_____	Grout	cracked
Good	✓	Casing	
Good	✓	Lock	
Good	_____	Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	pvc
Depth of Water from Top of Casing (0.01 ft.) prior to purging	13.21
Depth of Bottom from Top of Casing (0.01 ft.)	50.00 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	~~50.00~~ 13.26
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	
Sample Depth from Top of Casing	49 Ft

Number of minutes purged	0	3	6	9	12	15	Sample Reading 18	21	24	27	30
Temperature (°C)	17.6	17.4	17.4	17.4	17.4	17.3	17.4	17.4	17.4	17.3	17.4
pH	9.65	8.51	8.13	8.58	8.83	8.15	7.99	7.91	7.86	7.83	7.80
Specific Conductance (umhos/cm)	7045	7178	7076	7139	7278	7332	7340	7317	7257	7217	7136
Dissolved Oxygen (mg/l)	1.63	0.67	0.54	0.58	0.50	0.48	0.51	0.59	0.42	0.39	0.36
Oxidation Reduction (eH)	74.8	-177.4	-168.4	-183.3	-207.8	-219.6	-214.7	-209.9	-206.0	-204.4	-208.7
Turbidity (NTU)	11.5	7.0	5.6	8.8	4.8	7.7	7.1	16.6	2.7	11.0	2.8

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor Yes
Color Clear

Rate of Purge 400 milliliters / minute

Comments: Approx 4 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/25/04. (Tech – J. Duszynski)

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site – Sparrows Point
Technician: SD
Fax: (410) 388-5263
Cooler# 1

Due Date: 21 Working Days
Groundwater Samples

Temperature Blank._____°C

Date Samples Collected: 6/25/04

Sample ID	Time Collected	# CONT.	BOD, 5 day	Chem. COD	Total Metals (6010B / 7000)	Dissolved Metals (6010B / 7000)	Total Cyanide (9012A)	Available Cyanide (OIA-1677)	Total Petroleum Hydrocarbons (9071B)	Alkalinity (SM2320B)	Chloride (9253, 300.0, SM4500-Cl-E)	Ferrous Iron (SM3500-Fe-D)	Nitrate-Nitrite (353.2)	Sulfide (9034)	Methanol	Comments
SW17 - PZM038	0845	15	X	X	X	X	X	X	X	X	X	X	X	X	X	
SW13 - PZM111	1015	15	X	X	X	X	X	X	X	X	X	X	X	X	X	
SW13 - PZM025	1150	15	X	X	X	X	X	X	X	X	X	X	X	X	X	
TRIP BLANK -08	0615	2	X													

Relinquished By (signature)/Date & Time:

Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol. ISG.060704

JUN/25/2004/FRI 03:23 PM

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: SW13 - PZM003 Tag: MD

Date of Purging: 6/25/04 Start Time: 1236 Finish Time: 1320 Weather: 80-85 ft sun
Date of Collection: 6/25/04 Time of Collection: _____ DID NOT SAMPLE - WATER LEVEL KEPT DROPPING TOO FAST

Well Status:

Good ✓ Grout _____
Good ✓ Casing _____
Good _____ Lock NO LOCK
Good _____ Obstructions _____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	9.90
Depth of Bottom from Top of Casing (0.01 ft.)	after sampling
Depth of Water in the Well (gallon)	—
Volume of water in the Well (gallon)	—
Depth of Water from Top of Casing (0.01 ft.) after purging	14.20
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	
Sample Depth from Top of Casing	12.5ft → 15.5ft.

water dropped below tubing. Dropped down 3 more ft and continued @ 27 min

Number of minutes purged	0	3	6	9	12	15	Sample Reading 27
Temperature (°C)	18.5	18.9	18.7	18.8	19.1	19.1	20.4
pH	8.16	8.27	8.39	8.38	8.46	8.52	9.14
Specific Conductance (umhos/cm)	330	329	324	325	312	300	331
Dissolved Oxygen (mg/l)	6.65	5.73	5.29	4.86	4.21	3.71	5.20
Oxidation Reduction (eH)	128.7	144.2	134.8	129.5	132.4	123.1	-51.6
Turbidity (NTU)	14.2	21.7	44.3	45.6	94.6	198.1	16.5

	30	33	36	39	42
	19.6	19.6	19.7	19.9	20.0
	8.72	8.57	8.77	9.27	9.36
	341	341	332	304	274
	5.97	5.92	5.43	4.56	4.93
	-7.0	15.9	-8.7	-64.0	-63.1
	18.9	43.7	61.4	74.7	47.2

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color clear

Rate of Purge 75-100 milliliters / minute

Comments: Approx 2.5 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/25/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: TS 05 - PPM 007 Tag: AFD

Date of Purging: 6/23/04 Start Time: 0854 Finish Time: _____ Weather: 70 cloudy
Date of Collection: 6/23/04 Time of Collection: 0930

Well Status:

Good	_____	Grout	_____
Good	_____	Casing	_____
Good	✓	Lock	_____
Good	_____	Obstructions	_____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	9.15
Depth of Bottom from Top of Casing (0.01 ft.)	17.40 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	9.26
Sample Depth from Top of Casing	12 ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18	21	24
Temperature (°C)	18.1	16.7	16.7	16.6	16.6	16.5	16.5	16.4	16.4
pH	11.66	11.79	11.77	11.72	11.68	11.64	11.60	11.58	11.54
Specific Conductance (umhos/cm)	1194	1226	1063	981	934	896	866	847	826
Dissolved Oxygen (mg/l)	2.14	2.67	2.58	1.93	1.53	1.31	1.12	1.02	0.96
Oxidation Reduction (eH)	-198.7	-192.1	-167.5	-163.5	-161.6	-159.7	-160.5	-161.5	-161.4
Turbidity (NTU)	2.4	1.2	5.9	410	2.6	2.4	0.3	7.4	4.8

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor NO
Color clear

Rate of Purge 300 **milliliters / minute**

Comments: Approx 2 1/2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/23/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CQ15 - PZM005 Tag: NO

Date of Purging: 6/23/04 Start Time: 1109 Finish Time: _____ Weather: 75 cloudy
Date of Collection: 6/23/04 Time of Collection: 1140

Well Status:

Good _____ Grout UNDER DIRT
Good ✓ Casing _____
Good _____ Lock Bolt instead of lock
Good _____ Obstructions _____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	10.85
Depth of Bottom from Top of Casing (0.01 ft.)	soft bottom * 18.15 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	10.86
Sample Depth from Top of Casing	13 Ft

Number of minutes purged	0	3	6	9	12	15	18	Sample Reading 21	24	27	30
Temperature (°C)	17.6	16.6	16.5	16.5	16.6	16.5	16.4	16.5	16.4	16.4	16.4
pH	8.32	8.29	8.27	8.26	8.22	8.22	8.25	8.24	8.25	8.25	8.26
Specific Conductance (umhos/cm)	890	862	845	841	831	823	809	802	794	787	782
Dissolved Oxygen (mg/l)	2.00	0.57	0.40	0.30	0.24	0.22	0.20	0.19	0.17	0.16	0.14
Oxidation Reduction (eH)	-74.8	-102.6	-127.8	-150.6	-168.2	-186.4	-202.9	-214.4	-227.3	-236.2	-244.5
Turbidity (NTU)	3.5	3.1	3.8	6.0	10.4	4.3	4.8	11.9	9.8	2.2	1.7

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor Yes
Color Clear

Rate of Purge 400 **milliliters / minute**

Comments: Approx 3½ gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/23/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well I.D.: CO18-PZM005 (17.5) Tag: NA

Date of Purging: 6/23/04 Start Time: 1223 Finish Time: _____ Weather: 75-80 cloudy

Date of Collection: 6/23/04 Time of Collection: 1245

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	Flush Mount
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	7.79
Depth of Bottom from Top of Casing (0.01 ft.)	14.91 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	7.94
Sample Depth from Top of Casing	~~14.5 Ft~~ 13.0

	0	3	6	9	12	15 Sample Reading
Number of minutes purged						
Temperature (°C)	18.1	17.7	17.8	18.0	17.9	17.9
pH	8.70	8.83	8.86	8.85	8.86	8.86
Specific Conductance (umhos/cm)	629	596	587	587	593	598
Dissolved Oxygen (mg/l)	1.51	0.76	0.70	0.38	0.34	0.31
Oxidation Reduction (eH)	-105.0	-143.2	-151.7	-157.0	-161.7	-165.9
Turbidity (NTU)	-0.2	0.7	0.4	2.3	0.9	0.6

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear

Rate of Purge 300 **milliliters / minute**

Comments: Approx 1 3/4 gal purge water

Reference SOP Field-014

Readings were performed on date of sampling 6/23/04 (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: C008 - DZM036 Tag: No

Date of Purging: 6/23/04 Start Time: 1329 Finish Time: _____ Weather: 75-80 cloudy
Date of Collection: 6/23/04 Time of Collection: 1400

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	FLUSH Mount
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	11.58 after Sampling
Depth of Bottom from Top of Casing (0.01 ft.)	48.61 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	11.56
Sample Depth from Top of Casing	45 ft

	0	3	6	9	12	15	18	Sample Reading 21
Number of minutes purged								
Temperature (°C)	18.1	17.8	17.9	17.8	17.8	17.7	17.6	17.6
pH	10.17	11.87	11.95	11.99	12.00	12.00	11.99	11.98
Specific Conductance (umhos/cm)	567	1580	1773	1835	1862	1893	1938	1972
Dissolved Oxygen (mg/l)	1.40	0.84	0.71	0.61	0.60	0.52	0.51	0.48
Oxidation Reduction (eH)	-204.2	-280.0	-293.3	-300.5	-301.8	-307.0	-308.5	-311.0
Turbidity (NTU)	102.5	73.4	81.0	75.6	67.9	51.5	44.4	44.1

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor Yes
Color mostly clear some black specks

Rate of Purge 300 **milliliters / minute**

Comments: Purge Approx 2¼ gal

Reference SOP Field-014
Readings were performed on date of sampling 6/23/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: SW18 - PZM114 Tag: ND

Date of Purging: 6/23/04 Start Time: 1459 Finish Time: ____ Weather: 75-80 cloudy
Date of Collection: 6/23/04 Time of Collection: 1600

Well Status: CONTINUED ON NEXT SHEET

Good		Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.76
Depth of Bottom from Top of Casing (0.01 ft.)	126.80 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	27.49
Sample Depth from Top of Casing	120 ft

Number of minutes purged	0	3	6	9	12	15	18	Sample Reading 21	24	27	30
Temperature (°C)	19.9	19.8	19.6	19.7	19.7	19.7	19.6	19.6	19.7	19.6	19.6
pH	6.69	6.66	6.66	6.70	6.84	6.95	7.17	7.47	8.30	10.15	11.13
Specific Conductance (umhos/cm)	3844	3884	3871	3845	3798	3763	3666	3430	3132	2884	2768
Dissolved Oxygen (mg/l)	2.59	0.90	0.66	0.52	0.38	0.27	0.17	0.12	0.08	0.10	0.14
Oxidation Reduction (eH)	-111.9	-117.4	-117.2	-120.9	-137.4	-153.9	-178.5	-226.2	-363.9	-472.8	-510.4
Turbidity (NTU)	42.3	59.3	34.9	76.9	45.3	47.3	41.6	56.2	41.0	50.0	49.8

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation purged out about 3/4 gal before starting readings
Odor
Color clear

Rate of Purge 100 **milliliters / minute**

Comments: Approx 3 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/23/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: SW18 ~PZM114 Tag: ND

Date of Purging: 6/23/04 Start Time: 1459 Finish Time: _____ Weather: 75-80 cloudy
Date of Collection: 6/23/04 Time of Collection: 1640

Well Status: CONTINUED FROM PREVIOUS SHEET

Good		Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.70
Depth of Bottom from Top of Casing (0.01 ft.)	126.80 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	27.49
Sample Depth from Top of Casing	120 ft

	(1532) 33	36	39	42	45	48	51	Sample Reading 54	57
Number of minutes purged									
Temperature (°C)	19.7	19.7	19.8	19.8	20.0	20.0	20.0	19.9	
pH	11.36	11.67	11.77	11.90	11.96	12.03	12.08	12.10	
Specific Conductance (umhos/cm)	2781	2884	2955	3038	3130	3300	3364	3389	
Dissolved Oxygen (mg/l)	0.07	0.06	0.06	0.07	0.09	0.09	0.08	0.08	
Oxidation Reduction (eH)	-520.4	-530.1	-539.5	-546.6	-550.8	-549.3	-547.5	-547.6	
Turbidity (NTU)	55.2	53.5	34.4	21.8	16.1	19.1	19.0	30.6	

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor Yes
Color clear – water started out greenish brown then cleared up

Rate of Purge 100 milliliters / minute

Comments: Approx 3 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6 / 23 / 04 . (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CQ02 - PZM006 Tag: ND

Date of Purging: 6/24/04 Start Time: 0828 Finish Time: _____ Weather: 70 Sun
Date of Collection: 6/24/04 Time of Collection: 0855

Well Status:

Good		Grout	
Good	✓	Casing	
Good		Lock	NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.25
Depth of Bottom from Top of Casing (0.01 ft.)	Sept bottom # 19.90 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.26
Sample Depth from Top of Casing	16 Ft

Number of minutes purged	0	3	6	9	12	15	18	Sample Reading 21	24
Temperature (°C)	17.2	16.5	16.4	16.4	16.4	16.4	16.4	16.4	16.4
pH	8.06	8.00	8.02	8.04	8.05	8.06	8.06	8.06	8.06
Specific Conductance (umhos/cm)	1098	1098	1093	1092	1094	1094	1094	1090	1090
Dissolved Oxygen (mg/l)	1.35	0.36	0.28	0.23	0.20	0.18	0.16	0.14	0.13
Oxidation Reduction (eH)	-88.0	-142.8	-170.2	-199.1	-221.9	-238.6	-251.5	-258.2	-264.2
Turbidity (NTU)	0.0	0.0	0.9	0.0	0.8	0.0	0.0	0.1	-0.2

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor yes
Color clear

Rate of Purge 400 **milliliters / minute**

Comments: Approx 3 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/24/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: C002 -PZM041 Tag: NO

Date of Purging: 6/24/04 Start Time: 0943 Finish Time: _____ Weather: 80 sun
Date of Collection: 6/24/04 Time of Collection: 1005

Well Status:

Good	_____	Grout	_____
Good	✓	Casing	_____
Good	_____	Lock	NO Lock
Good	_____	Obstructions	_____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	14.47
Depth of Bottom from Top of Casing (0.01 ft.)	Soft bottom & 54.70 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	14.75
Sample Depth from Top of Casing	52 ft

Number of minutes purged	0	3	6	9	12	15 Sample Reading	18
Temperature (°C)	18.5	18.0	17.9	17.8	17.8	17.9	17.9
pH	6.82	6.73	6.70	6.68	6.67	6.67	6.67
Specific Conductance (umhos/cm)	3613	3601	3607	3601	3617	3621	3619
Dissolved Oxygen (mg/l)	1.56	0.55	0.46	0.43	0.33	0.30	0.26
Oxidation Reduction (eH)	-136.0	-139.6	-139.4	-139.3	-139.2	-139.2	-138.6
Turbidity (NTU)	59.5	112.5	36.8	46.0	43.8	49.1	42.4

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor Yes
Color clear

Rate of Purge 300 **milliliters / minute**

Comments: Approx 25 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/24/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CO18-PZM006 Tag: NO

Date of Purging: 6/24/04 Start Time: 1128 Finish Time: _____ Weather: 80 sun
Date of Collection: 6/24/04 Time of Collection: 1200

Well Status:

Good		Grout	
Good	✓	Casing	
Good		Lock	No Lock
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	11.81
Depth of Bottom from Top of Casing (0.01 ft.)	20.35 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.05
Sample Depth from Top of Casing	15 ft

Number of minutes purged	0	3	6	9	12	15	18	Sample Reading 21
Temperature (°C)	19.7	12.9	17.8	17.8	17.8	17.7	17.7	17.7
pH	7.09	7.08	7.11	7.14	7.15	7.21	7.24	7.27
Specific Conductance (umhos/cm)	2421	2384	2339	2293	2246	2199	2153	2116
Dissolved Oxygen (mg/l)	3.12	0.92	0.68	0.55	0.47	0.40	0.36	0.33
Oxidation Reduction (eH)	-142.9	-151.0	-157.3	-162.7	-167.3	-171.9	-175.6	-178.0
Turbidity (NTU)	30.8	36.4	24.0	10.7	14.2	13.5	13.1	9.8

Purging Equipment ✓
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor Yes
Color Clear

Rate of Purge 350 **milliliters / minute**

Comments: Approx 2½ gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/24/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: SW17 - P2MW3 Tag: NO

Date of Purging: 6/24/04 Start Time: 1253 Finish Time: _____ Weather: 80-85 sun
Date of Collection: 6/24/04 Time of Collection: 1315

Well Status:

Good		Grout	Under DIRT
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	14.44
Depth of Bottom from Top of Casing (0.01 ft.)	125.70 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	14.59
Sample Depth from Top of Casing	124 ft

	0	3	6	9	12	Sample Reading 15
Number of minutes purged						
Temperature (°C)	17.9	17.7	17.6	17.7	17.8	17.6
pH	8.79	7.30	6.96	6.85	6.80	6.76
Specific Conductance (umhos/cm)	10240	11110	11280	11300	11310	11320
Dissolved Oxygen (mg/l)	1.52	1.12	0.78	0.67	0.61	0.56
Oxidation Reduction (eH)	30.5	-119.3	-105.4	-104.7	-105.3	-105.3
Turbidity (NTU)	5.2	9.3	0.0	0.1	0.7	1.7

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor Slight
Color clear

purged 1/2 gal before starting readings

Rate of Purge 400 **milliliters / minute**

Comments: Approx 2 1/2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/24/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: SW17-102M007 Tag: NO

Date of Purging: 6/24/04 Start Time: 1355 Finish Time: _____ Weather: 80-85 pt sun
Date of Collection: 6/24/04 Time of Collection: 1425

Well Status:

Good _____ Grout UNDER DIRT
Good ✓ Casing _____
Good ✓ Lock _____
Good _____ Obstructions _____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.75
Depth of Bottom from Top of Casing (0.01 ft.)	20.25 after Sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	13.05
Sample Depth from Top of Casing	16 Ft

	0	3	6	9	12	15	Sample Reading 18
Number of minutes purged							
Temperature (°C)	18.10	17.6	17.6	17.5	17.6	17.4	17.5
pH	12.20	12.19	12.19	12.19	12.20	12.20	12.19
Specific Conductance (umhos/cm)	2565	2447	2332	2281	2240	2177	2171
Dissolved Oxygen (mg/l)	1.79	0.64	0.50	0.43	0.36	0.33	0.30
Oxidation Reduction (eH)	-161.5	-190.5	-206.0	-212.4	-217.7	-220.1	-222.8
Turbidity (NTU)	1.1	7.7	0.0	-0.1	0.2	0.1	0.4

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor slight
Color clear

Rate of Purge 400 300 milliliters / minute

Comments: Approx 2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/24/04. (Tech – J. Duszynski)

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site – Sparrows Point
Technician: _____
Fax: (410) 388-5263
Cooler # _____

Due Date: 21 Working Days
Groundwater Samples

Temperature Blank. _____ °C

Date Samples Collected: 6/24/04

Sample ID	Time Collected	# CONT.	VOC (8260B)	Semi-VOC (8270C)	Total Metals (6010B / 7000)	Dis. Metals (6010B / 7000)	Total Cyanide (9014/9012A)	Available Cyanide (OIA-1677)	Total Sulfide (9030B)	Alkalinity (310.1)	Chloride (325.3, 9056, 9038)	Ferrous Iron (6010B)	Nitrate (353.2)	Total Phosphorus (365.3)	Methane	Comments
C002-PZM006	0855	15	X	X	X	X	X	X	X	X	X	X	X	X	X	
C002-PZM041	1005	15	X	X	X	X	X	X	X	X	X	X	X	X	X	
C018-EQB006	1055	8	X	X	X	X	X	X								EQUIPMENT BLANK
C018-PZM006	1200	9	X	X	X	X	X	X	X							
SW17-PZM0013	1315	15	X	X	X	X	X	X	X	X	X	X	X	X	X	
SW17-PZM007	1425	15	X	X	X	X	X	X	X	X	X	X	X	X	X	
TRIP BLANK-07	0640	2	X													

Relinquished By (signature)/Date & Time:

Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol. ISG.060704

JUN/24/2004/THU 03:24 PM

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site – Sparrows Point
Technician: JD
Fax: (410) 388-5263
Cooler # 0443.1

Due Date: 21 Working Days
Groundwater Samples

Temperature Blank _____ °C

Date Samples Collected: 6/23/04

Sample ID	Time Collected	CONT. #	VOC (8260B)	Semi-VOC (8270C)	Total Metals (6010B/7470A)	Dis. Metals (6010B)	Total Cyanide (9014/9012A)	Available Cyanide (OIA-1677)	Total Sulfide (9030B/9034)	Alkalinity (310.1)	Chloride (325.3)	Sulfate (9038)	Ferrous Iron (6010B)	Nitrate (353.2)	Total Kjeldahl Nitrogen (351.3)	Methane	Comments
TS05-PZM007	0930	9	X	X	X	X	X	X	X								
TS05-PZM007	0930	8	X	X	X	X	X	X									MATRIX SPIKE
TS05-PZM007	0930	8	X	X	X	X	X	X									MATRIX SPIKE DUP
C015-PZM005	1140	2			X	X											
C017-PZM005	1245	9	X	X	X	X	X	X	X								
C008-PZM036	1400	9	X	X	X	X	X	X	X								
SW18-PZM114	1600	9	X	X	X	X	X	X	X								
TRIP BLANK-06	0710	2	X														

Relinquished By (signature) / Date & Time: 6/23/04 1715

Received By (signature) / Date & Time: 1715 6-23-04

Notes:

1. Follow standard Quality Control Protocol.
ISG.060704

JUN/24/2004/THU 03:24 PM

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well I.D.: CO28-PZM010 Tag: ND

Date of Purging: 6/22/04 Start Time: 0847 Finish Time: _____ Weather: 70 pt sun

Date of Collection: 6/22/04 Time of Collection: 0903

Well Status:

Good		Grout	chipped
Good	✓	Casing	
Good		Lock	NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	pvc
Depth of Water from Top of Casing (0.01 ft.) prior to purging	11.60
Depth of Bottom from Top of Casing (0.01 ft.)	—
Depth of Water in the Well (gallon)	—
Volume of water in the Well (gallon)	—
Depth of Water from Top of Casing (0.01 ft.) after purging	—
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	11.63
Sample Depth from Top of Casing	17 Ft

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	18.9	18.7	18.7	18.8	18.8	
pH	9.42	9.44	9.40	9.36	9.34	
Specific Conductance (umhos/cm)	897	755	741	735	732	
Dissolved Oxygen (mg/l)	1.37	0.55	0.46	0.41	0.39	
Oxidation Reduction (eH)	-64.5	-76.6	-82.2	-82.6	-85.3	
Turbidity (NTU)	6.9	5.3	2.9	0.9	0.8	

Purging Equipment		Well Observation	
~~Peristaltic Pump~~	✓	Odor	no
Bladder Pump		Color	clear

Rate of Purge 250 **milliliters / minute**

Comments: Approx 1½ gal purge water

Reference SOP Field-014

Readings were performed on date of sampling 6/22/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well I.D.: ~~C-028-PZM-048~~ Tag: NA

Date of Purging: 6/22/04 Start Time: 0923 Finish Time: ____ Weather: 70pt SUN

Date of Collection: 6/22/04 Time of Collection: 0943

Well Status:

Good	____	Grout	chipped
Good	✓	Casing	
Good	____	Lock	NO LOCK
Good	____	Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	11.91
Depth of Bottom from Top of Casing (0.01 ft.)	
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.70
Sample Depth from Top of Casing	55 FT

Number of minutes purged	0	3	6	9	12	15 (Sample Reading)	18
Temperature (°C)	19.7	19.1	19.1	19.0	19.0	19.0	19.0
pH	9.68	10.83	10.94	10.97	10.96	10.95	10.93
Specific Conductance (umhos/cm)	2033	2588	2648	2666	2672	2672	2669
Dissolved Oxygen (mg/l)	1.96	0.92	0.76	0.61	0.53	0.47	0.44
Oxidation Reduction (eH)	-149.4	-179.9	-183.9	-186.3	-187.1	-187.3	-187.2
Turbidity (NTU)	11.0	2.8	4.8	3.7	2.8	4.1	5.3

Purging Equipment		Well Observation	
~~Peristaltic Pump~~	✓	~~Odor~~	
Bladder Pump	____	Color	clear

Rate of Purge 200 milliliters / minute

Comments: Approx 1 gal purge water

Reference SOP Field-014

Readings were performed on date of sampling 6/22/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well I.D.: CO28 - P2/MW-25 Tag: NO

Date of Purging: 6/22/04 Start Time: 1012 Finish Time: ____ Weather: 75 pt sun

Date of Collection: 6/22/04 Time of Collection: 1025

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	13.38
Depth of Bottom from Top of Casing (0.01 ft.)	
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	13.61
Sample Depth from Top of Casing	~~13.75~~

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	19.6	19.6	19.5	19.6	19.6	
pH	9.41	9.49	9.51	9.52	9.53	
Specific Conductance (umhos/cm)	396	401	402	401	401	
Dissolved Oxygen (mg/l)	1.03	0.93	0.85	0.81	0.77	
Oxidation Reduction (eH)	-228.4	-211.5	-198.4	-191.8	-186.8	
Turbidity (NTU)	110.7	124.7	126.9	109.1	100.1	

Purging Equipment

Peristaltic Pump ✓

Bladder Pump

Well Observation * purged 1/2 gal out before taking readings

Odor

Color a little cloudy

Rate of Purge 150 **milliliters / minute**

Comments: Approx 1¼ gal purge water

Reference SOP Field-014

Readings were performed on date of sampling 6/22/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well I.D.: ~~C029-PZM010~~ Tag: NO

Date of Purging: 6/22/04 Start Time: 1054 Finish Time: _____ Weather: 80 pt sun

Date of Collection: 6/22/04 Time of Collection: 1113

Well Status:

Good		Grout	chipped
Good	✓	Casing	
Good		Lock	NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	14.05
Depth of Bottom from Top of Casing (0.01 ft.)	
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	14.10
Sample Depth from Top of Casing	20 ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18
Temperature (°C)	17.7	16.9	16.9	16.9	16.8	16.9	17.0
pH	12.36	12.38	12.38	12.39	12.40	12.40	12.40
Specific Conductance (umhos/cm)	3743	3749	3746	3746	3745	3743	3740
Dissolved Oxygen (mg/l)	1.24	0.53	0.39	0.32	0.27	0.25	0.23
Oxidation Reduction (eH)	-200.9	-209.7	-212.0	-213.4	-215.1	-215.7	-216.0
Turbidity (NTU)	6.6	5.4	19.8	5.4	0.7	5.8	2.7

Purging Equipment		Well Observation	
~~Peristaltic Pump~~	✓	~~Odor~~	
Bladder Pump		Color	clear

Rate of Purge 400 milliliters / minute

Comments: Approx gal purge water

Reference SOP Field-014

Readings were performed on date of sampling 6/22/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well I.D.: C-030-P2-W0100 Tag: No

Date of Purging: 6/22/04 Start Time: 1314 Finish Time: _____ Weather: 80-85 hazy sun

Date of Collection: 6/22/04 Time of Collection: 1330

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	13.30
Depth of Bottom from Top of Casing (0.01 ft.)	
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	13.42
Sample Depth from Top of Casing	66 ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15
Temperature (°C)	22.4	20.7	20.5	20.3	20.2	19.8
pH	9.10	8.00	7.77	7.69	7.67	7.66
Specific Conductance (umhos/cm)	3304	6877	7722	7999	8139	8174
Dissolved Oxygen (mg/l)	1.85	1.03	0.89	0.82	0.74	0.68
Oxidation Reduction (eH)	-130.5	-214.0	-198.6	-196.2	-198.3	-199.8
Turbidity (NTU)	45.8	37.2	21.9	13.3	11.5	6.9

Purging Equipment		Well Observation	
Peristaltic Pump	✓	Odor	
Bladder Pump		Color	clear

Rate of Purge 175 milliliters / minute

Comments: Approx 3/4 gal purge water

Reference SOP Field-014

Readings were performed on date of sampling 6/22/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well ID: CO29-PZM05I Tag: No

Date of Purging: 6/22/04 Start Time: 1134 Finish Time: _____ Weather: 80 pt sun
Date of Collection: _____ Time of Collection: 1202

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO Lock
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.74
Depth of Bottom from Top of Casing (0.01 ft.)	
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.91
Sample Depth from Top of Casing	60 Ft

Number of minutes purged	0	3	6	9	12	15	18	Sample Reading 21	24	27
Temperature (°C)	19.6	18.3	18.2	18.1	18.1	18.3	18.3	18.4	18.4	18.4
pH	9.64	8.92	8.87	8.81	8.79	8.77	8.77	8.76	8.76	8.74
Specific Conductance (umhos/cm)	5156	9915	10420	10650	10740	10770	10770	10750	10750	10740
Dissolved Oxygen (mg/l)	2.39	1.70	1.56	1.44	1.19	0.93	0.69	0.58	0.56	0.51
Oxidation Reduction (eH)	-155.3	-149.6	-153.4	-153.9	-154.1	-155.7	-161.4	-166.8	-171.4	-176.0
Turbidity (NTU)	17.1	9.9	6.7	6.9	4.4	7.9	4.6	5.1	6.4	5.4

Purging Equipment
~~Peristaltic Pump~~ ✓
Bladder Pump

Well Observation
Odor
Color clean

Rate of Purge 125-150 milliliters / minute

Comments: Approx 1 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/22/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well I.D.: 030-PZM015 Tag: NO

Date of Purging: 6/22/04 Start Time: 1233 Finish Time: _____ Weather: 80-85 hazy sun

Date of Collection: 6/22/04 Time of Collection: 1255

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO Locks
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	11.58
Depth of Bottom from Top of Casing (0.01 ft.)	
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	11.60
Sample Depth from Top of Casing	22.77

Number of minutes purged	0	3	6	9	12	15	18	Sample Reading 21
Temperature (°C)	19.4	18.1	17.9	17.9	17.7	17.6	17.6	17.6
pH	12.16	12.16	12.17	12.17	12.17	12.18	12.18	12.18
Specific Conductance (umhos/cm)	2447	2388	2384	2382	2383	2383	2383	2382
Dissolved Oxygen (mg/l)	2.93	1.17	0.66	0.45	0.37	0.30	0.28	0.26
Oxidation Reduction (eH)	-202.0	-201.5	-207.9	-212.8	-214.6	-216.3	-217.0	-217.5
Turbidity (NTU)	11.8	10.1	12.7	9.1	8.0	5.3	5.4	2.9

Purging Equipment

Peristaltic Pump ✓

Bladder Pump _____

Well Observation

Odor _____

Color clear

Rate of Purge 400 **milliliters / minute**

Comments: Approx 2½ gal purge removed

Reference SOP Field-014

Readings were performed on date of sampling 6/22/04. (Tech – J. Duszynski)

HQN:grounddisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well I.D.: CO33-P29-22-1 Tag: NA tag

Date of Purging: 6/22/04 Start Time: 1406 Finish Time: _____ Weather: 80-85 clouds

Date of Collection: 6/22/04 Time of Collection: 1425

Well Status:

Good _____
Good _____
Good _____
Good _____

Grout NONE
Casing PVC only / metal broken off
Lock No Lock
Obstructions _____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	14.76
Depth of Bottom from Top of Casing (0.01 ft.)	
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	14.85
Sample Depth from Top of Casing	150.5 ft.

Number of minutes purged	0	3	6	9	12	Sample Reading 15	Sample Reading 18
Temperature (°C)	18.2	18.2	18.2	18.1	18.1	18.2	18.2
pH	7.04	6.92	6.85	6.81	6.77	6.76	6.75
Specific Conductance (umhos/cm)	2151	2499	2672	2776	2850	2876	2895
Dissolved Oxygen (mg/l)	1.23	1.07	0.94	0.87	0.78	0.70	0.65
Oxidation Reduction (eH)	-148.2	-138.5	-132.0	-127.9	-124.4	-123.8	-123.5
Turbidity (NTU)	12.9	8.8	21.0	6.9	6.0	10.5	16.9

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor slight
Color clear w/ small black specks

purged 1/2 gal before starting readings

Rate of Purge 250 **milliliters / minute**

Comments: Approx 2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/22/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site: Sparrows Point
Technician: JD
Fax: (410) 388-5263
Cooler #: _____

Due Date: 21 Working Days
Groundwater Samples

Temperature Blank: _____ °C

Date Samples Collected: 6/22/04

Sample ID	Time Collected	# CONT	VOC 8260B	Semi-VOC 8270C	Total Metals 6010B/7000	Dis. Metals 6010B/7000	Total Cyanide 9010B/9012A	Available Cyanide OIA-1677	Total Sulfide 9030B/9034	Alkalinity 310.1	Chloride 325.3 Sulfate (D516)	Ferrous Iron 6010B	Nitrate (353.2)	Total Phosphorus (365.3)	Methane	Comments
C028 - PZM010	0903	2	X													ALL RESAMPLED FOR VOC's ONLY LAB ERROR!
C028 - PZM048	0943	2	X													
C028 - PZM125	1025	2	X													
C029 - PZM010	1113	2	X													
C029 - PZM051	1202	2	X													
C030 - PZM015	1255	2	X													
C030 - PZM060	1330	2	X													
C033 - PZM141	1425	2	X													
TRIP BLANK-05	0645	2	X													

Relinquished By (signature)/Date & Time:

Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol. ISG.060704

JUN/22/2004/TUE 03:07 PM

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well I.D.: ~~C-010-PZM-029~~ Tag: NU

Date of Purging: ~~6/18~~ 6/21/04 Start Time: 0835 Finish Time: _____ Weather: 70 sun

Date of Collection: 6/21/04 Time of Collection: 0855

Well Status:

Good	_____	Grout	_____
Good	✓	Casing	_____
Good	_____	Lock	NO LOCK FLUSH
Good	_____	Obstructions	_____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	9.97
Depth of Bottom from Top of Casing (0.01 ft.)	39.83 after sampling
Depth of Water in the Well (gallon)	—
Volume of water in the Well (gallon)	—
Depth of Water from Top of Casing (0.01 ft.) after purging	—
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	10.00
~~Sample Depth from Top of Casing~~	~~38 ft.~~

Number of minutes purged	0	3	6	9	12	Sample Reading 15
Temperature (°C)	17.5	17.5	17.5	17.6	17.5	17.6
pH	8.82	8.85	8.85	8.83	8.81	8.80
Specific Conductance (umhos/cm)	5640	5978	5933	5898	5828	5846
Dissolved Oxygen (mg/l)	1.15	0.75	0.58	0.48	0.44	0.39
Oxidation Reduction (eH)	-18.5	-53.9	-62.5	-65.4	-67.1	-68.3
Turbidity (NTU)	513.5	501.5	363.1	385.4	606.0	455.0

Purging Equipment

Peristaltic Pump ✓

Bladder Pump _____

Well Observation

Odor _____

Color gray

Rate of Purge 250-275 milliliters / minute

Comments: Approx 1 3/4 gal purge water

Reference SOP Field-014

Readings were performed on date of sampling 6/21/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CO26-PZM007 Tag: ND

Date of Purging: 6/21/04 Start Time: 0953 Finish Time: ____ Weather: 75 SUN
Date of Collection: 6/21/04 Time of Collection: 1015

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO LOCK FLUSH
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	11.53
Depth of Bottom from Top of Casing (0.01 ft.)	19.32 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	11.55
Sample Depth from Top of Casing	14.5 FT

	0	3	6	9	12	15 (Sample Reading)
Number of minutes purged						
Temperature (°C)	19.0	18.1	17.6	17.6	17.6	17.6
pH	12.20	12.20	12.07	12.00	11.98	11.96
Specific Conductance (umhos/cm)	3233	3264	2864	2802	2773	2745
Dissolved Oxygen (mg/l)	2.55	1.06	0.86	0.75	0.71	0.65
Oxidation Reduction (eH)	-137.4	-173.2	-193.6	-186.9	-184.2	-180.9
Turbidity (NTU)	-0.5	1.8	5.1	35.6	-0.1	02

6 -0.1 cleaned optics

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor slight
Color clear

Rate of Purge 400 **milliliters / minute**

Comments: Approx 2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/21/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: C026-PZM032 Tag: No

Date of Purging: 6/21/04 Start Time: 1111 Finish Time: _____ Weather: 75 sun
Date of Collection: 6/21/04 Time of Collection: 1140

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	No
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	pvc
Depth of Water from Top of Casing (0.01 ft.) prior to purging	14.46
Depth of Bottom from Top of Casing (0.01 ft.)	47.07 after sampling
Depth of Water in the Well (gallon)	—
Volume of water in the Well (gallon)	—
Depth of Water from Top of Casing (0.01 ft.) after purging	—
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	15.02
Sample Depth from Top of Casing	42 Ft

Number of minutes purged	0	3	6	9	12	15	18	Sample Reading 21
Temperature (°C)	21.2	20.0	19.8	19.8	19.6	19.6	19.6	19.5
pH	8.26	8.44	8.44	8.43	8.42	8.40	8.41	8.42
Specific Conductance (umhos/cm)	13700	14060	14120	14150	14150	14130	14140	14150
Dissolved Oxygen (mg/l)	2.52	2.08	1.80	1.53	1.37	1.25	1.10	1.02
Oxidation Reduction (eH)	-108.8	-157.7	-166.0	-155.9	-158.0	-175.5	-174.0	-181.0
Turbidity (NTU)	11.4	14.4	16.4	12.6	8.6	7.3	5.0	4.8

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear

Rate of Purge 150 milliliters / minute

Comments: Approx 1 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/21/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CO35-PZM-013 Tag: NO

Date of Purging: 6/21/04 Start Time: 1228 Finish Time: _____ Weather: 75-80 sun
Date of Collection: 6/21/04 Time of Collection: 1250

Well Status:

Good	_____	Grout	_____
Good	✓	Casing	_____
Good	_____	Lock	NO
Good	_____	Obstructions	_____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	10.20
Depth of Bottom from Top of Casing (0.01 ft.)	24.45 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	10.26
Sample Depth from Top of Casing	20 ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18
Temperature (°C)	18.7	17.4	17.3	17.3	17.2	17.2	17.1
pH	11.95	11.99	11.99	11.99	12.00	12.00	12.01
Specific Conductance (umhos/cm)	2254	2258	2250	2243	2240	2243	2241
Dissolved Oxygen (mg/l)	1.65	0.78	0.53	0.49	0.41	0.40	0.36
Oxidation Reduction (eH)	-204.7	-218.3	-224.8	-226.8	-228.8	-230.2	-231.8
Turbidity (NTU)	1.2	0.5	6.2	0.3	1.2	0.6	1.2

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color clear

Rate of Purge 400 **milliliters / minute**

Comments: Approx 2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/21/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well I.D.: ~~C-035-PZM-056~~ Tag: N-2

Date of Purging: 6/21/04 Start Time: 1331 Finish Time: _____ Weather: 75-80 pT SUN

Date of Collection: 6/21/04 Time of Collection: _____

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	No Lock
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	10.11
Depth of Bottom from Top of Casing (0.01 ft.)	after Sampling
Depth of Water in the Well (gallon)	—
Volume of water in the Well (gallon)	—
Depth of Water from Top of Casing (0.01 ft.) after purging	—
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	
Sample Depth from Top of Casing	63 ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18	21	24
Temperature (°C)	18.0	18.6	18.6	18.7	18.7	18.9	18.9	19.1	19.8
pH	9.68	9.90	10.00	10.16	10.15	10.08	10.16	10.20	10.22
Specific Conductance (umhos/cm)	2952	3234	3177	3133	3037	3010	3410	3649	3883
Dissolved Oxygen (mg/l)	2.20	1.72	1.72	1.64	1.26	0.75	0.32	0.16	0.08
Oxidation Reduction (eH)	-90.1	-111.2	-119.1	-128.3	-137.3	-147.2	-159.1	-162.9	-163.9
Turbidity (NTU)	53.7	117.3	135.1	1321.7	1053.4	265.0	237.6	1448.5	1452.8

	27	30	33	36	39	42	45
	18.9	18.3	18.3	18.4	19.0	18.8	
	10.31	10.47	10.66	10.60	10.46	10.43	
	4056	4345	4621	4236	4750	5185	
	0.07	0.06	0.06	0.06	0.30	1.25	
	-184.3	-198.1	-214.9	-225.7	-186.0	-165.1	
	1447.1	1444.9	1444.9	338.6	1448	1447	

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color _____

Rate of Purge 100-125 milliliters / minute

Comments: Approx 5 gal purge water CONTINUE ON NEXT SHEET

Reference SOP Field-014

Readings were performed on date of sampling 6/21/04 (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: C035-PZM-056 Tag: M3

Date of Purging: 6/21/04 Start Time: 1331 Finish Time: _____ Weather: 75-80 pt sun
Date of Collection: 6/21/04 Time of Collection: 1520

Well Status: * CONTINUED FROM PREVIOUS SHEET

Good		Grout	
Good		Casing	
Good		Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	pvc
Depth of Water from Top of Casing (0.01 ft.) prior to purging	10.11
Depth of Bottom from Top of Casing (0.01 ft.)	68.15 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	13.60
Sample Depth from Top of Casing	63 Ft

* CLEANED flow through cell & Continued on this sheet

	510	543	578	609	63 N2	Sample Reading 66	70	73	76
Number of minutes purged									
Temperature (°C)	18.9	18.6	18.5	18.2	18.2	18.2	18.4	18.4	18.3
pH	10.45	10.38	10.29	10.18	10.07	9.93	9.83	9.68	9.61
Specific Conductance (umhos/cm)	7590	7425	7297	7169	7060	6892	6778	6732	6224
Dissolved Oxygen (mg/l)	3.65	3.28	1.24	0.70	0.52	0.43	0.41	0.39	0.42
Oxidation Reduction (eH)	-144.0	-147.0	-151.1	-159.6	-161.3	-160.4	-158.9	-156.5	-155.8
Turbidity (NTU)	185.7	107.3	105.6	301.0	265.2	199.4	196.3	348.6	211.9

	87	05	88	91	94
	18.3	18.3	18.3	18.3	18.3
	9.49	9.47	9.43	9.39	9.37
	5882	5945	6155	6280	6373
	0.75	0.66	0.46	0.38	0.34
	-144.1	-154.9	-161.2	-167.0	-177.0
	93.7	91.6	68.8	56.1	1084.0

	97	100
	18.2	18.1
	9.54	9.30
	6731	7480
	0.30	0.26
	-189.4	-209.0
	1444.3	404.1

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation Cleaned out cell
Odor _____
Color light gray again & cloudy continued

Rate of Purge 100-125 milliliters / minute

Comments: Approx 5 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/21/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: Russ Becker
Telephone: 410-388-6623

Site - Sparrows Point
Technician: JD
Fax: (410) 388-5263
Cooler # _____

Due Date: 21 Working Days
Groundwater Samples

Temperature Blank: _____ °C

Date Samples Collected: 6/21/04

Sample ID	Time Collected	# of Containers	VOC (8260B)	Semi-VOC (8270C)	Total Metals (6010B/7000)	Dis. Metals (6010B/7000)	Total Cyanide (9010A/9012A)	Available Cyanide OIA-1677	Total Sulfide (9030F/9034)	Alkalinity SM 2320	Chloride (9251/9056)	Ferrous Iron (6010B)	Nitrate (9056A)	Total Iron (6010B)	Methane (RSK-175)	Comments
C010-PZM029	0855	9	X	X	X	X	X	X	X							
FIELD-01	0925	3	X		X											
C026-PZM007	1015	9	X	X	X	X	X	X	X							
C026-DUP007	1015	9	X	X	X	X	X	X	X	(50)						
C026-PZM032	1140	9	X	X	X	X	X	X	X							
C035-PZM013	1250	9	X	X	X	X	X	X	X							
C035-PZM056	1520	9	X	X	X	X	X	X	X							
TRIP BLANK04	0645	2	X													

Relinquished By (signature)/Date & Time:

Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol. ISG.060704

JUN/21/2004/MON 04:29 PM

C032

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: TSO6-PZM004 Tag: NO

Date of Purging: 6/18/04 Start Time: 0845 Finish Time: _____ Weather: 75-80 pt sun
Date of Collection: 6/18/04 Time of Collection: 0920

Well Status:

Good		Grout	Cracked
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.71
Depth of Bottom from Top of Casing (0.01 ft.)	17.74 after sampling
Depth of Water in the Well (gallon)	—
Volume of water in the Well (gallon)	—
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	14.30
Sample Depth from Top of Casing	15-16 FT

						Sample Reading			
Number of minutes purged	0	3	6	9	12	15	18	21	24
Temperature (°C)	19.4	18.4	18.2	18.7	18.2	18.1	18.2	18.1	18.6
pH	12.19	12.18	12.19	12.18	12.17	12.13	12.07	12.05	12.03
Specific Conductance (umhos/cm)	2531	2489	2398	2340	2348	2334	2312	2309	2317
Dissolved Oxygen (mg/l)	4.23	3.79	3.66	3.64	3.44	2.89	2.47	2.36	2.27
Oxidation Reduction (eH)	9.0	-12.4	-19.4	-25.3	-70.0	-110.9	-130.4	-136.6	-141.1
Turbidity (NTU)	3.9	0.8	-0.8	-1.2	-1.4	-0.6	-0.5	-1.0	-1.0

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color Clear

Rate of Purge 100 **milliliters / minute**

Comments: Approx 3/4-1 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/18/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: C032 - PZM 041 Tag: NO

Date of Purging: 6/18/04 Start Time: 1043 Finish Time: ____ Weather: 80 pt sun
Date of Collection: 6/18/04 Time of Collection: 1105

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	13.01
Depth of Bottom from Top of Casing (0.01 ft.)	54.75 after sampling
Depth of Water in the Well (gallon)	—
Volume of water in the Well (gallon)	—
Depth of Water from Top of Casing (0.01 ft.) after purging.	—
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	13.80
Sample Depth from Top of Casing	49 FT.

Number of minutes purged	0	3	6	9	12	Sample Reading 15
Temperature (°C)	22.0	19.3	19.1	18.9	18.9	18.8
pH	6.83	6.36	6.24	6.18	6.15	6.13
Specific Conductance (umhos/cm)	5948	7862	8082	8159	8173	8171
Dissolved Oxygen (mg/l)	5.24	2.36	2.00	2.55 19	2.13	2.22
Oxidation Reduction (eH)	-75.7	-80.6	-78.0	-75.5	-73.7	-74.7
Turbidity (NTU)	5.5	9.0	6.3	6.6	10.2	15.1

Purging Equipment
Peristaltic Pump ✓
Bladder Pump ____

Well Observation
Odor no
Color clear

Rate of Purge 200 **milliliters / minute**

Comments: Approx 1 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/18/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG
Site: Sparrows Point, MD
Well I.D.: CO10-PZM006
Tag: NO
Weather: 85 PT SUN

Date of Purging: 6/18/04 Start Time: 1201 Finish Time: ____
Date of Collection: 6/18/04 Time of Collection: 1225

Well Status:

Good ____
Good ✓
Good ____
Good ____

Grout cracked
Casing ____
Lock FLUSH NO LOCK
Obstructions ____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	10.07
Depth of Bottom from Top of Casing (0.01 ft.)	17.55 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	10.07
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	13.5 ft
Sample Depth from Top of Casing	

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18
Temperature (°C)	19.3	16.8	16.9	16.7	16.6	16.7	16.8
pH	10.62	10.69	10.70	10.71	10.72	10.73	10.73
Specific Conductance (umhos/cm)	1607	1566	1565	1565	1565	1565	1560
Dissolved Oxygen (mg/l)	2.73	0.74	0.51	0.43	0.35	0.31	0.28
Oxidation Reduction (eH)	-82.4	-74.8	-71.2	-64.9	-54.7	-50.6	-48.5
Turbidity (NTU)	0.7	-1.8	-1.6	-0.1	~1.3	1.2	-0.8

Purging Equipment
Peristaltic Pump ✓
Bladder Pump ____

Well Observation
Odor no
Color clear

Rate of Purge 400 **milliliters / minute**

Comments: Approx 2 gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/18/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: C010 -PZM 096 Tag: NO

Date of Purging: 6/18/04 Start Time: 1310 Finish Time: _____ Weather: 85-90 pD Sun
Date of Collection: 6/18/04 Time of Collection: 1325

Well Status:

Good		Grout	Cracked
Good	✓	Casing	
Good		Lock	FLUSH NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	pvc
Depth of Water from Top of Casing (0.01 ft.) prior to purging	11.25
Depth of Bottom from Top of Casing (0.01 ft.)	~~12.55~~ 100.95 after sampling
Depth of Water in the Well (gallon)	—
Volume of water in the Well (gallon)	—
Depth of Water from Top of Casing (0.01 ft.) after purging	—
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.55
Sample Depth from Top of Casing	98 Ft.

	0	3	6	9	12	Sample Reading
Number of minutes purged						
Temperature (°C)	21.8	21.5	21.5	21.4		
pH	6.50	6.47	6.46	6.46		
Specific Conductance (umhos/cm)	2751	2760	2771	2796		
Dissolved Oxygen (mg/l)	1.36	1.30	1.29	1.21		
Oxidation Reduction (eH)	-72.2	-71.6	-71.3	-72.4		
Turbidity (NTU)	28.5	40.9	41.1	37.9		

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color clear ✓

Rate of Purge 100 **milliliters / minute**

Comments: Approx 1 gal purge water / Purged 1/2 gal through Flow Cell before taking readings
Reference SOP Field-014
Readings were performed on date of sampling 6/18/04. (Tech – J. Duszynski)

Microbac Laboratories, Inc.

Work Order Number: _____

ISG
Contact: **Russ Becker**
Telephone: 410-388-6623

Site – Sparrows Point
Technician: _____
Fax: (410) 388-5263
Cooler # _____

Due Date: 21 Working Days
Groundwater Samples

Temperature Blank. _____ °C

Date Samples Collected: 6/18/04

Sample ID	Time Collected	CONT. #	VOCs (8260B)	SVOCs (8270C)	Total Metals (6010B/7000 Series)	Dissolved Metals (6010B/7000 Series)	Total Cyanide (9012A)	Available Cyanide (OIA-1677)	Total Sulfide (9030B or OIA-1677)	Total Phenols (9065)	Chloride (325.3)	Sulfate (9038)	Fluoride (340.2)	Nitrate (353.2)	Total Kjeldahl Nitrogen (351.2)	Methane	Comments
C032																	
~~FSO6~~ - PZM 004	0920	9	X	X	X	X	X	X	X								
C032-EQB041	1015	8	X	X	X	X	X	X	X								EQUIP RINSATE BLANK
C032-PZM041	1105	9	X	X	X	X	X	X	X								
C010-PZM006	1225	9	X	X	X	X	X	X	X								
C010-PZM090	1325	9	X	X	X	X	X	X	X								
TRIP BLANK-03	0700	2	X														

Relinquished By (signature)/Date & Time:

Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol. ISG.060704

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: CO 33-PZM141 Tag: ND

Date of Purging: 6/17/04 Start Time: 1420 Finish Time: _____ Weather: 90 pt sun
Date of Collection: 6/17/04 Time of Collection: 1440

Well Status:

Good _____ Grout ND
Good _____ Casing metal casing broken only pvc
Good _____ Lock NO LOCK
Good _____ Obstructions _____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	15.37
Depth of Bottom from Top of Casing (0.01 ft.)	
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	15.49
Sample Depth from Top of Casing	150 ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15
Temperature (°C)	18.8	18.6	18.4	18.4	18.4	18.4
pH	6.90	6.81	6.77	6.75	6.74	6.73
Specific Conductance (umhos/cm)	2580	2929	3026	3037	3018	2994
Dissolved Oxygen (mg/l)	2.05	1.51	1.27	1.12	1.01	0.90
Oxidation Reduction (eH)	-142.4	-133.6	-130.4	-128.3	-126.7	-125.0
Turbidity (NTU)	16.7	25.6	21.4	36.4	29.7	16.6

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color clear to very light gray

Rate of Purge 250 **milliliters / minute**

Comments: Approx 1½ gal purge water

Reference SOP Field-014
Readings were performed on date of sampling 6/17/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well-I.D.: C-030-PZM-060 Tag: NO

Date of Purging: 6/17/04 Start Time: 1219 Finish Time: _____ Weather: 90 pt sun

Date of Collection: 6/17/04 Time of Collection: 1320

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	13.55
Depth of Bottom from Top of Casing (0.01 ft.)	73.21 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	13.70
Sample Depth from Top of Casing	66 ft

							Sample Reading			
Number of minutes purged	0	3	6	9	12	15	18	21	24	
Temperature (°C)	25.2	20.5	20.2	20.2	20.0	19.9	19.9	19.8	19.7	
pH	9.03	7.92	7.78	7.71	7.69	7.67	7.67	7.68	7.69	
Specific Conductance (umhos/cm)	1820	7465	8055	8259	8300	8307	8285	8263	8265	
Dissolved Oxygen (mg/l)	-4.60	-1.00	-0.35	-0.15	0.14	0.28	0.29	0.75	dGZ	
Oxidation Reduction (eH)	-181.7	-188.4	-189.1	-192.0	-194.6	-197.1	-198.6	-202.5	-203.	
Turbidity (NTU)	35.7	60.1	34.9	19.9	18.3	16.9	10.9	9.6	7.5	

Purging Equipment

~~Peristaltic Pump~~ ✓

Bladder Pump _____

Well Observation

Odor _____

Color clear to light gray

Rate of Purge 200 milliliters / minute

	1254	1257	1300	1303	1306
D.O.	2.11 (1309)	1.48 (1312)	1.08 (1315)	0.88	0.75
D.O.	0.66	0.58	0.51		

~~Flow~~ Change D.O. membrane @ 1248

Comments: Approx 3.5 gal purge water

Reference SOP Field-014

Readings were performed on date of sampling 6/17/04. (Tech – J. Duszynski)

HQN:groundisg.doc,white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well I.D.: C030-PZM-015 Tag: ND

Date of Purging: 6/17/04 Start Time: 1119 Finish Time: _____ Weather: 85-90 pt Sun

Date of Collection: 6/17/04 Time of Collection: 1137

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	11.90
Depth of Bottom from Top of Casing (0.01 ft.)	27.51 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	11.92
Sample Depth from Top of Casing	22 ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15
Temperature (°C)	22.0	18.4	18.2	18.1	18.2	18.2
pH	12.07	12.16	12.17	12.17	12.17	12.17
Specific Conductance (umhos/cm)	2408	2465	2458	2456	2451	2445
Dissolved Oxygen (mg/l)	-1.36	0.48	0.27	0.29	0.26	0.22
Oxidation Reduction (eH)	-180.2	-202.2	-216.6	-225.3	-232.4	-234.1
Turbidity (NTU)	18.0	73.2	89.7	87.9	45.8	16.8

Purging Equipment

Peristaltic Pump ✓

Bladder Pump _____

Well Observation

Odor _____

Color clear

Rate of Purge 350 **milliliters / minute**

Comments: Approx 2 gal purge water

Reference SOP Field-014

Readings were performed on date of sampling 6/17/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well I.D.: C-029-PZM-05 Tag: NO

Date of Purging: 6/17/04 Start Time: 0959 Finish Time: _____ Weather: 80-85 cloudy

Date of Collection: 6/17/04 Time of Collection: 1015

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO Lock
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	13.11
Depth of Bottom from Top of Casing (0.01 ft.)	SOFT - 64.10 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	13.28
Sample Depth from Top of Casing	60. ft

Number of minutes purged	0	3	6	9	12	Sample Reading
Temperature (°C)	23.1	18.5	18.4	18.3	18.3	
pH	9.23	9.32	9.25	9.20	9.17	
Specific Conductance (umhos/cm)	1222	9650	10460	10740	10870	
Dissolved Oxygen (mg/l)	-0.38	1.35	1.35	1.40	1.26	
Oxidation Reduction (eH)	-153.5	-167.6	-160.0	-155.7	-153.4	
Turbidity (NTU)	7.1	4.1	7.9	7.7	5.8	

Purging Equipment

Peristaltic Pump ✓

Bladder Pump _____

Well Observation

Odor NO

Color clear

Rate of Purge 125 **milliliters / minute**

Comments: approx 3/4 gal purge water

Reference SOP Field-014

Readings were performed on date of sampling 6/17/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD

Well I.D.: CO29-PZMOIS Tag: NO

Date of Purging: 6/17/04 Start Time: 0848 Finish Time: _____ Weather: 80 cloudy

Date of Collection: 6/17/04 Time of Collection: 0908

Well Status:

Good	_____	Grout	chipped
Good	✓	Casing	
Good	_____	Lock	NO Lock
Good	_____	Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	pvc
Depth of Water from Top of Casing (0.01 ft.) prior to purging	14.46
Depth of Bottom from Top of Casing (0.01 ft.)	24.69 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	14.47
Sample Depth from Top of Casing	20 ft

Number of minutes purged	0	3	6	9	12	15	Sample Reading 18
Temperature (°C)	19.3	18.4	17.9	17.8	17.7	17.7	17.6
pH	12.25	12.23	12.26	12.28	12.30	12.31	12.33
Specific Conductance (umhos/cm)	3841	3841	3843	3845	3842	3841	3842
Dissolved Oxygen (mg/l)	-1.23	-1.22	-167.2	-177.7	-185.1	-191.7	-195.3
Oxidation Reduction (eH)	-132.4	-144.1	0.52	-0.12	0.05	-0.03	-0.11
Turbidity (NTU)	4.2	6.4	2.6	8.8	5.2	4.8	6.3

Purging Equipment

Peristaltic Pump ✓

Bladder Pump _____

Well Observation

Odor _____

Color clear

Rate of Purge 250 milliliters / minute

Comments: Approx 1½ gal purge water

Reference SOP Field-014

Readings were performed on date of sampling 6/17/04 (Tech – J. Duszynski)

Microbac Laboratories, Inc.

Work Order Number: _____ Due Date: _____

ISG Site – Coke Oven Technician: SD Groundwater Samples

Contact: Mike Vogler Fax

Telephone: 410-388-6622 Temperature Blank: _____ °C

Cooler # _____

ANALYSIS	METHODS	CONTAINER(S)	# CONT.	1 LITER AMB	1 LITER AMB	250 mL PLAS	500 mL PLAS	1 LITER PLAS	40 mL VOA
Volatile Organics	8260 B	2 VOA'S	HCl to pH<2, Cool 4°C						X
Semi-volatile Organics	8270 C	2 AMB LTR	NEAT	X	X	X	X	X	
Total Metals	6010B/7000	1 PLAS PT	HNO3 to pH<2	X	X	X	X	X	
Dissolved Metals	6010B / 6020 / 7470 A	1 PLAS PT	HNO3 to pH<2 *Filtered in field*	X	X	X	X	X	
Total Cyanide	9010A / 9012A	1 PLAS PT	Ascorbic Acid / NaOH to pH>12, Cool 4°C	X	X	X	X	X	
Available Cyanide	OIA-1677	1 AMB LTR 1 AMB LTR	W/Pb Carb *Filtered in field* W/Ascorbic Acid / NaOH to pH>12, Cool 4°C	X	X	X	X	X	
Total Sulfide	9030 B / 9034	1 PLAS PT	Zn Acetate /NaOH	X	X	X	X	X	
Alkalinity	310.1	1 PLAS PT	Cool 4° C (No Headspace)						
Chloride, Sulfate	325.3, 9038	1 PLAS PT	Cool 4° C						
Ferrous Iron	6010 B	1 AMB L	Cool 4° C						
Nitrate	353.2	1 PLAS PT	H_2SO_4 to pH<2, Cool 4°C						
Total Iron	6010 B	As above							
Methane		2 VOC'S	NEAT						

Relinquished By (signature)/Date & Time: Received By (signature) / Date & Time:

Notes:

1. Follow standard Quality Control Protocol.

ISG.060704

JUN/17/2004/THU 03:48 PM P. 007

URS

Facsimile

Date: 6/16/04 Page 1 of: 5

To: Jim Anderson From: Bert Buell

Firm: URS cc:

Facsimile: 216-622-2464

Subject: Field Records

Message: Accompanying are:

- Gascoyne GW monitoring Reports for 6/16.
- Gascoyne COCs for 6/16.

I will send out an email this evening to Mike Arbaugh addressing some of the concerns we discussed regarding the COCs. I discussed them w/ the Gascoyne Field Tech today.

Give me a call if you want to discuss. (240-731-4084)

Bert.

URS Corporation
200 Orchard Ridge Drive, Suite 101
Gaithersburg, MD 20878
Tel. 301-258-9780
Fax 301-869-8728
www.urscorp.com

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Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: C028 - PZM010 Tag: No

Date of Purging: 6/16/04 Start Time: 1014 Finish Time: _____ Weather: 75 cloudy
Date of Collection: 6/16/04 Time of Collection: 1112

Well Status:

Good		Grout	chipped
Good	✓	Casing	
Good		Lock	No Lock
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	11.63
Depth of Bottom from Top of Casing (0.01 ft.)	22.10 after sampling
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	11.70
Sample Depth from Top of Casing	17 ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15	18	21	24
Temperature (°C)	21.2	19.1	18.9	19.0	19.0	18.9	19.0	18.9	18.9
pH	8.94	9.31	9.31	9.28	9.31	9.29	9.29	9.29	9.29
Specific Conductance (umhos/cm)	1451	1130	889	815	795	776	774	773	777
Dissolved Oxygen (mg/l)	3.39	1.63	1.49	1.22	1.10	0.97	0.86	0.79	0.73
Oxidation Reduction (eH)	-142.1	-153.9	-122.2	-104.4	-106.2	-117.7	-130.5	-137.4	-145.6
Turbidity (NTU)	29.4	33.1	14.4	10.5	5.2	1.5	0.6	0.2	0.3

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor _____
Color Clear

Rate of Purge 200 **milliliters / minute**

Comments: _____

Reference SOP Field-014
Readings were performed on date of sampling 6/16/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: C028 PZM 025 Tag: NO

Date of Purging: 6/16/04 Start Time: 1315 Finish Time: _____ Weather: 85°F cloudy
Date of Collection: 6/16/04 Time of Collection: 1335

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	NO LOCK
Good		Obstructions	

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	14.25
Depth of Bottom from Top of Casing (0.01 ft.)	137.75 after sampling
Depth of Water in the Well (gallon)	~
Volume of water in the Well (gallon)	~
Depth of Water from Top of Casing (0.01 ft.) after purging	~
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	1460
Sample Depth from Top of Casing	130 ft

	0	3	6	9	12	Sample Reading 15
Number of minutes purged						
Temperature (°C)	21.0	20.0	20.2	20.2	20.1	20.1
pH	8.61	9.15	9.66	9.74	9.67	9.65
Specific Conductance (umhos/cm)	307	398	451	444	433	428
Dissolved Oxygen (mg/l)	3.54	2.06	1.64	1.45	1.38	1.29
Oxidation Reduction (eH)	-286.4	-257.4	-255.4	-251.5	-244.2	-234.5
Turbidity (NTU)	1333.0	45.2	46.4	22.3	21.1	25.6
cleaned optics →	16.0					

Purging Equipment
Peristaltic Pump ✓
Bladder Pump

Well Observation
Odor
Color Started clear then turned muddy in middle of sampling

Rate of Purge 150 **milliliters / minute**

Comments:

Reference SOP Field-014
Readings were performed on date of sampling 6/16/04. (Tech – J. Duszynski)

Report #_____

Microbac Laboratories, Inc.
Groundwater Monitoring Report

Client: ISG Site: Sparrows Point, MD
Well I.D.: C028 PZM048 Tag: NO

Date of Purging: 6/16/04 Start Time: 1201 Finish Time: _____ Weather: 85 cloudy
Date of Collection: 6/16/04 Time of Collection: 1220

Well Status:

Good _____ Grout chipped
Good ✓ Casing _____
Good _____ Lock NO Lock
Good _____ Obstructions _____

Diameter of Well Casing (inches)	2
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.32
Depth of Bottom from Top of Casing (0.01 ft.)	60.99 after sampling
Depth of Water in the Well (gallon)	—
Volume of water in the Well (gallon)	—
Depth of Water from Top of Casing (0.01 ft.) after purging	—
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.65
Sample Depth from Top of Casing	55 ft

Number of minutes purged	0	3	6	9	12	Sample Reading 15
Temperature (°C)	22.3	20.2	20.1	20.2	20.3	20.2
pH	8.99	10.58	10.83	10.90	10.90	10.89
Specific Conductance (umhos/cm)	1678	2460	2619	2677	2703	2710
Dissolved Oxygen (mg/l)	3.23	2.08	1.64	1.39	1.28	1.14
Oxidation Reduction (eH)	-197.5	-214.6	-220.3	-223.3	-221.4	-222.0
Turbidity (NTU)	17.6	10.8	9.6	9.8	9.1	8.2

Purging Equipment
Peristaltic Pump ✓
Bladder Pump _____

Well Observation
Odor Yes
Color Clear

Rate of Purge 200 **milliliters / minute**

Comments: _____

Reference SOP Field-014
Readings were performed on date of sampling 6/16/04. (Tech – J. Duszynski)

HQN:groundisg.doc.white

Microbac Laboratories, Inc.

Work Order Number: _____

ISG Site –Coke Oven
Contact: Mike Vogler
Telephone: 410-388-6622 Fax:
Cooler # _____
Site Contact: Telephone:

Technician: JD Groundwater Samples

Temperature Blank. _____ °C

Due Date: _____

6/16/04

ANALYSIS	*METHODS*	*CONTAINER TYPE*	# CONTAINERS	COIP MS 8260	COIP MS 8270	COIP MS 8260 SIM	COIP MS 8270 SIM	COIP MS 8260 SIM	COIP MS 8270 SIM													
Volatile Organics	8260 B	2 VOA'S HCl to pH<2, Cool 4°C	2	X	X	X	OK	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Semi-volatile Organics	8270 C	2 AMB LTR NEAT	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Total Metals	6010B/7000	1 PLAS PT HNO3 to pH<2	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Dissolved Metals	6010B / 6020 / 7470 A	1 PLAS PT HNO3 to pH<2	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Total Cyanide	9010A / 9012A	1 PLAS PT Ascorbic Acid / NaOH to pH>12, Cool 4°C	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Available Cyanide	OIA-1677 Glass L Naoh/Asc acid	~~1 PLAS PT Ascorbic Acid / NaOH to pH>12, Cool 4°C~~	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Total Sulfide	9030 B / 9934	1 PLAS PT ~~NEAT~~ NaOH/ Zn acetate	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Relinquished By (signature)/Date & Time:	Received By (signature)/Date & Time

Notes:

1. Follow standard Quality Control Protocol.
2. All Wells analyzed for **FULL COPI LIST.**

ISG.060704

Sample Times

CO28-PZM010	1112
CO28-PZM028	1220
CO28-PZM125	1335
Trip Blank-01	0815

Gascoyne Laboratories, Inc.

YOUR ON-TIME QUALITY LAB.

Field Sampling Summary Report

Work Order No: 0211084 Page 1 of 1

Client: Bethlehem Steel Corporation

Monitoring wells were purged and sampled by Gascoyne Laboratories, Inc. personnel:

Collection date(s): November 04 & 05, 2002

Facility: Bethlehem Steel Corporation

City: Sparrows Point, Maryland

Comments/Observation:

Nine (9) wells were purged and sampled as requested by SAIC. Low flow technique was utilized for purging and sampling of the designated wells. See the attached Groundwater Monitoring Reports for well specifics.

Site locations designated by: Todd Eaby of SAIC

Gascoyne Laboratories Inc. sampler: Craig Mosier (1306 CM)

Notes:

1. All samples preserved (when applicable) on site, placed in appropriate containers, and transported to the laboratory by Gascoyne Laboratories, Inc. personnel.

2. Metals were filtered in the field utilizing a 0.45-micron disposable filter.

Michael Arbaugh Sr. Date

Field Operations Manager

Report # 03165

Gascoyne Laboratories, Inc.
Groundwater Monitoring Report

Client: Bethlehem Steel
Well I.D.: 6"GS #2M 025

Site: Bethlehem Steel
Tag:

Date of Purging: 11/5/02 Start Time: 1240 Finish Time: 1314 Weather: 50° cldy
Date of Collection: 11/5/02 Time of Collection: 1313

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	10.62
Depth of Bottom from Top of Casing (0.01 ft.)	11C
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	10.85

				Sample Reading	
Number of minutes purged	0	5	10		
Temperature (°C)	15.6	16.7	16.5	16.8	
pH	6.6	6.4	6.3	6.3	
Specific Conductance (umhos/cm)	989	930	1017	1026	
Dissolved Oxygen (mg/l)	3.85	3.14	2.98	2.95	
Oxidation Reduction (eH)	154.4	156.5	157.8	158.1	
Turbidity (NTU)	-	-	-	-	

Purging Equipment
Peristaltic Pump ✓
Submersible Pump

Well Observation
Odor
Color

Rate of Purge 50-75 **milliliters / minute**

Comments:

Reference SOP Field-014-02
Readings were performed on date of sampling 11 / 5 / 02. (Tech – C. Mosier)

Report # [illegible]

Gascoyne Laboratories, Inc.
Groundwater Monitoring Report

Client: Bethlehem Steel
Well I.D.: [illegible]
Site: Bethlehem Steel
Tag: _____

Date of Purging: 11/5/02 Start Time: 1130 Finish Time: 1214 Weather: 52° cloudy
Date of Collection: 11/5/02 Time of Collection: 1205

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	10.83
Depth of Bottom from Top of Casing (0.01 ft.)	1.02
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	12.01

				Sample Reading	
Number of minutes purged	0	35	40		
Temperature (°C)	17.6	17.4	17.4	17.6	
pH	7.8	7.7	7.2	9.2	
Specific Conductance (umhos/cm)	653	611	583	580	
Dissolved Oxygen (mg/l)	4.75	3.15	3.20	3.07	
Oxidation Reduction (eH)	35.8	35.6	34.0	34.5	
Turbidity (NTU)	—	—	—	—	

Purging Equipment
Peristaltic Pump ✓
Submersible Pump

Well Observation
Odor
Color

Rate of Purge 50.75 **milliliters / minute**

Comments: _____

Reference SOP Field-014-02
Readings were performed on date of sampling 11 / 5 / 02. (Tech – C. Mosier)

HQN:groundbsc.doc.white

Report # 121184

Gascoyne Laboratories, Inc.
Groundwater Monitoring Report

Client: Bethlehem Steel
Well I.D.: Sur 7 Perm 113

Site: Bethlehem Steel
Tag: _____

Date of Purging: 11/5/02 Start Time: 0945 Finish Time: 0954 Weather: 50° Sun
Date of Collection: 11/5/02 Time of Collection: 0955

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	15.22
Depth of Bottom from Top of Casing (0.01 ft.)	123
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	15.61

				Sample Reading	
Number of minutes purged	0	35	40		
Temperature (°C)	12.4	12.6	12.7	12.7	
pH	7.5	7.1	7.0	7.0	
Specific Conductance (umhos/cm)	12680	12700	12950	12960	
Dissolved Oxygen (mg/l)	4.91	4.65	3.74	3.75	
Oxidation Reduction (eH)	416.4	412.7	407.8	405.0	
Turbidity (NTU)					

Purging Equipment
Peristaltic Pump ✓
Submersible Pump

Well Observation
Odor
Color

Rate of Purge 150 **milliliters / minute**

Comments: _____

Reference SOP Field-014-02
Readings were performed on date of sampling 11/4/02. (Tech – C. Mosier)

HQN:groundbsc.doc.white

Report # 091134

Gascoyne Laboratories, Inc.
Groundwater Monitoring Report

Client: Bethlehem Steel
Well I.D.: SLAG PZW 114

Site: Bethlehem Steel
Tag:

Date of Purging: 11/5/02 Start Time: 1020 Finish Time: 1057 Weather: Sun 30s
Date of Collection: 11/5/02 Time of Collection: 1100

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	12.98
Depth of Bottom from Top of Casing (0.01 ft.)	125
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	14.01

				Sample Reading	
Number of minutes purged	0	35	510		
Temperature (°C)	17.5	17.6	17.5	17.5	
pH	12.5	12.5	12.5	12.5	
Specific Conductance (umhos/cm)	9350	9250	9320	9320	
Dissolved Oxygen (mg/l)	4.78	3.96	3.90	3.89	
Oxidation Reduction (eH)	346.5	256.2	226.5	226.1	
Turbidity (NTU)	—	—	—	—	

Purging Equipment
Peristaltic Pump ✓
Submersible Pump

Well Observation
Odor
Color Colorless

Rate of Purge 50 **milliliters / minute**

Comments: Sand

Reference SOP Field-014-02

Readings were performed on date of sampling 11/5/02. (Tech – C. Mosier)

HQN:groundbsc.doc.white

Report # [illegible]

Gascoyne Laboratories, Inc.
Groundwater Monitoring Report

Client: Bethlehem Steel — Site: Bethlehem Steel
Well I.D.: HIBS Pum 108 — Tag: _____

Date of Purging: 11/4/02 Start Time: 1460 Finish Time: 1459 Weather: 50° Sunny
Date of Collection: 11/4/02 Time of Collection: 1500

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	5"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	6.58
Depth of Bottom from Top of Casing (0.01 ft.)	110
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	6.62

				Sample Reading	
Number of minutes purged	0	3	6.10		
Temperature (°C)	15.4	15.4	15.2	15.5	
pH	6.0	5.9	5.8	5.8	
Specific Conductance (umhos/cm)	10750	10790	10520	10320	
Dissolved Oxygen (mg/l)	0.25	0.55	0.54	0.55	
Oxidation Reduction (eH)	532.1	544.2	576.6	577.3	
Turbidity (NTU)	—	—	—	—	

Purging Equipment
Peristaltic Pump ✓
Submersible Pump

Well Observation
Odor
Color Clear (SL)

Rate of Purge 100 **milliliters / minute**

Comments: _____

Reference SOP Field-014-02
Readings were performed on date of sampling 11/4/02. (Tech – C. Mosier)

Report # C-11644

Gascoyne Laboratories, Inc.
Groundwater Monitoring Report

Client: Bethlehem Steel
Well I.D.: South Front 699

Site: Bethlehem Steel
Tag:

Date of Purging: 11/4/02 Start Time: 1306 Finish Time: 1339 Weather: 50°F cldy
Date of Collection: 11/4/02 Time of Collection: 1340

Well Status:

Good ✓
Good ✓
Good ✓
Good

Grout
Casing
Lock
Obstructions

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	15.89
Depth of Bottom from Top of Casing (0.01 ft.)	110
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	15.99

Number of minutes purged	0	3.5	10	Sample Reading	
Temperature (°C)	17.9	15.1	15.2	15.2	
pH	7.0	6.7	6.7	6.9	
Specific Conductance (umhos/cm)	258	268	264	265	
Dissolved Oxygen (mg/l)	2.96	2.28	2.03	2.00	
Oxidation Reduction (eH)	505.3	525.0	412.3	401.5	
Turbidity (NTU)	-	-	-	-	

Purging Equipment
Peristaltic Pump ✓
Submersible Pump

Well Observation
Odor
Color clear

Rate of Purge 150 **milliliters / minute**

Comments:

Reference SOP Field-014-02
Readings were performed on date of sampling 11 / 4 / 02. (Tech – C. Mosier)

Report # 021105-1

Gascoyne Laboratories, Inc.
Groundwater Monitoring Report

Client: Bethlehem Steel
Well I.D.: SW13 PZ III

Site: Bethlehem Steel
Tag:

Date of Purging: 11/4/02 Start Time: 1200 Finish Time: 1234 Weather: 50°F cloudy
Date of Collection: 11/4/02 Time of Collection: 1235

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	2"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	15.27
Depth of Bottom from Top of Casing (0.01 ft.)	12.5
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	15.35

				Sample Reading	
Number of minutes purged	0	35	70		
Temperature (°C)	15.8	16.2	16.3	16.3	
pH	8.9	9.0	9.2	9.2	
Specific Conductance (umhos/cm)	408	345	313	287	
Dissolved Oxygen (mg/l)	5.72	5.68	<0.6	5.55	
Oxidation Reduction (eH)	535	557.2	533 ?	528.1	
Turbidity (NTU)					

Purging Equipment
Peristaltic Pump ✓
Submersible Pump

Well Observation
Odor
Color clear-ish

Rate of Purge 125 **milliliters / minute**

Comments: Dark in color

Reference SOP Field-014-02
Readings were performed on date of sampling 11 / 4 / 02. (Tech – C. Mosier)

HQN:groundbsc.doc.white

Report # 03104

Gascoyne Laboratories, Inc.
Groundwater Monitoring Report

Client: Bethlehem Steel Site: Bethlehem Steel
Well I.D.: TW1 05 12M 069 Tag: _____

Date of Purging: 11/4/02 Start Time: 1030 Finish Time: 1114 Weather: 50's cloudy
Date of Collection: 11/4/02 Time of Collection: 1115

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good		Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	1.5"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	15.45
Depth of Bottom from Top of Casing (0.01 ft.)	79.5
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	15.90

				Sample Reading	
Number of minutes purged	0	35	40		
Temperature (°C)	15.7	15.0	15.5	15.8	
pH	6.3	6.3	6.3	6.3	
Specific Conductance (umhos/cm)	3710	3732	3740	3740	
Dissolved Oxygen (mg/l)	2.50	2.15	1.58	1.87	
Oxidation Reduction (eH)	517.6	522.1	491.9	480.5	
Turbidity (NTU)					

Purging Equipment
Peristaltic Pump ✓
Submersible Pump

Well Observation
Odor
Color clear

Rate of Purge 100 **milliliters / minute**

Comments: _____

Reference SOP Field-014-02
Readings were performed on date of sampling 11/4/02. (Tech – C. Mosier)

Report # 021604

Gascoyne Laboratories, Inc.
Groundwater Monitoring Report

Client: Bethlehem Steel
Well I.D.: TM15 FROM DES

Site: Bethlehem Steel
Tag: _____

Date of Purging: 11/4/02 Start Time: 0845 Finish Time. 0929 Weather: 45°F S.N
Date of Collection: 11/4/02 Time of Collection: 0930

Well Status:

Good	✓	Grout	
Good	✓	Casing	
Good	✓	Lock	
Good		Obstructions	

Diameter of Well Casing (inches)	.5"
Depth Measurements Performed (PVC/Metal)	PVC
Depth of Water from Top of Casing (0.01 ft.) prior to purging	11.90
Depth of Bottom from Top of Casing (0.01 ft.)	22.5
Depth of Water in the Well (gallon)	
Volume of water in the Well (gallon)	
Depth of Water from Top of Casing (0.01 ft.) after purging	
Depth of Water from Top of Casing (0.01 ft.) at time of sampling	13.29

				Sample Reading	
Number of minutes purged	0	35	410		
Temperature (°C)	15.1	15.6	15.6	15.6	
pH	6.1	6.2	6.3	6.3	
Specific Conductance (umhos/cm)	1116	1147	1135	1132	
Dissolved Oxygen (mg/l)	2.99	2.75	2.64	2.62	
Oxidation Reduction (eH)	542.6	580.7	565.7	564.4	
Turbidity (NTU)	-	-	-	-	

Purging Equipment
Peristaltic Pump ✓
Submersible Pump

Well Observation
Odor
Color

Rate of Purge 150 **milliliters / minute**

Comments: _____

Reference SOP Field-014-02
Readings were performed on date of sampling 11 / 4 / 02 (Tech – C. Mosier)

Science Applications International Corporation
An Employee-Owned Company

GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & TDE
Sampled by: CAH & TDE

Well Identification: HI08-RS-75
Project Location:
Date: 1/29/03
Date: 1/29/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1054									16'2"	BTOC 1.2gpm
1055	10.2	6.49	0.690	999	4.39		0.02			
1100	12.2	6.79	0.620	995	6.44		0.02		20'6"	0.33gpm
1108	10.0	6.73	3.29	999	0.49		.16			
1115	9.7	6.96	3.22	999	0.23		0.15		22'2"	
1121	9.8	6.77	2.82	999	0.10		0.13		22'2.5"	
1126	10.0	6.78	2.50	999	0.05		0.11			
1132	10.4	6.79	2.29	999	0.10		0.10			
1137	10.1	6.80	2.26	999	0.04		0.10			
1144	10.5	6.80	2.34	999	0.34		0.11			
1149	10.9	6.78	2.55	999	0.06		0.12			
1155	11.1	6.76	2.84	999	0.30		0.13			
1205	10.8	6.75	3.27	999	0.35		0.16			
1211	11.1	6.75	3.61	999	0.43		0.17			
1219	11.3	6.73	3.95	624	0.34		0.19			
1226	11.6	6.73	4.22	403	0.41		0.21			
1135	11.7	6.74	4.50	231	0.82		0.23			
1242	12.1	6.73	4.75	146	1.00		0.24			
1250	12.4	6.71	4.92	142	0.62		0.25			
1256	12.4	6.67	5.07	117	0.14		0.26			

PURGE INFORMATION:

Time/Date Started: 1054 | 1/29/03
Time Purge End:
Purge Rate(s): See above (gpm)
Purged Volume: (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? Bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1300 |
Sampled by: &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected:
Bottle Preservatives:
Duplicate Sampling?
Date Laboratory Received:
Results to be Sent to:
Sample: grab composite other
COC Form No.:
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

Science Applications International Corporation
An Employee-Owned Company

GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-000-1890-107
Purged by: TDE & CAH
Sampled by: TDE & CAH

Well Identification: HI08-RS-65
Project Location:
Date: 1/29/03
Date: 1/29/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh my	Sal	Purged Quantity	D.T.W.	Comments
0910	8.2	6.66	0.565	990	7.82		0.02		20'9"	fair 1gpm
0916	11.4	6.99	0.593	723	3.53		0.02			attached flow through
0921	12.3	7.00	0.629	447	1.31		0.02			
0926	12.8	6.95	0.677	490	2.13		0.02		21'6"	
0931	13.0	6.93	0.717	628	3.04		0.03			0.3 ppm
0936	13.4	6.88	0.817	441	1.44		0.03			0.0 ppm
0941	13.9	6.83	1.40	253	0.58		0.06			
0947	14.3	6.79	1.8	132	-0.22		0.08			
0952	14.6	6.77	2.14	56	-0.63		0.10			
0957	14.8	6.77	2.33	31	-0.69		0.11			
1002	14.9	6.76	2.51	25	-0.71		0.12			
1007	15.1	6.76	2.63	19	-0.70		0.12			
1012	15.1	6.77	2.74	18	-0.70		0.13			

PURGE INFORMATION:

Time/Date Started: 0910 | 1/29/03
Time Purge End: 1016
Purge Rate(s): 1gpm (gpm)
Purged Volume: 55 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake: 61-65
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1016 | 1/29/03
Sampled by: CAH & TDE
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/29/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN03-31
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

Science Applications International Corporation
An Employee-Owned Company

GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & TDE
Sampled by: CAH & TDE

Well Identification: HI08-RS-55
Project Location:
Date: 1/29/03
Date: 1/29/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0721									19'9"	BTOC + foil
0723									20'5"	1.2 gpm
0724	15.5	6.37	0.427	275	4.04		0.01		21'5.5"	
0729	15.6	6.63	0.485	750	2.32		0.02			
0734	15.6	6.66	0.700	202	2.31		0.02			0.0 ppm
0739	15.6	6.62	0.871	150	1.20		0.03			Attached flow through
0744	15.7	6.56	1.50	139	-0.55		0.04			
0749	15.9	6.53	1.76	152	-0.63		0.08			
0754	15.9	6.50	1.99	125	-0.64		0.09			
0759	15.8	6.48	2.24	95	-0.65		0.10			
0804	15.7	6.46	2.43	58	-0.64		0.11			
0809	15.9	6.45	2.54	55	-0.65		0.12			
0914	15.8	6.45	2.61	34	-0.66		0.12			
0919	15.9	6.45	2.65	36	-0.66		0.12			

PURGE INFORMATION:
Time/Date Started: 0722 | 1/29/03
Time Purge End:
Purge Rate(s): 1.2 (gpm)
Purged Volume: 75 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic
Depth(s) to Intake: 51-55
Water Containerized/Amount? yes
PID Scan of Wellhead? N/A
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:
Time/Date Started: 0821 | 1/29/03
Sampled by: CAH & _____
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed: 4
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/29/03
Results to be Sent to:
Sample: grab X composite _____ other _____
COC Form No.: JAN 03-30
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-000-1890-107
Purged by: CAH & TDE
Sampled by: CAH & TDE

Well Identification: HI08-RS-45
Project Location:
Date: 1/28/03
Date: 1/28/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1505									9'	BPOC DTW dropping
1506	9.0	6.31↑	0.423	936	11.77		0.01			1.3 gpm
1511	9.7	6.92	0.421	999	10.93		0.01		18'	
1516	9.8	7.11	0.418	999	10.61		0.01			
1521	12.0	6.58	0.504	999	1.70		0.02		21'9"	
1527	12.8	6.42	0.655	480	2.47		0.02		21'9"	0.0 ppm
1532	13.4	6.33	0.843	265	1.63		0.03			
1537	13.6	6.26	1.43	165	2.24		0.06			
1542	14.1	6.19	1.79	119	1.74		0.08			
1547	14.3	6.15	2.05	120	1.74		0.09			
1552	14.6	6.13	2.31	86	2.31		0.11			
1557	14.9	6.12	2.47	62	1.31		0.11			
1602	14.8	6.13	2.57	70	1.70		0.12			
1607	14.9	6.10	2.62	60	1.38		0.12			

PURGE INFORMATION:
Time/Date Started: 1505 | 1/28/03
Time Purge End:
Purge Rate(s): 1.3 (gpm)
Purged Volume: (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Grosonic)
Depth(s) to Intake: 41-45
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:
Time/Date Started: 1611 | 1/28/03
Sampled by: CAH & TDE
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/28/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN0-29
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & TDE
Sampled by: CAH & TDE

Well Identification: HIDB-RS-25
Project Location:
Date: 1/28/03
Date:

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1324	8.7	6.65	0.638	112	12.04		0.02		12' 3"	BTOC 1.3 gpm
1330	7.8	6.96	0.606	37	11.44		0.02		20'6"	
1335	8.8	7.03	0.604	57	10.14		0.02		24'	0.4 gpm
1338	10.2	7.35	0.721	999	4.83		0.03			
1343	11.3	7.67	0.877	999	2.20		0.03			0.0 ppm
1348	12.9	7.61	2.71	999	0.63		0.13			
1353	13.9	7.58	3.45	999	0.57		0.17			
1358	14.5	7.57	3.97	999	0.70		0.20		24'3"	
1405	14.5	7.57	4.20	999	1.09		0.21		24'4.5"	
1411	14.8	7.58	4.38	999	0.83		0.22			
1417	14.7	7.56	4.41	999	1.05		0.22			

PURGE INFORMATION:

Time/Date Started: 1324 | 1/28/03
Time Purge End:
Purge Rate(s): See above (gpm)
Purged Volume: (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14,14)
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake: 21-24
Water Containerized/Amount? Yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1420 |
Sampled by: &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/28/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN03-28
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) TS03-PZM DTW ≈ 12 bgs

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & _____
Sampled by: CAH & _____

Well Identification: TM09-PZM
Project Location: _____
Date: 1/10/03
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Total Purged Quantity	D.T.W.	Comments
1557									8.02	BPVC 0.94 gpm
1559	15.6	6.85	0.392	497	1.03		0.01			
1601				~~234~~ CAH					22.85	
1604	15.5	6.30	0.408	234	0.44		0.01	3.26 gal	28.85	0.33 gpm + dropp
1610										started trying 0.36 g
1612	15.8	6.32	0.416	162	0.55		0.01	4.5 gal	35.82	rate drop
1617	15.4	6.31	0.419	154	1.14		0.01		36.57	Pump stopped
1630	resumed	pumping	after	recovery	to	33'				PVC shavings = H2O
1632	15.6	6.27	0.412	999	0.47		0.01			Turbidity increase
1634								5.2 gal	36.24	
1635	pumping	stopped	again	at	~ 36.6'					
1644	Restarted	pump	to	collect	sample					

PURGE INFORMATION:

Time/Date Started: 1557 | 1/10/03
Time Purge End: 1617
Purge Rate(s): 0. pump dependent (gpm)
Purged Volume: ~7 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14592
Pump Type and ID: Typhoon
Depth(s) to Intake: 70'
Water Containerized/Amount? yes
PID Scan of Wellhead? no
How was yield measured? Bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1647 | 1/10/02 03
Sampled by: CAH & _____
Sample Method: n/s
Recovering Water Level Depth: 36.1'
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/11/03
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: JAN03-9
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) turbid sample

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & _____
Sampled by: CAH & _____

Well Identification: TM04-PZM-
Project Location: _____
Date: 1/11/03
Date: 1/11/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0942									13.12 b	PVC 0.33 gpm
0944	13.2	6.75	5.00	999	0.42		0.25		16.38	
0948										0.4 gpm
0952									19.50	"
0954	14.7	8.36	4.61	999	-0.30		0.23		19.64	Sheen
1001	15.2	8.66	5.07	999	-0.22		0.26		20.30	2.1 ppm sheen
1009	15.1 ~~15.0~~	8.63	5.27	999	-0.03		0.27		20.94	
1012				800						0.7 ppm no sheen
1021	15.2	7.98	5.46	~~999~~ 701	-0.27		0.28		~~21.24~~ 21.74	CAH
1030									~~21.94~~ 21.94	0.25 gpm
1037	—									0.43 gpm
1040	15.1	7.50	5.27	286	0.72		0.27		23.94	
1047										1.0 ppm
1053									17.56	

Purge →

PURGE INFORMATION:

Time/Date Started: 0942 | 1/11/03
Time Purge End: 1049
Purge Rate(s): See above (gpm)
Purged Volume: 20 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 (14592)
Pump Type and ID: 2" Grundfos (146622)
Depth(s) to Intake: 89'
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1049 | 1/11/~~02~~03
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: 23.8'
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/11/03
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: JAN03-9
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) sheen on water, very turbid, odor
Well recovering @ rate of ~ 0.58 gpm/min
Water still very turbid, silt + some fine sand visible.

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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633-00-1890-107
Purged by: MJL & _____
Sampled by: MJL & _____

Well Identification: GL20-P2M
Project Location: _____
Date: 12-19-02
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W. Top of Steel	Comments
1044									13.70	
1054									13.77	
1057									13.00	1 gpm
1100	17.1	10.46	0.603	847	0.03		0.02		13.00	
1105	17.6	10.67	0.619	183	0.04		0.02		13.00	
1110	17.7	10.74	0.648	71	0.04		0.02		13.01	
1115	17.6	10.79	0.660	37	0.04		0.02		13.01	

PURGE INFORMATION:

Time/Date Started: 1057 | 12-19-02
Time Purge End: 1125
Purge Rate(s): 1 gpm (gpm)
Purged Volume: 2l (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: 2" Grundfos #14664
Depth(s) to Intake: 1' from well bottom
Water Containerized/Amount? Yes
PID Scan of Wellhead? _____
How was yield measured? gallons/1 timed
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1125 | 12-19-02
Sampled by: MJL & _____
Sample Method: Pump
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? _____
Date Laboratory Received: 12/19/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC02-23
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Water is gray with slight sheen & hydrocarbon odor. Water clearing at 1105, still sheen & odor. Sheen gone at 1110, still odor.

PID headspace scan = 0.2 ppm

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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633-00-1890-107
Purged by: MJL & _____
Sampled by: MJL & _____

Well Identification: GL19-P2M
Project Location: _____
Date: 12/19/02
Date: 12/19/02

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W. Top of Steel	Comments
0902									18.17	
0908									18.17	0.6 ppm
0910	16.6	10.06	2.20	7	1.35		0.09		18.17	
0915	16.9	10.58	2.18	1	0.60		0.10		18.17	
0920	17.2	10.59	2.18	0	0.84		0.10		18.18	
0925	17.0	10.58	2.18	3	0.65		0.10		18.17	
0930	16.9	10.60	2.18	0	0.81		0.10		18.17	
0935	16.9	10.60	2.18	1	0.80		0.10		18.17	
0940	17.0	10.58	2.19	0	0.84		0.10		18.17	

PURGE INFORMATION:
Time/Date Started: 0902 | 12-19-02
Time Purge End: 0945
Purge Rate(s): 0.60 (gpm)
Purged Volume: 22.8 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: 2" Grundfos # 14654
Depth(s) to Intake: 1' from bottom
Water Containerized/Amount? less
PID Scan of Wellhead? _____
How was yield measured? gallon/time
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:
Time/Date Started: 0945 | 12-19-02
Sampled by: MJL & _____
Sample Method: Grab
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? _____
Date Laboratory Received: 12/19/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC02-23
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) PID scan of headspace 0.6 ppm

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-189-107
Purged by: TDE & CAH
Sampled by: TDE & CAH

Well Identification: 6L18-RS-45
Project Location:
Date: 1/27/03
Date:

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0921									17'	1.5 gpm
0923	10.0	6.48	0.624	999	10.99		0.02		20'	
0928	6.8	6.90	0.596	730	13.20		0.02			0.13 gpm
0935	1.4	6.94	0.605	520	15.21		0.02		21'1"	Alt hand flow thru
0940	5.9	6.98	0.572	111	12.92		0.02			0.0 ppm
0945	6.1	7.01	0.591	530	13.53		0.02			
0950	4.0	7.01	0.617	554	12.67		0.02		21'7½"	"
0955	5.7	7.01	0.585	784	11.60		0.02			
1000	5.8	6.87	0.597	119	9.71		0.02		22'1"	
1007	5.0	6.73	0.614	104	8.15		0.02			
1011										0.94 gpm
1012	12.1	6.73	0.617	709	7.97		0.02			
1017	12.4	6.75	0.606	432	10.46		0.02		26'	
1022	12.3	6.70	0.605	390	10.27		0.02			
1027	12.1	6.62	0.625	467	8.03		0.02		29'8"	0.8 gpm
1032	12.5	6.60	0.627	497	7.50		0.02		28'3½"	
1037	12.7	6.41	0.745	580	2.78		0.03			
1042	13.0	6.44	~~0.93~~ 7.57	999	0.13		0.08			
1047	13.1	6.46	2.09	994	0.72		0.09		28'1.5"	0.0 ppm
1052	13.4	6.46	2.18	999	0.75		0.10			
1057	13.4	6.44	2.26	995	0.76		0.10			

PURGE INFORMATION:

Time/Date Started: 0921 | 1/27/03
Time Purge End: 1101
Purge Rate(s): see above (gpm)
Purged Volume: 50 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super whaler / Prosonic
Depth(s) to Intake: 42-45
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES NO ✓
Other:

SAMPLING INFORMATION:

Time/Date Started: 1100 |
Sampled by: CAH &
Sample Method:
Recovering Water Level Depth: 21' 1.5"
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/27/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN03-26
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & TDE
Sampled by: CAH & TDE

Well Identification: 6118-RS-25
Project Location:
Date: 1/26/03
Date:

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1452	9.4	6.94	0.307	999	11.55		0.01		16'4.5"	1.2 gpm
1457	11.2	6.54	0.344	999	7.90		0.01		19'	0.4 ppm 0.6 gpm
1503	13.7	6.00	0.624	999	0.82		0.02	20	2"	
1508	14.3	5.90	0.662	999	1.31		0.02			0.6 ppm
1513 ~~1503~~	14.1	5.93	0.686	999	1.28		0.02		20'4.5"	
1518	14.3	5.93	0.711	999	1.21		0.03			
1523	14.5	5.92	0.725	999	1.13		0.03		20'7"	0.57 gpm
1528	14.9	5.91	0.773	999	0.50		0.03			
1533	14.9	5.91	0.786	999	0.46		0.03		20'6"	
1538	14.9	5.92	0.797	999	0.54		0.03			
1543	14.7	5.92	0.804	999	0.61		0.03			
1548	14.9	5.92	0.812	999	0.19		0.03			

PURGE INFORMATION:

Time/Date Started: 1452 | 1/26/03
Time Purge End: 1553
Purge Rate(s): see above (gpm)
Purged Volume: 32 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whale (Proseries)
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1552 | 1/26/03
Sampled by: CAH & TDE
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 3
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/26/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN03-25
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-000-1890-107
Purged by: CAH & _____
Sampled by: CAH & _____

Well Identification: SU13 - PZM 025
Project Location: _____
Date: 1/15/03
Date: 1/15/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1450										0.17 gpm 64 mL/m
1455	12.8	6.55	3.17	890	1.09		0.15			
1502	12.7	6.65	3.19	14	1.04		0.15			0.0 ppm
1512	13.0	6.67	~~3.78~~ 3.23 CAH	13	1.03		~~0.17~~	0.15		
1520	13.0	6.69	3.18	5	1.45		0.15 CAH			

PURGE INFORMATION:

Time/Date Started: 1450 | 1/15/03
Time Purge End: 1524
Purge Rate(s): 0.17 gpm (gpm)
Purged Volume: 7.48 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Peristaltic (14557)
Depth(s) to Intake: 37.5'
Water Containerized/Amount? no
PID Scan of Wellhead? n/a
How was yield measured? bucket yield
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1524 | 1/15/03
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: —
Parameters to be Analyzed: —
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/15/03
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: JAN03-17
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & _____
Sampled by: CAH & _____

Well Identification: C010-PZM090
Project Location: _____
Date: 1/9/02 CH
Date: 1/9/02 CH

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1030									10.80	Rate too high
1041									15.02	0.11 gpm Attached 1/10 AM
1048	16.7	6.80	5.64	780	-0.17		0.29		14.70	
1053	17.3	6.85	5.63	400	-0.47		0.29		14.70	
1059	17.3	6.85	5.79	150	-0.51		0.30		14.65	PID = 0.0 ppm
1104	18.3	6.84	5.71	84	-0.46		~~0.29~~ 0.29 CH			

PURGE INFORMATION:

Time/Date Started: 1030 | 1/9/02
Time Purge End: 1110
Purge Rate(s): 0.11 (gpm)
Purged Volume: 4 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: 2" Grundfos (14662)
Depth(s) to Intake: _____
Water Containerized/Amount? no
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1109 | 1/9/02
Sampled by: CAH & _____
Sample Method: Grab
Recovering Water Level Depth: above
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: Hcl
Duplicate Sampling? _____
Date Laboratory Received: 1/9/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: JAN03-5
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Initial purge rate too high resulting in ~4' drawdown
Flow through in direct sunlight

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GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-00-1890-107
Purged by: MJL & CAH
Sampled by: MJL & CAH

Well Identification: ~~CD~~ CAH SW17-PZM-113
Project Location:
Date: 12/18/02
Date: 12/18/02

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0740									15.71'	2.3 gpm
0748									~~CH~~	4.3 gpm
0751	16.1	6.89	12.5	148	3.35		0.70		24'	
0805	16.2	6.92	12.6	20	2.08		0.71		~24'	
0810	16.3	6.91	12.6	8	2.05		0.71			
0816	15.9	6.90	12.6	4	2.65		0.71		~24'	

18.4 gallons
+137.6

PURGE INFORMATION:

Time/Date Started: 0740 | 12/18/02
Time Purge End: 0820
Purge Rate(s): see above (gpm)
Purged Volume: 156 gallons (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 15093
Pump Type and ID: Grundfos 2" 14664
Depth(s) to Intake: ~124' BPVC
Water Containerized/Amount? no
PID Scan of Wellhead?
How was yield measured? Bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 0820 | 12/18/02
Sampled by: CAH & MJL
Sample Method: Grab
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/18/02
Results to be Sent to:
Sample: grab X composite other
COC Form No.: DEC02-18
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Unidentified odor. PID = 0.2 ppm, Difficulty re using interface probe

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GROUNDWATER SAMPLE LOG

CAH

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & TDE
Sampled by: CAH & TDE

Well Identification: CO28-RS-~~55~~ 57
Project Location:
Date: 1/13/03
Date: 1/13/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1447		6.91 ~~auto~~							19'	1 gpm
1448	15.0	~~6.0 auto~~	0.243	999	5.03		0.00		20'	9 ppm
1453	17.9	7.62	0.266	999	0.86		0.01		20'10"	
1458	19.0	7.92	0.333	456	1.40		0.01		20'10.5"	237 ppm Attached flowth
1503	20.4	8.07	0.352	186	-0.13		0.01			218 ppm
1508	20.8	8.13	0.385	169	-0.13		0.01		20'11"	
1513 CAH ~~1503~~	20.9	8.16	0.439	86	-0.34		0.01			
1518	20.7	8.14	0.481	170	-0.16		0.02			
1523	20.8	8.14	0.574	100	-0.40		0.02		20'11"	600 ppm
1528	20.7	8.16	0.648	133	-0.33		0.02			
1533	20.6	8.16	0.765	92	-0.43		0.03			
1538	20.5	8.14	0.873	163	-0.38		0.03			1160 ppm
1543	20.4	8.17	1.43	122	-0.46		0.06		20'11"	
1548	20.3	8.17	1.57	137	-0.47		0.07			
1553	20.2	8.18	1.71	133	-0.50		0.08			
1558	20.0	8.19	1.86	163	-0.52		0.08			1800 ppm

PURGE INFORMATION:

Time/Date Started: 1447 | 1/13/03
Time Purge End: 1601
Purge Rate(s): See above (gpm)
Purged Volume: 70 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake: ~~51-55'~~ 53-57'
Water Containerized/Amount? yes
PID Scan of Wellhead?
How was yield measured? bucket yield
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1601 | 1/13/03
Sampled by: CAH & TDE
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/13/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN03-14
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

45

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: TDE & CAH
Sampled by: TDE & CAH

Well Identification: CO28-RS-~~35~~ CAH
Project Location:
Date: 1/13/03
Date:

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1131									15'2"	Water level dropping
1132	15.9	7.62	0.245	999	10.47		0.00		16'	1.4 gpm
1134									20'	0.14 gpm
1138	13.7	7.91	0.245	444	11.24		0.00		19'7.5"	0.1 gpm
1142									20'3"	
1145	14.3	7.81	0.240	356	10.73		0.00		20'6"	0.11 gpm
1151	12.4	7.97	0.241	430	10.43		0.00		20'6"	98 ppm Hach flow thru
1200	13.2	8.01	0.242	420	13.52		0.00		20'5.5"	
1205	14.0	8.06	0.245	400	10.80		0.00		20'7"	35.5 ppm
1210	13.6	7.99	0.245	460	10.21		0.00			
1215	14.2	8.18	0.251	999	7.64		0.00			
1220	14.3	8.57	0.269	999	2.66		0.01		20'7"	0.15 gpm
1225	15.5	8.64	0.269	999	0.75		0.01			
1230	15.9	8.70	0.272	999	0.16		0.01			96 ppm
1235	16.1	8.69	0.272	999	-0.08		0.01			
1240	16.0	8.74	0.275	999	-0.24		0.01			
1245	16.2	8.70	0.276	999	-0.17		0.01			
1250	16.2	8.69	0.276	999	0.40		0.01		20'7½"	
1255	16.2	8.69	0.278	999	0.27		0.01			
1300	16.5	8.72	0.282	999	0.19		0.01			
1306	15.8	8.74	0.285	999	0.04		0.01			

cont'd on back

PURGE INFORMATION:

Time/Date Started: 1131 | 1/13/03
Time Purge End: 1318
Purge Rate(s): See above (gpm)
Purged Volume: 18 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead?
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1318 | 1/13/03
Sampled by: CAH &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed: n/a
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/13/02
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN03-13
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-000-1890-107
Purged by: TDE & CAH
Sampled by: _____ & _____

Well Identification: C028-RS-35
Project Location: _____
Date: 1/13/03
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W. CAH	Comments
0929		6.86↑							~~19'8.5"~~	20' 1.1gpm
0930	7.8	~~6.7~~	0.250	111	12.20		0.000		20'1"	
0935	8.7	8.68	0.251	142	9.72		0.00		20'1.5"	
0940	10.2	9.09	0.253	182	5.89		0.00			
0945	12.5	9.35	0.261	335	3.20		0.01			
0950	14.6	9.60	0.291	284	2.49		0.01			593 ppm
0955	15.6	9.78	0.325	434	2.09		0.01		20'1"	
1000	15.9	9.86	0.366	379	2.74		0.01		20'1"	
1005	16.0	9.93	0.410	301	3.20		0.01			>20000 ppm
1011	16.5	10.08	0.456	220	2.89		0.01			
1016	16.9	10.23	0.492	173	1.43		0.02			
1020	16.8	10.31	0.514	147	2.85		0.02			
1025	16.8	10.44	0.550	75	1.78		0.02		20' 1/2"	
1030	16.3	10.38	0.520	80	2.44		0.02			

PURGE INFORMATION:

Time/Date Started: 0929 | 1/13/03
Time Purge End: 1032
Purge Rate(s): 1.1 (gpm)
Purged Volume: 70 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Prosonic Super Whaler
Depth(s) to Intake: 31-35
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO _____
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1032 | 1/13/03
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: 20' 1/2"
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/13/03
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: JAN03-12
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-190-107
Purged by: TDE & CAH
Sampled by: _____ & _____

Well Identification: C028-RS-25
Project Location: _____
Date: 1/13/03
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0806									20'	1.1 gpm
0808	11.5	11.21	0.584	999	3.41		0.42			Odor, 450 ppm
0813	15.0	11.44	1.23	999	1.57		0.05		20'	
0818	16.0	11.62	1.40	700	1.94		0.06			836 ppm
0824	16.5	11.74	1.47	450	1.92		0.06			
0829	16.9	11.78	1.51	216	1.98		0.06			
0834	16.7	11.77	1.48	269	1.70		0.06			

PURGE INFORMATION:

Time/Date Started: 0806 | 1/13/03
Time Purge End: 0839
Purge Rate(s): 1.1 gpm (gpm)
Purged Volume: 35 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic
Depth(s) to Intake: ~~26~~ CAH 21-25'
Water Containerized/Amount? Yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 0838 | 1/13/03
Sampled by: _____ & _____
Sample Method: _____
Recovering Water Level Depth: 20'
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/13/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: C JAN03-11
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & TDE
Sampled by: CAH & TDE

Well Identification: C029 - RS - 65
Project Location:
Date: 1/22/03
Date: 1/22/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1343									21' BPVC	1.1 gpm
1345	11.5		0.261	661	6.71		0.0			
1347									23'9"	
1349	10.6	6.79	0.258	491	6.12		0.0			0.21 gpm
1357	8.6	9.08	0.430	999	2.51		0.01		24'5"	
1403	8.5	9.73	0.529	999	1.30		0.02			
1408	8.8	9.90	0.548	891	-0.22		0.02		24'5"	0.0 ppm
1413	8.6	10.101	0.535	460	-0.17		0.02			
1420	8.6	10.15	0.508	350	0.11		0.02			
1425	9.1	10.24	0.496	300	0.50		0.02			
1430	9.0	10.23	0.482	400*	0.93		0.01			
1435	8.9	10.29	0.487	422	1.05		0.01			
1440	9.3	10.34	0.506	116	1.22		0.02			
1445	9.2	10.35	0.509	108	1.18		0.02			
1450	8.9	10.40	0.530	360	1.21		0.02			
1455	9.0	10.39	0.548	340	1.31		0.02			
1501	8.9	10.41	0.595	114	1.33		0.02		24'7"	
1507	9.2	10.40	0.614	110	1.49		0.02			
1512	9.3	10.37	0.625	111	1.58		0.02			
1517	9.0	10.36	0.636	114	1.52		0.02			

PURGE INFORMATION:

Time/Date Started: 1343 | 1/22/03
Time Purge End:
Purge Rate(s): see above (gpm)
Purged Volume: (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1520 | 1/22/03
Sampled by: CAH & TDE
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: Ice
Duplicate Sampling? n/a
Date Laboratory Received: 1/22/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN03-21
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) * Turbidity readings jumping around extensively

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GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-00-1890-107
Purged by: TDE & CAH
Sampled by: TDE & CAH

Well Identification: C029-RS-55
Project Location:
Date: 1/22/03
Date:

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0726									19'4"	1.1 gpm
0728	14.0	7.05	0.290	393	2.47		0.01			
0733	14.0	8.27	0.281	999	2.01		0.01		23'7"	0.47 gpm
0738	11.9	9.52	0.417	999	0.11		0.01		23'7.5"	0.0 ppm
0743	11.8	9.64	0.509	999	0.36		0.02		23'6.5"	0.0 ppm
0749	11.9	9.56	0.638	999	0.49		0.03			
0754	12.2	9.51	0.773	999	0.43		0.03			
0759	12.1	9.42	1.43	999	0.37		0.06			Attached flow thru
0805	12.5	9.29	1.96	999	-0.53		0.09		23'6.5"	
0810	12.7	9.09	2.49	599	-0.74		0.11			
0815	12.8	8.86	3.38	021	-0.75		0.16			
0822	12.9	8.62	4.76	200	-0.75		0.24			
0827	12.9	8.41	5.89	98	-0.73		0.31			
0835	12.7	8.11	7.70	105	-0.71		0.41			
0840	12.5	7.94	8.67	80	-0.71		0.46			
0845	12.7	7.83	9.33	64	-0.70		0.50			
0850	12.8	7.78	9.74	65	-0.70		0.53			
0856	12.6	7.69	10.5	70	-0.72		0.58			
0904	12.6	7.67	10.8	70	-0.72		0.60			

PURGE INFORMATION:

Time/Date Started: 0726 | 1/22/03
Time Purge End: 0910
Purge Rate(s): see above (gpm)
Purged Volume: 55 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake:
Water Containerized/Amount? YES
PID Scan of Wellhead? n/a
How was yield measured? Bucket Gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 0909 | 1/22/03
Sampled by: CAH & TDE
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/22/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN03-20
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Extreme cold + windy. May be cooling water as passes through tubing

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GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-001-1841-107
Purged by: CAL & TDE
Sampled by: CAL & TDE

Well Identification: C024-RS-45
Project Location:
Date: 1/21/03
Date: 1/21/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1445									21' 8"	1.25 ppm
1446	9.1	7.15	0.264	76	11.85		0.00		21' 2.5"	
1451	11.8	7.61	0.317	789	2.13		0.01			0.0 ppm
1454									21' 4.5"	
1457	12.4	9.76	0.338	332	2.18		0.01			
1502	12.8	8.87	0.391	229	0.46		0.01		21' 5"	
1505									21' 5.5'	
1507	13.2	8.88	0.421	68	2.67		0.01			0.5 ppm
1513	13.8	8.81	0.731	43	2.97		0.03		21' 6"	
1518	14.1	8.45	0.936	50	2.64		0.03			0.6 ppm
1523	14.4	8.89	1.64	73	1.97		0.07			
1528	14.7	8.98	2.03	106	0.04		0.09		21' 6"	
1533	15.0	8.98	2.53	88	-0.46		0.12			1.7 ppm
1538	15.2	8.95	3.18	41	-0.69		0.15		21' 6.5'	4.2 ppm
1543	15.3	8.93	3.75	24	-0.72		0.18			
1548	15.4	8.93	4.22	16	-0.72		0.21			4.7 ppm
1553	15.6	8.92	4.69	12	-0.71		0.23		21' 6.5"	7.9 ppm
1558	15.6	8.94	4.95	9	-0.72		0.25		21' 6.5"	

A faucet flow through

PURGE INFORMATION:

Time/Date Started: 1445 | 1/21/03
Time Purge End:
Purge Rate(s): 1.35 (gpm)
Purged Volume: (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Drain (P2000-C)
Depth(s) to Intake:
Water Containerized/Amount? YES
PID Scan of Wellhead? N.D.
How was yield measured? Timed w/ watch
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1602 | 1/21/03
Sampled by: CAL & TDE
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/21/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN03-18
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: [illegible]
Project Number: [illegible]
Purged by: CAH & TDE
Sampled by: CAH & TDE
Well Identification: CO21-OS-2
Project Location: _____
Date: 1/21/03
Date: 1/21/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
[illegible]									[illegible]	1.1 ppm
1017	[illegible]	[illegible]	4.33	538	10.74		0.21			
1022	8.3	11.26	8.386	505	1.32		0.01			0.9 ppm
1027	10.5	11.[illegible]	1.47	406	7.39		0.2[illegible]			
1032	11.9	12.23	2.11	332	5.47		0.04		31'8.5	4.0 ppm
1037	12.8	12.39	2.62	286	4.09		0.12			16.[illegible] ppm
1042	13.7	12.46	3.02	257	3.11		0.15			
1047	14.5	12.50	3.19	146	2.03		0.15			18.5 ppm
1052	14.9	12.50	3.41	65	2.52		0.17			
1057	15.2	12.51	3.55	45	1.44		0.[illegible]			

PURGE INFORMATION:

Time/Date Started: 0[illegible] | 1/21/03
Time Purge End: 1100
Purge Rate(s): 1.1 (gpm)
Purged Volume: 50 (gal.)
Purge Method: pump X bailed ____
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Proseries)
Depth(s) to Intake: _____
Water Containerized/Amount? Yes
PID Scan of Wellhead? n/a
How was yield measured? bucket & gauge
Did the well cavitate? YES ____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started 1100 | 1/21/03
Sampled by: CAH & TDE
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/21/03
Results to be Sent to _____
Sample: grab X composite ____ other ____
COC Form No. JAN 03-15
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

Science Applications International Corporation
An Employee-Owned Company

GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & _____
Sampled by: CAH & _____

Well Identification: C033-RS-105
Project Location: _____
Date: 2/12/03
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1623									22.65'	0.7 gpm
1627	11.1	6.01	0.288	686	11.75		0.01			
1634	12.5	7.36	0.300	999	11.51		0.01		23.4'	0.0 ppm
1639	12.6	7.59	0.493	999	2.73		0.02			
1644	13.7	7.67	0.593	999	+6 CAH -0.45		0.02			1.3 ppm
1649	14.0	7.66	0.560	999	0.11		0.02			
1654	13.8	7.55	0.564	999	0.21		0.02			2.4 ppm
1659	13.8	7.45	0.595	999	1.22		0.02			
1704	13.9	7.35	0.675	999	2.12		0.02			0.3 ppm
1709	13.9	7.33	0.687	999	3.26		0.02			
1714	13.5	7.28	0.831	999	2.91		0.03			0.0 ppm
1719	13.9	7.23	0.952	999	2.84		0.04			
1724	13.9	7.25	1.40	875	3.40		0.06			0.7 ppm
1729	13.7	7.25	1.77	840	3.11		0.08			
1734	13.8	7.20	2.36	877	3.29		0.11			
1742	14.0	7.15	3.58	832	1.74		0.17			
1747	14.2	7.17	4.20	860	1.77		0.21		23'5"	0.0 ppm
1752	14.9	7.14	5.12	948	1.84		0.26			
1757	14.8	7.14	5.94	995	1.62		0.31			

PURGE INFORMATION:

Time/Date Started: 1623 | 2/12/03
Time Purge End: _____
Purge Rate(s): 0.7 (gpm)
Purged Volume: 50 CAH 53 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whale (Prosonic)
Depth(s) to Intake: 101-105'
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1758 | 2/12/03
Sampled by: _____ & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 2/13/03
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: FEB03-6
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Conductivity not stable. Collected due to darkness as per RGM

Science Applications International Corporation
An Employee-Owned Company

GROUNDWATER SAMPLE LOG

Project Name: _____ Well Identification: 4033-RS-95 (Continued)
Project Number: _____ Project Location: _____
Purged by: _____ & _____ Date: _____
Sampled by: _____ & _____ Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1332	12.8	8.09	2.85	119	-0.44		0.14			0.4ppm
1339	13.1	7.95	3.23	118	-0.53		0.16			
1346	12.9	7.91	3.59	116	-0.57		0.18			
1349	13.1	7.88	3.88	117	-0.59		0.19			0.5ppm
1354	13.1	7.84	4.24	120	-0.65		0.21			
1359	13.3	7.81	4.58	121	-0.66		0.23			

PURGE INFORMATION:
Time/Date Started: _____ | _____
Time Purge End: _____
Purge Rate(s): _____ (gpm)
Purged Volume: _____ (gal.)
Purge Method: pump_____ bailed_____
Water Quality Instrument: _____
Pump Type and ID: _____
Depth(s) to Intake: _____
Water Containerized/Amount? _____
PID Scan of Wellhead? _____
How was yield measured? _____
Did the well cavitate? YES_____ NO_____
Other: _____

SAMPLING INFORMATION:
Time/Date Started: _____ | _____
Sampled by: _____ & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: _____
Bottle Preservatives: _____
Duplicate Sampling? _____
Date Laboratory Received: _____
Results to be Sent to: _____
Sample: grab_____ composite_____ other_____
COC Form No.: _____
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

Science Applications International Corporation
An Employee-Owned Company

GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-00-189-107
Purged by: CAH & _____
Sampled by: CAH & _____

Well Identification: CD33-RS-95
Project Location: _____
Date: 2/12/03
Date: 2/12/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1139			0.302						24.15'	0.86 gpm
1141	13.4	6.84	329	329	2.05		0.01			Attached flow through cell
1149	13.1	9.16	0.315	427	-0.23		0.01		24.35'	0.0 ppm
1154	12.8	9.22	0.353	370	0.04		0.01			
1200	12.8	9.14	0.413	210	0.49		0.01			0.0 ppm
1205	13.0	8.99	0.466	179	0.36		0.01			
1210	12.6	8.92	0.530	189	0.42		0.02			
1215	13.3	8.73	0.544	155	0.50		0.02			0.0 ppm
1220	13.2	8.75	0.548	220	0.73		0.02			
1225	13.2	9.06	0.529	325	0.61		0.02			
1230	13.4	9.05	0.572	308	0.46		0.02			
1235	13.0	8.97	0.636	270	0.35		0.02			0.0 ppm
1240	12.9	8.76	0.736	181	0.30		0.03			
1245	13.5	8.61	0.800	154	0.47		0.03			
1250	13.4	8.49	0.881	133	0.45		0.03			0.0 ppm
1255	12.9	8.42	0.961	147	0.28		0.04			
1300	13.3	8.33	1.45	111	0.26		0.06			
1305	13.4	8.26	1.65	106	0.10		0.07			
1310	13.3	8.19	1.82	116	0.06		0.08			
1315	13.1	8.14	2.09	116	-0.06		0.09			
1325	12.8	8.05	2.40	118	-0.28		0.11			Continued on next page

PURGE INFORMATION:

Time/Date Started: 1139 | 2/12/03
Time Purge End: 1403
Purge Rate(s): 0.86 (gpm)
Purged Volume: 90 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake: 91-95
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1402 | 2/12/03
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 2/13/03
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: FEB03-6
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Conductivity not stabilized. Collected as per RGM

Science Applications International Corporation
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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-189-107
Purged by: CAH & _____
Sampled by: CAH & _____

Well Identification: C033-RS-85
Project Location: _____
Date: 2/11/03
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1257									10'	~~0.9~~ ppm 6 l/gpm
1301	10.9	6.96	0.308	34	10.01		0.01			
1306									19'8"	attached flow through
1312									24' ½"	0.0 ppm
1320	10.5	7.74	0.282	584	8.50		0.01		24'3"	
1330	11.4	8.03	0.318	999	-0.09		0.01		24'4"	
1340	11.9	8.10	0.373	612	0.28		0.01			58.7 ppm
1345	11.6	8.14	0.409	499	0.29		0.01			120 ppm
1350	11.7	8.17	0.444	430	0.42		0.01			108 ppm
1355	11.9	8.18	0.493	305	0.62		0.02			
1400	12.2	8.20	0.545	235	0.66		0.02			211 ppm
1405	12.3	8.22	0.587	208	0.63		0.02			210 ppm
1410	12.4	8.25	0.626	220	0.48		0.02		24'4"	
1415	12.6	8.27	0.662	204	0.34		0.02			
1420	12.7	8.29	0.723	193	0.31		0.03			404 ppm
1428	12.4	8.30	0.861	181	0.27		0.03			393 ppm
1433	12.5	8.29	0.930	166	0.22		0.04			330 ppm
1438	12.9	8.30	1.45	158	0.07		0.06			258 ppm
1443	12.9	8.30	1.60	140	-0.01		0.07			

PURGE INFORMATION:
Time/Date Started: 1257 | 2/11/03
Time Purge End: @ 1445
Purge Rate(s): 1 gpm (gpm)
Purged Volume: 85 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whale (Prosonic)
Depth(s) to Intake: 81-85'
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:
Time/Date Started: 1445 | 2/11/03
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 2/13/03
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: FEB03-6
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Conductivity not stabilized but collected as per RGM

Science Applications International Corporation
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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & _____
Sampled by: CAH & _____

Well Identification: CO33-RS-~~75~~ 74 CAH
Project Location: _____
Date: 2/7/03 + 2/8/03
Date: 2/8/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1413									16' 6"	and filling slowly 0.9 gpm
1420	12.5	6.98↑	0.320	34	10.00		0.01		23'	
1428	15.7	8.87	0.293	999	6.73		0.01		24' ½"	
1436	14.3	9.13	0.297	999	6.29		0.01			0.0 ppm
1443	15.3	9.29	0.299	960	5.45		0.01			
1448	15.3	9.15	0.296	539	5.27		0.01			attached flow through 0.9 gpm
1458	15.9	9.31	0.292	250	4.77		0.01			
1509	17.0	9.40	0.295	125	3.61		0.01			1.3 ppm
1521	17.4	9.44	0.294	68	2.97		0.01			
1531	17.2	9.46	0.297	28	2.69		0.01			4.2 ppm
1600	16.3	9.43	0.290	44	2.99		0.01			5.4 ppm
1630	15.8	9.48	0.303	19	1.75		0.01			20.8 ppm
1700	15.6	9.46	0.315	16	1.16		0.01		24' 1.5"	21.3 ppm
0706	14.5	9.47	0.315	284	0.43		0.01		23' 6"	0.72 gpm
0730	14.1	9.37	0.355	25	-0.20		0.01		54'	78.4 ppm 92 ppm
0800	14.2	9.35	0.397	28	-0.31		0.01			146 ppm
0824	14.1	9.33	0.441	49	-0.35		0.01			

2/7/03 1, 2, 3

PURGE INFORMATION:

Time/Date Started: 1413 | 2/7/03
Time Purge End: 1715
Purge Rate(s): ~~0.9~~ CAH See above (gpm)
Purged Volume: 190 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake: 70-~~78~~ CAH 74
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

runs 1

SAMPLING INFORMATION:

Time/Date Started: 0826 | 2/8/03
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: ~~HCl~~ CAH 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 2/8/03
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: FEB03-5
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Total purge time = 4.5 hours.
Sample likely not representative due to low conductivity, low PID readings + large amount of H_2O (>600 gal) used to drill

Science Applications International Corporation
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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & TDE
Sampled by: TDE & CAH

Well Identification: C033-RS-65
Project Location:
Date: 2/5/03
Date: 2/5/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1534	7.4	7.64	0.266	29	11.08		0.01		22.8'	BTOC 1gpm
1539	8.8	7.71	0.251	57	8.70		0.00		23.9'	
1540	10.1	9.01	0.260	999	6.06		0.00			
1545	11.3	9.34	0.266	999	3.80		0.01			
1550	11.7	9.39	0.266	999	4.28		0.01			10 ppm
1555	12.2	9.43	0.267	999	4.10		0.01			7.8 ppm
1600	12.4	9.41	0.267	555	4.50		0.01			
1605	12.0	9.18	0.260	232	6.01		0.01		24'	
1610	12.7	9.28	0.264	780	4.56		0.01			
1615	12.9	9.34	0.268	290	4.36		0.01			
1620	13.2	9.48	0.271	158	3.65		0.01			Attached flow through
1625	13.6	9.45	0.273	107	5.13		0.01			
1630	13.8	9.51	0.274	86	4.60		0.01			4 ppm
1635	13.9	9.47	0.276	76	4.52		0.01			
1640	13.9	9.51	0.278	73	4.06		0.01			
1646	14.0	9.52	0.281	90	3.72		0.01			
1651	14.2	9.54	0.284	95	3.41		0.01			24.9 ppm
1657	14.1	9.52	0.287	103	3.37		0.01			
1702	14.0	9.52	0.290	100	3.29		0.01			43.9 ppm
1709	14.1	9.53	0.301	126	2.92		0.01			
1714	14.2	9.52	0.308	122	2.78		0.01			68 ppm

Continue on back

PURGE INFORMATION:

Time/Date Started: 1534 | 2/5/03
Time Purge End: 1802
Purge Rate(s): 1 gpm (gpm)
Purged Volume: 140 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (146614)
Pump Type and ID: Super Whale (Prosonic)
Depth(s) to Intake: 61-65
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? Bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1802 | 2/5/03
Sampled by: &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 2/5/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: FEB03-4
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Conductivity not stabilized. Took sample due to darkness

Science Applications International Corporation
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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-000-1890-107
Purged by: CAH & TDE
Sampled by: CAH & TDE

Well Identification: C033-RS-55
Project Location:
Date: 2/5/03
Date: 2/5/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1050	10.9	7.46	0.782	999	7.75		0.03		22.9'	BTOC 1gpm
1053		7 CAH		999 CAH			0.13 CAH		24.6'	
1055	13.1	7.64	2.83	999	0.06		0.13		24.91	1400 ppm
1100	14.0	7.45	3.48	999	0.00		0.17		25'	
1105	14.0	7.30	3.72	999	-0.11		0.18			
1110	14.2	7.21	3.81	999	-0.03		0.19			
1115	14.5	7.20	3.94	999	0.57		0.20			500 ppm
1121	14.5	7.15	3.74	999	0.94		0.18		25'	
1126	14.4	7.12	4.01	999	0.44		0.20			
1131	14.6	7.10	4.14	999	0.71		0.21			
1136	14.8	7.08	4.35	999	0.83		0.22			

PURGE INFORMATION:

Time/Date Started: 1050 | 2/5/03
Time Purge End: 1142
Purge Rate(s): 1 gpm (gpm)
Purged Volume: 50 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whale (Prosonic)
Depth(s) to Intake: 51-55
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1 | 2/5/03
Sampled by: &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 2/5/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: FEB 03-3
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-00-1810-107
Purged by: CAH & TDE
Sampled by: CAH & TDE

Well Identification: C033-RS-35
Project Location:
Date: 2/5/03
Date: 2/5/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0802									21.71	1 gpm
0803	9.6	6.991	0.304	294	2.90		0.01			
0810	14.3	7.821	0.272	808	2.53		0.01			
0813	14.6	10.01	0.557	999	1.63		0.02		23.21	>20000 ppm
0819	14.8	10.01	0.652	999	-0.43		0.02			
0825	14.8	9.94	0.706	999	-0.07		0.03			
0830	14.8	10.44	0.648	999	0.69		0.02		23.71	>20000 ppm
0838	14.5	10.64	0.696	999	0.72		0.02			
0844	14.6	10.71	0.715	999	0.75		0.03			
0850	14.6	10.72	0.729	999	0.85		0.03			
0855	14.6	10.77	0.734	999	0.72		0.03			>20000 ppm
0900	14.6	10.73	0.739	999	0.78		0.03			
0905	14.5	10.70	0.745	999	0.33		0.03			

PURGE INFORMATION:
Time/Date Started: ~~0900~~ CAH 0802 | 2/5/03
Time Purge End: 0909
Purge Rate(s): 1 (gpm)
Purged Volume: 55 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake: 32-35
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:
Time/Date Started: 0908 | 2/5/03
Sampled by: &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 2/5/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: FEB03-2
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BS - SFD
Project Number: 01-11[illegible]-187
Purged by: [illegible] & TDE
Sampled by: [illegible] & TDE

Well Identification: MW-BS-35
Project Location:
Date: 2/04/03
Date: 2/4/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1204									13' 9"	1.1 gpm 8'11"
1205	9.8	8.32	0.285	488	9.73		0.01			
1211	15.2	8.91	0.290	340	8.89		0.01		19' 5"	0.15
1217	Stop purge; Bubbles			6.6	6"		water level			9'10" stick
1221							0.01		21' 7"	
1223	11.6	9.89	0.289	577	7.98		0.01		22'8"	0.7 gpm
1228	13.6	10.15	0.385	999	4.47		0.01		25'	
1234	14.8	11.29	0.747	999	0.47		0.03			898 ppm
1239	14.9	11.39	0.821	688	1.91		0.03			
1245	15.4	11.43	1.34	999	0.10		0.06		25.1"	
1250	15.3	11.50	1.35	810	0.37		0.06			>2000 ppm
1254	15.2	11.57	1.39	184	0.21		0.06			
1304	15.2	11.58	1.39	110	0.13		0.06			

PURGE INFORMATION:

Time/Date Started: 1204 | 2/4/03
Time Purge End: 1307
Purge Rate(s): See above (gpm)
Purged Volume: 49 (gal.)
Purge Method: pump [illegible] bailed [illegible]
Water Quality Instrument: Horiba U-10 (Probe)
Pump Type and ID: Super Typhoon (Prosonic)
Depth(s) to Intake: 21-25'
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES [illegible] NO Y
Other: [illegible]

SAMPLING INFORMATION:

Time/Date Started: 1306 | 2/4/03
Sampled by: CAH & [illegible]
Sample Method: [illegible]
Recovering Water Level Depth: [illegible]
Parameters to be Analyzed: [illegible]
Number of Bottles Collected: 3
Bottle Preservatives: HCl
Duplicate Sampling? no
Date Laboratory Received: 2/4/03
Results to be Sent to: [illegible]
Sample: grab X composite [illegible] other [illegible]
COC Form No.: FEB03-1
Other: [illegible]

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) [illegible]

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GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-000-8900-107
Purged by: CAH & _____
Sampled by: CAH & _____

Well Identification: ~~GO33-RS~~ 34 CAH LO34-RS-55
Project Location: _____
Date: 2/14/03
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1450									21'8.5"	0.84 gpm
1453	15.4	6.92	0.315	999	10.16		0.01		24'3"	
1457									25'4.5"	0.15 gpm
1502	12.2	7.09	0.277	913	11.26		0.01		25'3	0.0 ppm Attached flow thru cell
1507	10.1	6.98	0.288	999	12.26		0.01			
1510									25'4	0.27 gpm
1512	11.3	6.94	0.309	993	9.93		0.01			0.14 gpm
1519	9.8	6.97	0.298	999	10.26		0.01			
1524										0.41 gpm
1527	10.4	6.39	2.06	999	2.59		0.09			0.75 gpm 0.0 ppm
1532	15.5	6.53	1.23	999	6.49		0.05			
1537									27.5'	0.25 gpm
1540	13.6	6.48	2.31	999	2.26		0.11			
1547	12.1	6.57	3.44	999	0.08		0.17			0.0 ppm
1553	11.8	6.63	3.85	999	0.19		0.19		27'8"	
1559	11.5	6.64	4.22	999	0.33		0.21			
1604	11.7	6.63	4.45	999	0.10		0.22			
1612	11.9	6.64	4.68	540	0.23		0.24		27'6"	
1617	12.4	6.64	4.79	488	0.25		0.24			

PURGE INFORMATION:

Time/Date Started: 1450 | 2/14/03
Time Purge End: 1620
Purge Rate(s): see above (gpm)
Purged Volume: 30 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake: 51 - 55
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? Bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1620 | 2/14/03
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 2/14/03
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: FEB03-7
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: TDE & CAH
Sampled by: CAH &

Well Identification: C035-RS-65
Project Location:
Date: 12/21/02
Date: 12/21/02

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1218									9'2.5"	Water level falling
1220	14.3	8.84	0.419	582	10.40		0.01			1.6 gpm
1223									15'	
1225	14.5	8.09	0.257	652	10.03		0.00		16'	
1230	14.6	7.96	0.257	541	10.09		0.00		19'	0.625 gpm
1232									19'	Turbidity increase
1235	14.2	8.44	0.329	999	7.37		0.01		19'4"	0.54 gpm
1240	13.9	7.42	0.824	990	4.60		0.03		19'5"	0.0ppm
1245	14.3	7.12	2.70	660	0.33		0.13		19'6"	
1250	14.5	7.04	3.14	999	0.76		0.15			
1251									19'9"	0.47 gpm
1256	14.4	7.02	3.00	999	0.61		0.14		19'9.5"	
1301	14.4	7.02	3.01	999	0.62		0.16			
1306	14.6	7.01	3.24	999	0.65		0.16		19'10.5"	PID=0.0ppm
1311	14.6	6.95	3.51	999	0.72		0.17		19'11"	
1317	14.2	6.80	3.72	999	2.01		0.18			Hached flow thru
1322	14.8	6.87	4.01	999	0.01		0.20			
1327	14.9	6.86	4.15	999	0.00		0.21		A'11"	
1332	14.8	6.83	4.32	999	0.01		0.22			
1337	14.9	6.81	4.45	999	0.02		0.22		19'11"	

PURGE INFORMATION:

Time/Date Started: 1218 | 12/21/02
Time Purge End: 1340
Purge Rate(s): See above (gpm)
Purged Volume: 48 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 15093
Pump Type and ID: Super Whale
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1339 | 12/21/02
Sampled by: CAH &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/21/02
Results to be Sent to:
Sample: grab X composite other
COC Form No.: ~~EOC 02~~ CAH DEC 02-22
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: TDE & CAH
Sampled by: CAH & _____

Well Identification: C035-RS-45
Project Location: _____
Date: 12/21/02
Date: 12/21/02

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1005									18'3"	Rising H_2O level
1008	13.5	8.41	0.289	999	11.24		0.01			1.5 gpm
1013	16.2	8.25	1.97	999	0.83		0.08		20'6"	pid - 0.0
1016										1.1 gpm
1018	16.3	7.77	5.99	520	3.15		0.31		20'3"	Attached Flowthru
1023	16.3	7.51	8.22	340	2.73		0.43			
1028	16.4	7.41	9.85	283	0.15		0.54			0.0 ppm
1036	16.3	7.34	11.3	74	0.07		0.64		20'2.5"	
1041	16.2	7.31	11.7	62	0.08		0.66			
1043									20'4"	
1046	16.1	7.29	12.1	45	0.05		0.69		20'4"	

PURGE INFORMATION:

Time/Date Started: 1007 | 12/21/02
Time Purge End: 1050
Purge Rate(s): See above (gpm)
Purged Volume: 50 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 15093
Pump Type and ID: Super whaler
Depth(s) to Intake: _____
Water Containerized/Amount? Yes
PID Scan of Wellhead? _____
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1050 | 12/21/02
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/21/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC 02-26
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

CAH CO35 CAH CO30-RS-25

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: TDE & CAH
Sampled by: TDE & CAH

Well Identification: ~~CO~~ ~~CO30~~-RS-25
Project Location:
Date: 12/21/02
Date:

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0813	12.7	10.52	0.466	999	6.83		0.01		17' 4.5"	BTOC 1.6gpm
0819	14.6	11.51	1.70	999	2.11		0.07			
0824	15.7	11.72	2.25	999	1.93		0.10		18' 7"	
0830	15.7	11.82	2.40	999	2.54		0.11			0.2 ppm
0835	16.3	11.81	2.50	560	0.33		0.12		18' 7.5"	Attached flo through
0840	16.4	11.87	2.57	288	0.16		0.12		18' 8"	
0845	16.4	11.90	2.61	142	0.14		0.12		18' 8"	

1.0 ppm in flum 0.8ppm

PURGE INFORMATION:

Time/Date Started: 0813 | 12/21/02
Time Purge End: 0849
Purge Rate(s): See above (gpm)
Purged Volume: 55 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 15093
Pump Type and ID: Super Whale
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead?
How was yield measured? Bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 0849 | 12/21/02
Sampled by: CAH &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/21/02
Results to be Sent to:
Sample: grab X composite other
COC Form No.: DEC 02-25
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: OBSC SPD
Project Number: 01-1633-00-1890-107
Purged by: MJL & CAH
Sampled by: MJL & CAH

Well Identification: C030-P2M-DEEP
Project Location:
Date: 12/17/02
Date:

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W. Top of PVC	Comments
1528									14.20	
1546	16.7	11.20	2.24	<10	0.00		0.10		15.32	
1552	16.8	11.27	2.34	<10	0.09		0.11		15.34	
1558	16.8	11.27	2.38	<10	0.11		0.11		15.32	
1603	16.9	11.25	2.40	<10	0.12		0.11		15.33	

PURGE INFORMATION: 28 CH.
Time/Date Started: 1530 | 12/17/02
Time Purge End: 1610
Purge Rate(s): 2 (gpm)
Purged Volume: (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: 2" GrundFos 14664
Depth(s) to Intake: 1' from bottom of well
Water Containerized/Amount? no
PID Scan of Wellhead? no
How was yield measured? timed
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:
Time/Date Started: 1610 | 12/17/02
Sampled by: MJL & CAH
Sample Method: Grab
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received:
Results to be Sent to:
Sample: grab X composite other
COC Form No.:
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Water is clear,

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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633-00-1890-107
Purged by: TDE/CAH & _____
Sampled by: TDE & CAH
Checked by: _____ & _____

Well Identification: ~~CP~~ CAH CO30-PZM ~~CP~~ CAH - Deep
Project Location: _____
Date: 12/08/02
Date: 12/08/02
Date: _____

WELL VOLUME CALCULATION:

Circle diameter and K used below:
1" I.D., K=0.041 gal/ft
2" I.D., K=0.163 gal/ft
4" I.D., K=0.653 gal/ft
6" I.D., K=1.469 gal/ft
8" I.D., K=2.61 gal/ft
10" I.D., K=4.08 gal/ft

1 Well Volume:

[Total Depth (_____ft) - Depth to Water (_____ft)] x K gal/ft = _____gallons

Purge Volume:

1 Well Volume (_____gallons) x 3 = _____gallons **(3 well volumes)**

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1650									11.26	
1659	14.2	10.56	0.366	50	6.30		0.01		11.45	14.71 below PVC
~~1604~~ CAH 704	14.4	10.58	0.370	166	6.34		0.01			
1709	14.6	10.62	0.381	166	6.38		0.01		14.71 bTOC	
1714	15.0	11.25	0.483	163	2.10		0.02			
1719	14.9	11.34	0.659	162	0.77		0.02			
1724	14.9	11.34	0.802	154	0.27		0.03			
1729	14.7	11.39	0.846	144	0.17		0.03		14.71 bTOC	
1734	14.8	11.41	0.890	152	0.16		0.03			

PURGE INFORMATION:

Time/Date Started: 1650 | 12/08/02
Time Purge End: 1740
Purge Rate(s): 0.13 (gpm)
Purged Volume: _____(gal.)
Purge Method: pump X bailed_____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Peristaltic 14616
Depth(s) to Intake: _____
Water Containerized/Amount? no
PID Scan of Wellhead? n/a
How was yield measured? bucket yield
Did the well cavitate? YES_____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1690 1740 | _____
Sampled by: TDE & CAH
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? no
Date Laboratory Received: 12/09/02
Results to be Sent to: _____
Sample: grab X composite_____ other_____
COC Form No.: DEC02-10
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Lots of air bubbles coming up poly and collecting in flow through

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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633-00-1890-107
Purged by: Prosonic & _____
Sampled by: _____ & _____
Checked by: _____ & _____

Well Identification: C030-RS-75
Project Location: _____
Date: 12/4/02
Date: _____
Date: _____

WELL VOLUME CALCULATION:

Circle diameter and K used below: 1" I.D., K=0.041 gal/ft; 2" I.D., K=0.163 gal/ft; 4" I.D., K=0.653 gal/ft; 6" I.D., K=1.469 gal/ft; 8" I.D., K=2.61 gal/ft; 10" I.D., K=4.08 gal/ft

1 Well Volume:

[Total Depth (_____ft) - Depth to Water (_____ft)] x K gal/ft = _____gallons

Purge Volume:

1 Well Volume (_____gallons) x 3 = _____gallons **(3 well volumes)**

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1618									11.5	
1628	8.8	7.44	0.313	999	4.69				11.61	
1633	7.7	7.55	0.321	999	5.45				12'	
1638	7.4	7.58	0.321	999	5.38				12'	0.0 ppm
1645	6.1	7.58	0.329	999	5.59					
1651	5.3	7.58	0.331	999	5.34					
1656	5.2	7.59	0.327	999	5.10					
1709	4.9	7.44	0.315	895	4.09				12.4	
1715	9.2	7.54	0.334	901	3.85				12.6	
1720	10.8	7.51	0.338	858	3.04					

PURGE INFORMATION:

Time/Date Started: 1619 | 12/04/02
Time Purge End: 1725
Purge Rate(s): 1gal/28 min (gpm)
Purged Volume: _____(gal.)
Purge Method: pump X bailed_____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? bucket gauge
Did the well cavitate? YES_____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: _____ | 12/04/02
Sampled by: _____ & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: _____
Bottle Preservatives: _____
Duplicate Sampling? _____
Date Laboratory Received: _____
Results to be Sent to: _____
Sample: grab_____ composite_____ other_____
COC Form No.: _____
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) 1645 Collect sample from Prosonic water tank
Did not collect sample

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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633-00-1890-107
Purged by: Prosonic &
Sampled by: CAH &
Checked by: &

Well Identification: CD30-RS-65
Project Location:
Date: 12/04/02
Date:
Date:

WELL VOLUME CALCULATION:

Circle diameter and K used below:
1" I.D., K=0.041 gal/ft
2" I.D., K=0.163 gal/ft
4" I.D., K=0.653 gal/ft
6" I.D., K=1.469 gal/ft
8" I.D., K=2.61 gal/ft
10" I.D., K=4.08 gal/ft

1 Well Volume:

[Total Depth (_____ft) - Depth to Water (_____ft)] x K gal/ft = _____gallons

Purge Volume:

1 Well Volume (_____gallons) x 3 = _____gallons **(3 well volumes)**

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
11:39									12'	
1146									12.5	
1154	7.8	6.93	0.424	999	6.44					0.0 ppm
1204	7.3	7.02	0.430	999	5.16					
1210	7.0	7.02	0.459	999	4.77					
1215	6.6	7.02	0.487	999	4.43					
1220	6.9	7.03	0.503	999	3.82					
1225	7.1	7.02	0.525	999	3.52					0.0

PURGE INFORMATION:

Time/Date Started: 1139 | 12/04/02
Time Purge End:
Purge Rate(s): 1gal/10 min = 0.1 gal/min (gpm)
Purged Volume: 4.5 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whale (Prosonic)
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead?
How was yield measured? bucket-gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1229 | 12/04/02
Sampled by: CAH &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? N/A
Date Laboratory Received:
Results to be Sent to:
Sample: grab X composite other
COC Form No.: DEC02-5
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633-00-1890-107
Purged by: Praxair & _____
Sampled by: CAH & _____
Checked by: _____ & _____

Well Identification: C030-RS-55
Project Location: _____
Date: 12/04/02
Date: _____
Date: _____

WELL VOLUME CALCULATION:

Circle diameter and K used below: 1" I.D., K=0.041 gal/ft; 2" I.D., K=0.163 gal/ft; 4" I.D., K=0.653 gal/ft; 6" I.D., K=1.469 gal/ft; 8" I.D., K=2.61 gal/ft; 10" I.D., K=4.08 gal/ft

1 Well Volume:

[Total Depth (_____ft) - Depth to Water (_____ft)] x K gal/ft = _____gallons

Purge Volume:

1 Well Volume (_____gallons) x 3 = _____gallons **(3 well volumes)**

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0855									11.5	
0905	9.8	6.16	0.930	999	3.13					
0912	9.1	6.77	0.951	999	3.78					
0918	9.5	6.85	0.925	999	3.27					
0926	7.8	6.88	0.910	999	3.70				12.6	
0932	7.2	6.92	0.881	999	3.83					
0939	6.8	6.87	0.888	999	5.29					
0946	7.9	6.88	0.872	999	4.71					0.0 ppm
0952	7.6	6.91	0.863	999	4.33					
0959	7.3	6.94 7.30	0.859	428	6.41					
1007	6.8	6.93	0.861	999	4.64					
1014	5.5	6.90	0.863	999	5.14				12.3'	

→ cont on back

PURGE INFORMATION:

Time/Date Started: 0855 | 12/04/02
Time Purge End: 1028
Purge Rate(s): 1 gal/16 min (gpm)
Purged Volume: 6gal (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whaler (Praxair)
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? Watch + Bucket
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1027 | 12/04/02
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
~~Duplicate~~ Sampling? no
Date Laboratory Received: _____
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC02-4
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633-00-1890-107
Purged by: Prosonic & _____
Sampled by: CAM & _____
Checked by: _____ & _____

Well Identification: CO30-RS-45
Project Location: _____
Date: 12/03/02
Date: _____
Date: _____

WELL VOLUME CALCULATION:

Circle diameter and K used below: 1" I.D., K=0.041 gal/ft; 2" I.D., K=0.163 gal/ft; 4" I.D., K=0.653 gal/ft; 6" I.D., K=1.469 gal/ft; 8" I.D., K=2.61 gal/ft; 10" I.D., K=4.08 gal/ft

1 Well Volume:

[Total Depth (_____ft) - Depth to Water (_____ft)] x K gal/ft = _____gallons

Purge Volume:

1 Well Volume (_____gallons) x 3 = _____gallons **(3 well volumes)**

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1437										14 ppm
1441	15.1	9.32	0.615	8.81	11.92				9'	
1446	16.7	9.74	0.786	325	0.23				19.4'	Flow through cell fill with sand
1454	14.3	9.27	1.09	999	9.34					
1459	15.1	9.18	1.66	999	4.61				41'	
1504	15.4	9.11	2.25	999	4.25				45.43	depth of pump
1529	15.1	8.82	6.71	999	1.11				31'	Changed flow of pump
1534	15.5	8.85	6.72	999	0.25					
1538	15.7	8.87	6.78	999	0.05					

PURGE INFORMATION:

Time/Date Started: 1433 | 12/03/02
Time Purge End: 1542
Purge Rate(s): 2 / 0.5 beginning @ 1524 (gpm)
Purged Volume: 50 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Whalen (prosonic)
Depth(s) to Intake: _____
Water Containerized/Amount? 50 gal
PID Scan of Wellhead? _____
How was yield measured? Watch + Bucket
Did the well cavitate? YES X NO _____
Other: _____

SAMPLING INFORMATION: CO30-RS-45A

Time/Date Started: 1438 | 12/03/02
Sampled by: 1540 - & CO30-RS-45B
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? N/A
Date Laboratory Received: _____
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC02 - 3
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Sample A collected after purging ~10 gals (5 mins)
1508 - Pumping stopped; wait to recharge

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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633 00-1890-107
Purged by: Prosonic &
Sampled by: CAH &
Checked by: &

Well Identification: CO30-RS-35
Project Location:
Date: 12/03/02
Date:
Date:

WELL VOLUME CALCULATION:

Circle diameter and K used below:
1" I.D., K=0.041 gal/ft
2" I.D., K=0.163 gal/ft
4" I.D., K=0.653 gal/ft
6" I.D., K=1.469 gal/ft
8" I.D., K=2.61 gal/ft
10" I.D., K=4.08 gal/ft

1 Well Volume:

[Total Depth (_____ft) - Depth to Water (_____ft)] x K gal/ft = _____gallons

Purge Volume:

1 Well Volume (_____gallons) x 3 = _____gallons **(3 well volumes)**

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1210	14.6	8.40	0.561	435	12.12				13.9	0 ppm
1218	17.8	11.60	3.04	598	-0.02				13.5	
1223	17.7	11.64	2.44	999	0.11					
1228	17.5	11.69	2.66	999	0.00					
1233	17.5	11.70	2.70	999	-0.03					134 ppm

PURGE INFORMATION:

Time/Date Started: 1207 | 12/03/02
Time Purge End: 1239
Purge Rate(s): 2 (gpm)
Purged Volume: 50 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Whaler (Prosonic)
Depth(s) to Intake:
Water Containerized/Amount? yes 50
PID Scan of Wellhead?
How was yield measured? Watch + Bucket
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1238 | 120302
Sampled by: CAH &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed: HCl
Number of Bottles Collected: 2
Bottle Preservatives: 2
Duplicate Sampling? no
Date Laboratory Received:
Results to be Sent to:
Sample: grab X composite other
COC Form No.: DEC02-2
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 61-1633-00-~~189~~CH 1890-107
Purged by: _____ & _____
Sampled by: TDE/ & CAH
Checked by: _____ & _____

Well Identification: C030-RS-25
Project Location: _____
Date: 12/03/02
Date: _____
Date: _____

WELL VOLUME CALCULATION:

Circle diameter and K used below: 1" I.D., K=0.041 gal/ft; 2" I.D., K=0.163 gal/ft; 4" I.D., K=0.653 gal/ft; 6" I.D., K=1.469 gal/ft; 8" I.D., K=2.61 gal/ft; 10" I.D., K=4.08 gal/ft

1 Well Volume:

[Total Depth (_____ft) - Depth to Water (_____ft)] x K gal/ft = _____gallons

Purge Volume:

1 Well Volume (_____gallons) x 3 = _____gallons **(3 well volumes)**

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1032	15.8	10.79	0.91	999	4.50					~2ppm, 11.8'
1037	17.8	11.93	2.50	999	1.34					31 ppm, ~20 ppm
1042	16.9	12.01	3.68	999	0.62					44.9 ppm
1047	17.3	11.98	2.61	999	1.09				11.8	46.1 ppm
1052	~~16.7~~ 17.1	11.98	2.56	605	1.63					20.8 ppm
1057	17.4	11.99	2.69	254	1.04					116 ppm
1102	17.7	11.98	2.68	813	1.74					39 ppm

PURGE INFORMATION:

Time/Date Started: 12/03/02 | 1029
Time Purge End: 1108
Purge Rate(s): 2 (gpm)
Purged Volume: 75-80 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Whale (Prosonic)
Depth(s) to Intake: 11.
Water Containerized/Amount? 75-80
PID Scan of Wellhead? _____
How was yield measured? Watch + Bucket
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1105 | 12/03/02
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: _____
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC02~1
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & _____
Sampled by: CAH & _____

Well Identification: C027-RSM-DEEP
Project Location: _____
Date: 1/27/03
Date: 1/27/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1530									7.32'	2.5 gpm
1532									11.25	
1536	17.7	7.81↑	0.270	407	-0.59	+7 CAH	0.01		11.23	
1540									10.98	2.3 gpm
1542	17.7	7.84	0.270	250	-0.62		0.01			
1547	17.8	7.84	0.273	190	-0.63		0.01			
1553	17.8	7.81	0.282	200	-0.63		0.01		10.99	
1457	17.8	7.76	0.283	220	-0.64		0.01			
1602	17.8	7.80	0.292	200	-0.64		0.01			

PURGE INFORMATION:

Time/Date Started: 1530 | 1/27/03
Time Purge End: 1606
Purge Rate(s): 2.3 (gpm)
Purged Volume: 75 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: ~~Super Whaler (Pressure)~~ CAH Grundfos 2" 14662
Depth(s) to Intake: 2' from bottom
Water Containerized/Amount? ~~BS~~ CAH no
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1606 | 1/27/03
Sampled by: _____ & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/27/03
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: 6 JAN 03-27
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Turbidity probe may be dirty. Visually has v. low turbidity

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SID
Project Number: 01-1633-00-189-107
Purged by: CAH & _____
Sampled by: CAH & _____

Well Identification: C027-PZM-DEEP
Project Location: _____
Date: 1/15/02
Date: 1/15/02

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1246									8.69' b PVC	0.68 CAH gpm
1248									9.12	0.68 gpm
1251	16.5	7.00	0.278	999	-0.39		0.01		9.12	0.6 ppm
1256	17.1	7.11	0.280	999	-0.41		0.01			
1258									9.07	
1301	17.2 (46.9 CH	7.21	0.274	385	-0.06		0.01		9.07	0.6 ppm
1307	17.2	7.28	0.268	118	0.06		0.01			
1312	17.3	7.33	0.263	50	-0.12		0.01		9.05	0.3 ppm
1318	17.3	7.43	0.261	36	0.07		0.01			

↑ drift in

PURGE INFORMATION:

Time/Date Started: 1246 | 1/15/02
Time Purge End: 1335
Purge Rate(s): 0.68 (gpm)
Purged Volume: 28 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: 2" Grundfos 14662
Depth(s) to Intake: 123'
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1334 | 1/15/02
Sampled by: _____ & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/15/03
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: JAN03-17
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Water - brown w/ hint of red

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-189-107
Purged by: TDE & CAH
Sampled by: TDE & CAH

Well Identification: C027-RS-115
Project Location:
Date: 1/11/03
Date:

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1430									13' 9.5"	1 gpm
1432	12.2	6.38	0.431	-10	-0.07		0.01		14' 5"	
1438	14.9	6.59	0.405	-10	0.49		0.01		16' 4"	0.0 ppm
1443	14.9	6.64	0.394	-10	-0.60		0.01		16' 4.5"	
1448	15.5	6.66	0.381	-10	-0.52		0.01			
1453	15.7	6.66	0.378	-10	-0.56		0.01		16' 1"	
1458	16.0	6.68	0.382	-10	0.01		0.01		16' 1/2"	
1503	16.0	6.67	0.382	-10	-0.36		0.01			

PURGE INFORMATION:

Time/Date Started: 1430 | 1/11/03
Time Purge End:
Purge Rate(s): (gpm)
Purged Volume: (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (1464
Pump Type and ID: Super Wheaten (Prisonic)
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1507 | 1/11/03
Sampled by: &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/11/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: ~~CAS~~ JAN03-10
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Turbidity = -10 = >999

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-189-107
Purged by: TDE & CAH
Sampled by: TDE & CAH

Well Identification: CO27-RS-55
Project Location:
Date: 1/8/03
Date: 1/8/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1609									17'3"	1.4 gpm
1610	15.4	6.16	0.263	999	7.66		0.01		18'	
1615	15.9	7.04	0.669	999	5.13		0.02		21'	0.42 gpm
1620	15.1	8.98	1.49	999	0.05		0.06		20'10"	
1626	15.2	7.92	2.37	999	0.55		0.11		20'5.5'	389 ppm
1632	15.3	7.45	3.25	999	0.06		0.16			
1637	15.3	7.31	3.87	999	0.34		0.19			
1639									20'2¾"	268 ppm
1643	15.1	7.24	4.50	999	0.28		0.23			224 ppm
1652	15.4	7.19	5.06	999	0.18		0.26		20'6"	265 ppm
1657	15.5	7.17	5.52	999	~~0.75~~ CAH 0.12		0.28			
1703	15.5	7.13	5.93	880	0.14		0.31			
1708	15.8	7.11	6.36	730	-0.10		0.33			
1714	15.7	7.09	6.56	646	0.10		0.34			

PURGE INFORMATION:

Time/Date Started: 1609 | 1/8/03
Time Purge End: 1722
Purge Rate(s): See above (gpm)
Purged Volume: 27 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead?
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1722 | 1/8/03
Sampled by: CAH &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/8/03
Results to be Sent to: + CAH
Sample: grab X composite other
COC Form No.: JAN 03-4
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Odor

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: TDE & CAH
Sampled by: TDE & CAH

Well Identification: C027-RS-45
Project Location:
Date: 1/8/03
Date: 1/8/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1347									15'6"	~~0.66 gal/min~~ 1.5 gpm
1348									16'4.5"	
1350	13.5	8.04	0.535	999	8.18		0.02		17'	
1354									17'3.5"	1.2 gpm
1357	15.5	9.58	0.431	999	2.10		0.01		17'4"	1300 ppm
1402	16.1	9.65	0.515	999	1.90		0.02			
1408	16.1	9.64	0.631	999	1.81		0.02			
1413									17'4.5"	
1416	16.8	9.54	0.783	999	0.47		0.03			Attached flow through
1421	16.7	9.55	0.824	999	0.52		0.03		17'4"	1900 ppm
1427	16.7	9.54	0.855	999	0.59		0.03			
1432	16.7	9.53	0.851	999	0.55		0.03			
1437	16.6	9.54	0.871	999	0.54		0.03			
1442	16.5	9.54	0.899	800	0.66		0.03		17'5"	

PURGE INFORMATION:
Time/Date Started: 1347 | 1/8/03
Time Purge End: ~~Set~~ 1444
Purge Rate(s): See above (gpm)
Purged Volume: 75 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead?
How was yield measured? Bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:
Time/Date Started: 1444 | 1/8/03
Sampled by: CAH & TDE
Sample Method:
Recovering Water Level Depth: 17'5"
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/8/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN03-3
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Strong odor

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-000-1890-107
Purged by: TDE & CAH
Sampled by: CAH & TDE

Well Identification: C027-RS-35
Project Location:
Date: 01/08/02
Date:

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0944									19'3"	1.4 gpm
0945	12.5	6.65	0.252	758	9.65		0.0		20'	
0947									23'	0.16 gpm
0951	11.5	8.53	0.242	431	9.70		0.0		23'4.25"	
0957	11.1	8.60	0.241	480	9.57		0.0		23'4"	
1004	10.9	8.69	0.246	644	9.45		0.0		23'3"	0.11 gpm
1010	10.6	8.53	0.254	999	8.44		0.0		23'0.5"	Turbidity increase 0.16 gpm
1018	12.5	7.08	1.24	999	2.1.73		0.05			
1024	11.8	6.97	1.36	999	1.58		0.06		23'	0.0 ppm
1035	12.9	6.84	1.70	999	0.80		0.07			
1040	13.1	6.86	1.78	999	0.67		0.08		23'1.5"	
1046	13.2	6.85	1.82	999	0.41		0.08			
1051	13.2	6.89	1.89	999	0.63		0.09		23'2"	
1058	13.8	6.86	2.08	999	0.16		0.09		23'3.5"	
1104	~~13.6~~ 14.1	6.90	1.80	999	1.84		0.08		23'4.5"	
1110	13.6	6.86	1.96	999	1.24		0.09			

PURGE INFORMATION:

Time/Date Started: 0944 | 1/8/03
Time Purge End: 1115
Purge Rate(s): See above (gpm)
Purged Volume: 15 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (44614)
Pump Type and ID: (Prosonic) Supra Whale
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead?
How was yield measured? bucket gauge
Did the well cavitate? YES NO
Other:

SAMPLING INFORMATION:

Time/Date Started: 1114 | 1/8/03
Sampled by: CAH & TDE
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/9/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN 03-2
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & TDE
Sampled by: CAH & TDE

Well Identification: C027-RS-25'
Project Location:
Date: 01/08/03
Date: 01/08/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0727									12'7"	1.7 ppm
0730			0.65	Container damaged						1.9 ppm odor
0731	13.1	10.10	1.70	>999	1.96		0.07		14'6"	1300 ppm
0736	14.5	11.43	3.76	>999	1.41		0.19		14'6"	
0741	14.7	11.60	4.10	999	1.65		0.21			1300 ppm
0746	14.9	11.61	4.31	999	1.50		0.22		14'5"	
0751	14.7	11.68	4.57	999	1.10		0.23		14'4.5"	1700 ppm

PURGE INFORMATION:

Time/Date Started: 0728 | 1/8/03
Time Purge End: 0755
Purge Rate(s): 3 (gpm)
Purged Volume: 35 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauged
Did the well cavitate? YES NO
Other:

SAMPLING INFORMATION:

Time/Date Started: 0754 |
Sampled by: CAH & TDE
Sample Method:
Recovering Water Level Depth: 14'4"
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/8/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN 03-1
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) possible sheen on purge H_2O

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-000-1890-107
Purged by: TDE & CAH
Sampled by: TDE & CAH

Well Identification: LPO5-RS-45
Project Location:
Date: 1/24/03
Date: 1/24/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1330									16' 7.5"	choppin' 1.1 gpm
1331	13.8	8.35↑	0.297	760	11.60		0.01			
1336	13.2	8.19	0.483	999	5.50		0.01		22'	0.6 gpm
1341	13.6	8.23	0.597	999	0.83		0.02			
1347	13.2	8.24	0.534	772	1.93		0.02			0.0 ppm
1353	13.3	8.19	0.635	450	1.44		0.02			
1359	13.3	8.10	0.938	213	1.23		0.04			
1404	13.5	8.01	2.18	188	0.66		0.10			0.7 ppm
1410	13.6	7.94	3.53	86	0.80		0.17			
1415	13.6	7.84	4.95	109	0.78		0.25			
1420	13.8	7.84	6.24	60	0.55		0.32			
1425	13.8	7.81	7.46	110	0.93		0.40			0.3 ppm
1431	13.8	7.78	8.31	93	0.75		0.45			
1436	13.8	7.75	8.98	66	0.70		0.49			
1444	13.9	7.73	9.20	139	1.18		0.50			
1450	14.0	7.69	9.65	50	0.99		0.53			

PURGE INFORMATION:
Time/Date Started: 1330 | 1/24/03
Time Purge End: 1453
Purge Rate(s): 1.1 / 0.6 see above (gpm)
Purged Volume: 55 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whale / Prosonic
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? Bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:
Time/Date Started: 1452 | 1/24/03
Sampled by: &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? N/A
Date Laboratory Received: 1/24/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN 03-24
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-189Q-107
Purged by: CAH & TDE
Sampled by: CAH & TDE

Well Identification: CPO5-RS-35
Project Location:
Date: 1/24/03
Date: 1/24/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1037									17'5"	and dropped 1.2gpm
1039	10.2	9.05	0.305	480	14.32		0.01		19'6"	
1044	12.1	12.10	5.10	999	5.35		0.26		21'2"	
1049	13.6	12.26	7.67	999	1.49		0.41		21'4"	3.1 ppm
1054	~~13.75~~ 13.8	12.38	9.22	999	1.76		0.50			4.0
1059	14.6	12.40	9.72	999	1.30		0.53			4.1 ppm
1104	14.4	12.43	9.88	999	2.31		0.54		21'7"	
1109	14.4	12.43	10.1	465	1.71		0.56			
1116	~~13~~ 14.1	12.31	9.72	270	1.08		0.53			
1121	14.3	12.43	10.3	272	2.06		0.57			

PURGE INFORMATION:

Time/Date Started: ~~13~~ 1037 | 1/24/03
Time Purge End: 1128
Purge Rate(s): 1.2 gpm (gpm)
Purged Volume: ~~65~~ CAH 65 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Pressure)
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1127 | 1/24/03
Sampled by: &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/24/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN03-23
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & TDE
Sampled by: CAH & TDE

Well Identification: CRØ5-RS-25
Project Location:
Date: 1/24/03
Date: 1/24/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
Ø857									19'6.5"	1.2 ppm
Ø859	5.4	10.14 ↑	Ø.322	95Ø	10.25		Ø.Ø1		21'	
Ø9Ø4	9.4	12.16	5.Ø6	999	4.79		Ø.25		21'6"	1.3 ppm
Ø9Ø9	11.6	12.56	8.17	999	2.1Ø		Ø.44			
Ø914	12.1	12.68	9.28	999	1.49		Ø.51			
Ø919	12.9	12.68	9.82	86Ø	1.14		Ø.53			2.8 ppm
Ø924	13.3	12.69	10.1	52Ø	↓		Ø.55			
Ø929	13.3	12.69	10.5	367	-Ø.44		Ø.58			2.2 ppm
Ø934	13.3	12.68	9.6Ø	279	Ø.19		Ø.52		21'4"	
Ø939	13.5	12.67	9.66	2Ø2	1.54		Ø.53			1.9 ppm
Ø944	13.5	12.68	10.4	13Ø			Ø.58			

PURGE INFORMATION:

Time/Date Started: Ø857 | 1/24/03
Time Purge End: Ø947
Purge Rate(s): 1.2 (gpm)
Purged Volume: 55 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake: 21-24'
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: Ø946 | 1/24/03
Sampled by: CAH & TDE
Sample Method:
Recovering Water Level Depth: 21'4"
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/24/03
Results to be Sent to:
Sample: grab X composite other
COC Form No.: JAN03-22
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) * Cond. reading jumping

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-189-107
Purged by: CAH & _____
Sampled by: CAH & _____

Well Identification: CP16-PZM-DEEP
Project Location: _____
Date: 1/12/03
Date: 1/12/03

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1356									20.35	
1407									20.72	0.17gpm Attached flow thru cell
1409	15.6	12.84	8.24	16	-0.55				20.81	
1415	16.2	12.85	8.29	3	-0.58					
1417										0.5ppm
1420	16.3	12.86	8.26	0	-0.59				20.82	

PURGE INFORMATION:

Time/Date Started: 1359 | 1/12/03
Time Purge End: 1424
Purge Rate(s): 0.17 gpm (gpm)
Purged Volume: 3 gal (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 (14614)
Pump Type and ID: 2" Grundfos (14662)
Depth(s) to Intake: 47'
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO _____
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1423 | 1/12/03
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: 20.82
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 1/13/03
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: JAN03-11
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Cond probe jumping around; Water crystal clear Slag-like odor

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GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-00-1890-107
Purged by: Prosonic & _____
Sampled by: CAH & _____

Well Identification: CPH6 - RS - 84
Project Location: _____
Date: 12/0 CAH 12/17/02
Date: 12/17/02

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1058		~~8.44~~ CAH							25'7"	BTOC
1101	12.3	8.41	0.425	533	6.54		0.01		27'15"	
1107	13.0	8.14	0.347	432	7.04		0.01		28'	
1108	15.0	8.32	0.813	999	0.10		0.03		28'6"	1 gpm
1115	15.6	8.13	1.88	999	0.30		0.08		28'11"	
1121	15.6	7.69	3.15	999	1.19		0.15			0.0 ppm
1124									29'	
1126	15.5	7.37	4.04	344	3.90		0.20			
1128									28'11"	0.83 gpm
1131	15.5	7.11	5.33	100	1.21		0.28			
1136	15.4	7.04	6.04	50	1.09		0.32			
1138									28'9.5"	
1144	15.4	6.94	6.98	20	0.50		0.37			
1149	15.3	6.92	7.37	<10	0.28		0.39			
1154	15.3	6.90	7.64	71	0.18		0.41			
1159	15.2	6.88	7.86	26	0.09		0.42			
1204	15.1	6.87	8.03	9	0.04		0.43			
1209	15.2	6.87	8.07	150	0.02		0.44			
1214	15.1	6.85	8.25	131	0.04		0.44			
1219	15.1	6.85	8.40	119	0.06		0.45			
1224	15.1	6.85	8.53	80	0.10		0.46		28'9''	

Attached flow thru cell

PURGE INFORMATION:

Time/Date Started: 1058 | 12/17/02
Time Purge End: 1227
Purge Rate(s): 0.68 / see Comments above (gpm)
Purged Volume: 70 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whaler
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? Bucket gauge
Did the well cavitate? YES _____ NO _____
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1226 | 12/17/02
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: 28' 9''
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/17/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC 02-17
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: Prosonic & _____
Sampled by: CAH & _____

Well Identification: CP16-RS-74
Project Location: _____
Date: 12/17/02
Date: 12/17/02

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0726									26'2"	BTOC
0728	12.7	7.22	0309	670	3.00		0.01		27'	BTOC pH drifting
0734	11.3	7.46	0.231	700	3.60		0.00			
0740	11.3	7.83	0.264	720	2.66		0.01		27'	0.0 ppm
0747	11.2	8.21	0.321	950	2.71		0.01			0.0 ppm pH still drifting
0753	11.2	8.39	0.370	830	2.46		0.01			
0800	11.2	8.40	0.452	890	2.41		0.01		27'	
0807	11.5	8.53	0.746	999	1.02		0.03		27'1"	
0813	11.7	8.51	0.98	999	0.00		0.04			Attached flow through pH meter stabilized
0819	11.6	8.43	1.22	999	0.13		0.05			
0824	11.7	8.36	1.50	999	0.15		0.07			
0830	11.8	8.33	2.22	999	0.17		0.09			
0836	11.9	8.13	2.92	999	0.17		0.14			
0842	12.2	8.01	3.78	999	0.17		0.18			0.0 ppm
0848	12.4	7.89	4.72	999	0.17		0.23			
0854	12.4	7.82	5.32	900	0.17		0.27			Checked Horiba pH + Cond cal std.
0904	12.2	7.52	6.14	550	0.00		0.32			
0911	12.4	7.63	6.54	410	0.17		0.34			
0920				qs					27'11"	1 gpm
0922	15.3	7.46	6.89	999	0.07		0.35		28'	
0928									28'2.5"	1.3 gpm Container on back

PURGE INFORMATION:

Time/Date Started: 0726 | 12/17/02
Time Purge End: 0959
Purge Rate(s): 0.27 (gpm)
Purged Volume: 70 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whale
Depth(s) to Intake: _____
Water Containerized/Amount? _____
PID Scan of Wellhead? _____
How was yield measured? Bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 0958 | 12/17/02
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: 28' 4.5"
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/17/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC02-16
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) 0918 increased flow to develop well point

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GROUNDWATER SAMPLE LOG

Project Name: BSC SPD
Project Number: 01-1633-00-1890-107
Purged by: Prosonic & _____
Sampled by: CAH & _____

Well Identification: CP16-RS-64
Project Location: _____
Date: 12/16/02
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1430	12.2	9.39	0.310	999	12.31		0.01		←	26.5' BTOC ← 0.47 gpm
1435									27' BTOC	
1438	12.6	9.26	0.314	960	12.46		0.01			0.42 gpm
1441									27' ½"	
1445	13.2	9.65	0.357	999	8.81		0.01			0.2 ppm
1451	13.2	9.84	0.393	999	6.73		0.01		27' 1"	0.6 ppm
1458	~~12.1~~ 13.5	9.90	0.440	973	5.98		0.01		27' 1.5"	0.3 ppm
1504	14.0	9.95	0.506	900	3.75		0.02			
1511	13.9	9.94	0.562	850	2.55		0.02			
1516	14.0	9.94	0.602	770	1.81		0.02		27'2"	0.4 ppm
1522	14.2	9.93	0.664	680	1.28		0.02			
1527	14.3	9.91	0.720	650	0.87		0.03			
1534	14.3	9.88	0.781	560	0.57		0.03		27'2"	
1539	14.4	9.85	0.837	500	0.38		0.03			0.6 ppm
1547	14.4	9.80	0.907	570	0.16		0.03			
1552	14.3	9.76	0.955	480	0.10		0.04			0.4 ppm
1558	14.2	9.73	1.04	420	0.02		0.04			

PURGE INFORMATION:

Time/Date Started: 1430 | 12/16/02
Time Purge End: 1602
Purge Rate(s): 0.42 (gpm)
Purged Volume: _____ (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whaler
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? Bucket Gauge
Did the well cavitate? YES _____ NO _____
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1602 | 12/16/02
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: 27' 2"
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/16/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC 02-15
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: BSC SPD
Project Number: 01-1633-00-189D-107
Purged by: Prosonic & _____
Sampled by: _____ & _____

Well Identification: CP16-RS-5554
Project Location: _____
Date: 12/16/02
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1125									22'	
1131	13.8	11.36	0.536	648	9.65		0.02		23' 3"	
1137									~~0~~	NOT ABLE TO GET WL TO STOP COME UP PU TO TRY TO DEVELOP
1140	17.3	11.20	0.412	569	9.79		0.01		26' BTOC	
1144									27'10"	INTERMIC FLOW @ 2gpm
1148							0		28'	0.14 gpm
1150	15.0	11.24	0.397	976	10.26		0.01		28'2"	
1152									28'3½"	0.08 gpm
1202	11.8	11.49	0.463	509	9.24		0.01		28'3½"	0.04 gpm
1225	14.6	12.17	2.53	980	9.06		0.12		29'	0.9 ppm
1235	14.8	12.43	3.66	737	6.70		0.18		29'7.5"	0.9 ppm 0.14 gpm
1245	14.1	12.61	5.06	500	4.65		0.26		29'9"	0.7 ppm 0.1 gpm
1255	13.5	12.75	6.62	490	2.91		0.35			
1309	12.8	12.77	7.22	350	2.78		0.38		29'11"	
1317	12.9	12.86	7.82	303	3.00		0.42		"	

PURGE INFORMATION:

Time/Date Started: 1125 | 12/16/02
Time Purge End: 1328
Purge Rate(s): see comment column above (gpm)
Purged Volume: 15 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whaler
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? Bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1327 | 12/16/02
Sampled by: CAA & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/16/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC02-14
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

Science Applications International Corporation
An Employee-Owned Company

GROUNDWATER SAMPLE LOG

Project Name: BSC SPD
Project Number: 01-1633-00-1890-107
Purged by: Prosonic & _____
Sampled by: CAH & _____

Well Identification: CP16-RS-44
Project Location: _____
Date: 12/16/02
Date: 12/16/02

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0913	~~7~~	~~11.4~~	~~0.94~~ CAH		~~8.2~~				26'2"	bTOC
0915	14	~~4.8~~ CAH	0.94	850	8.2		0.0		26'4"	
0926	16.3	12.78	8.22	282	0.13		0.46			0.0 ppm
0932	16.0	12.93	9.38	174	0.12		0.51		26'3"	
0937	15.7	12.97	9.51	129	0.13		0.52		26'3"	
0944	15.5	12.99	9.71	229	0.14		0.53			
0949	15.4	12.97	9.47	999	0.14		0.52			
0954	15.4	12.94	8.07	999	0.07		0.43			
0959	15.6	12.92	7.74	999	0.38		0.41			
1005	15.5	12.90	8.41	<10	0.70		0.44			Cleaned out flow through cell
1010	15.5	12.98	9.39	999	0.02		0.51		26'3"	0.0 ppm
1018	15.6	13.01	9.87	999	0.14		0.54			
1025	15.4	13.03	9.96	999	0.15		0.55			

PURGE INFORMATION:

Time/Date Started: 0913 | 12/16/02
Time Purge End: 1029
Purge Rate(s): 0.33 (gpm)
Purged Volume: 25 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whaler
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1028 | 12/16/02
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: 26'3"
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/16/02
Results to be Sent to: Gascoyne
Sample: grab ✓ composite _____ other _____
COC Form No.: DEC02-13
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

Science Applications International Corporation
An Employee-Owned Company

GROUNDWATER SAMPLE LOG

Project Name: BSC · SPD
Project Number: 01-1633-00 - 1890 - 107
Purged by: Prosonic & _____
Sampled by: CAH & _____

Well Identification: CP16 - RS ~ 34 ~~24~~ cnt
Project Location: _____
Date: 12/10/02
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1615			3.70						27'	BTOC
1621	12.0	12.05	~~2.72~~ 3.74	826	7.55		0.18			
1626	13.8	12.57	8.04	999	1.14		0.47			PID = 0.9 ppm
1631	14.0	12.63	9.21	850	0.08		0.50			
1636	14.2	12.67	9.34	372	0.09		0.51			
1640	14.5	12.68	9.41	150	0.11		0.51			
1646	14.6	12.69	9.49	<10	0.09		0.52		27'	
1653	14.5	12.71	9.2	<10	0.13		0.50			
1658	14.6	12.71	9.2	<10	0.12		0.50		27'	

PURGE INFORMATION:

Time/Date Started: 1615 | 12/10/02
Time Purge End: 1701
Purge Rate(s): 0.75 (gpm)
Purged Volume: 40 (gal.)
Purge Method: pump x bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whaler
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? Bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1701 | 12/10/02
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/10/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC02-12
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: [illegible] SFD
Project Number: 01-1633-00-1890-107
Purged by: TDE & CAH
Sampled by: _____ & _____

Well Identification: CF30-PZM-DEEP
Project Location: _____
Date: 12/11/02
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1111									14.28'	1" PVC
1107	16.71	11.35	1.35	<10	0.0		0.05		16.79	1" PVC
1114	16.9	11.57	1.23	<10	0.0		0.05			
1121	17.41	11.39	1.34	<10	0.0		0.06		16.90	1" PVC
1128	17.0	11.22	1.07	<10	0.05		0.06			
1137										11 gpm
1145	13.4	9.5	3.1	<10	0.1		0.12		18.20	
1221	12.0	9.6	3.2	<10	0.1		0.2		19.92	

PURGE INFORMATION:

Time/Date Started: 1102 | 12/11/02
Time Purge End: 1221 12/11/02
Purge Rate(s): 2.3 / 4. (gpm)
Purged Volume: 240 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Grundfos 2"
Depth(s) to Intake: _____
Water Containerized/Amount? no
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started _____ | _____
Sampled by: _____ & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: _____
Bottle Preservatives: _____
Duplicate Sampling? _____
Date Laboratory Received: _____
Results to be Sent to: _____
Sample: grab _____ composite _____ other _____
COC Form No.: _____
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) 32° F, heavy rain

Science Applications International Corporation
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GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-00-1890-107
Purged by: CAH & _____
Sampled by: CAH & _____

Well Identification: CP15 - PZH
Project Location: _____
Date: 12/20/02
Date: 12/20/02

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1355									7.60	2.5 gpm
1403									11.07	1.2 gpm 0.0 ppm
1408									8.46	0.35 gpm
1414	18.0	8.08	14.5	44	0.24		0.84		8.01	0.0 ppm
1419	18.1	8.12	14.4	2	0.13		0.83		8.01	
1424	18.3	8.14	14.3	5	0.07		0.83		8.01	
1429	18.3	8.15	14.3	2	0.05		0.82		7.97	

PURGE INFORMATION:

Time/Date Started: 1355 | 12/20/02
Time Purge End: _____
Purge Rate(s): See above (gpm)
Purged Volume: _____ (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 15093
Pump Type and ID: Grundfos 2" 14651
Depth(s) to Intake: ~1 ft above bottom
Water Containerized/Amount? no
PID Scan of Wellhead? n/a
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO _____
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1434 | 12/20/02
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: 7.97
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/20/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC 02-24
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Water very turbid for 1st 5 mins

Science Applications International Corporation
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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633-00-1890-107
Purged by: Prosonic & _____
Sampled by: _____ & _____

Well Identification: CP15 - RS - 85
Project Location: _____
Date: 12/09/02
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1129	14.9	7.20	8.07	518	0.53		0.42		19'0"	BTOC original water level 11'10"
1133									20'3"	BTOC
1134	15.4	7.23	6.76	949	2.26		0.36		20'11"	BTOC
1137									21'6"	BTOC
* 1138									21'8"	
1140	15.5	7.10	9.4	999	2.05		0.52			
1141									22'3"	
1144									21'	BTOC
1150	13.9	7.05	14.4	480	0.54		0.82		19'	BTOC
1157	14.0	7.06	15.1	477	0.91		0.87		18'	BTOC
1202	14.1	7.05	15.6	510	0.62		0.88		17'10"	BTOC
1208	14.2	7.05	~~15.6~~ 15.7	530	0.40		0.89		17'6"	BTOC
1213	(14.4								17'4.5"	Increased flow rate 0.33gpm
1215	~~13.6~~ 14.1)	7.05	15.7	540	0.30		0.91		17'6.5"	
1217									17'5"	
1222	14.4	7.05	15.7	520	0.27		0.91		17'5"	

PURGE INFORMATION:

Time/Date Started: 1118 | 12/09/02
Time Purge End: 1231
Purge Rate(s): 1.1 / 0.31 (gpm)
Purged Volume: 40 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whaler
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? n/a
How was yield measured? bucket yield
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1231 | 12/09/02
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: _____
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC02 -11
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) *1138 increased purge rate ~~to 2 sec/gal~~ CAH slightly
1142 decreased purge rate to 0.31 gpm
Lots of v. small bubbles collected in sample vials. Took multiple attempts to free bubbles

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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633-00-1890-107
Purged by: Parsons & _____
Sampled by: _____ & _____

Well Identification: CP15-RS-~~85~~ 85
Project Location: _____
Date: 12/09/02
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1030									3' 2" BGL	@ 0.07 GPM 11'10" 12'6½"
1035		7.01								
1038	6.0	~~6.2~~ CM	1.93	999	7.71		0.08			
1047										13'.2½" BTOC
1054	8.3	7.29	4.04	320	2.22		0.20		13' 6.5"	btoc

PURGE INFORMATION:

Time/Date Started: 1030 | 12/09/02
Time Purge End: 1103
Purge Rate(s): 0.07 (gpm)
Purged Volume: _____ (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whaler
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: _____ | _____
Sampled by: _____ & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: _____
Bottle Preservatives: _____
Duplicate Sampling? _____
Date Laboratory Received: _____
Results to be Sent to: _____
Sample: grab _____ composite _____ other _____
COC Form No.: _____
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Stopped purging to collect drill water sample

Science Applications International Corporation
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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633-00-1890-107
Purged by: Prosonic & _____
Sampled by: _____ & _____

Well Identification: CP15-RS-55
Project Location: _____
Date: 12/9/02
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments

PURGE INFORMATION:

Time/Date Started: 0831 | 12/9/02
Time Purge End: 0849
Purge Rate(s): _____ (gpm)
Purged Volume: _____ (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whaler
Depth(s) to Intake: _____
Water Containerized/Amount? _____
PID Scan of Wellhead? _____
How was yield measured? _____
Did the well cavitate? YES _____ NO _____
Other: _____

SAMPLING INFORMATION:

Time/Date Started: _____ | 12/9/02
Sampled by: _____ & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: _____
Bottle Preservatives: _____
Duplicate Sampling? _____
Date Laboratory Received: _____
Results to be Sent to: _____
Sample: grab _____ composite _____ other _____
COC Form No.: _____
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

NO SAMPLE COLLECTED, INTERVAL WOULD NOT YIELD

Science Applications International Corporation
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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633-00-1890-107
Purged by: Prosonz & _____
Sampled by: _____ & _____
Checked by: _____ & _____

Well Identification: CP15-RS-45
Project Location: _____
Date: 12/08/02
Date: _____
Date: _____

WELL VOLUME CALCULATION:

Circle diameter and K used below: 1" I.D., K=0.041 gal/ft; 2" I.D., K=0.163 gal/ft; 4" I.D., K=0.653 gal/ft; 6" I.D., K=1.469 gal/ft; 8" I.D., K=2.61 gal/ft; 10" I.D., K=4.08 gal/ft

1 Well Volume:

[Total Depth (_____ft) - Depth to Water (_____ft)] x K gal/ft = _____gallons

Purge Volume:

1 Well Volume (_____gallons) x 3 = _____gallons **(3 well volumes)**

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1537 ~~1537~~ CHIP									4'10"	
1540	15.2	8.02	0.416	450	7.65		0.01		5'3"	
1546	13.8	8.00	0.415	445	7.62		0.01		5'4"	
1556	12.1	8.13	0.416	425	7.13		0.01			
		Purge aborted @ 1557, sample not collected								

PURGE INFORMATION:

Time/Date Started: 1437 | 12/8/02
Time Purge End: 1557
Purge Rate(s): 0.07 (gpm)
Purged Volume: Total both attempts ~10 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 S/N 14652
Pump Type and ID: Super Whaler
Depth(s) to Intake: _____
Water Containerized/Amount? _____
PID Scan of Wellhead? _____
How was yield measured? Bucket yield
Did the well cavitate? YES_____ NO_____
Other: _____

SAMPLING INFORMATION:

Time/Date Started: _____ | _____
Sampled by: _____ & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: _____
Bottle Preservatives: _____
Duplicate Sampling? _____
Date Laboratory Received: _____
Results to be Sent to: _____
Sample: grab_____ composite_____ other_____
COC Form No.: _____
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) Whole screen exposed

Science Applications International Corporation
An Employee-Owned Company

GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633-00-1890-107
Purged by: Prosonic & _____
Sampled by: CAH & _____
Checked by: _____ & _____

Well Identification: CP15-RS-45
Project Location: _____
Date: 12/08/02
Date: _____
Date: _____

WELL VOLUME CALCULATION:

Circle diameter and K used below: 1" I.D., K=0.041 gal/ft; 2" I.D., K=0.163 gal/ft; 4" I.D., K=0.653 gal/ft; 6" I.D., K=1.469 gal/ft; 8" I.D., K=2.61 gal/ft; 10" I.D., K=4.08 gal/ft

1 Well Volume:

[Total Depth (_____ft) - Depth to Water (_____ft)] x K gal/ft = _____gallons

Purge Volume:

1 Well Volume (_____gallons) x 3 = _____gallons **(3 well volumes)**

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1501	15.2	7.11	0.449	590	8.15		0.01		4'4"	
1515	10.5	7.95	0.402	500	9.25		0.01		CH 4'9"	5'2"
1524	10.6	8.09	0.400	515	9.23		0.01		5'	
Aborted purge. Will pull up casing to expose more screen										

PURGE INFORMATION:

Time/Date Started: 1459 | 12/08/02
Time Purge End: _____
Purge Rate(s): 0.05 (gpm)
Purged Volume: _____(gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake: _____
Water Containerized/Amount? _____
PID Scan of Wellhead? _____
How was yield measured? _____
Did the well cavitate? YES_____ NO_____
Other: _____

SAMPLING INFORMATION:

Time/Date Started: _____ | 12/08/02
Sampled by: _____ & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: _____
Bottle Preservatives: _____
Duplicate Sampling? _____
Date Laboratory Received: _____
Results to be Sent to: _____
Sample: grab_____ composite_____ other_____
COC Form No.: _____
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: _____ Well Identification: CP15-RS-35
Project Number: _____ Project Location: _____
Purged by: _____ & _____ Date: 12/8/02
Sampled by: _____ & _____ Date: _____
Checked by: _____ & _____ Date: _____

WELL VOLUME CALCULATION:

Circle diameter and K used below: 1" I.D., K=0.041 gal/ft; 2" I.D., K=0.163 gal/ft; 4" I.D., K=0.653 gal/ft; 6" I.D., K=1.469 gal/ft; 8" I.D., K=2.61 gal/ft; 10" I.D., K=4.08 gal/ft

1 Well Volume:

[Total Depth (_____ft) - Depth to Water (_____ft)] x K gal/ft = _____gallons

Purge Volume:

1 Well Volume (_____gallons) x 3 = _____gallons **(3 well volumes)**

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1300	18.2	8.64	4.49	160	1.00		0.23			Trace Sheen
1307	18.3	8.59	5.26	134	1.35		0.27			
1314	18.2	8.53	6.08	100	1.39		0.32			
1321	18.2	8.48	7.07	72	1.27		0.38		5'6"	v. trace sheen
1330	18.0	8.41	8.04	45	1.02		0.42			
1338	17.9	8.38	8.79	52	0.36		0.48			
1344	18.2	8.36	9.21	51	0.71		~~0.49~~ CH 0.51			
1351	18.3	8.34	9.6	46	1.21		0.53			slight sheen
1358	18.3	8.32	9.9	60	0.90		0.55			
1404	18.3	8.31	10.3	35	1.82		0.57			

PURGE INFORMATION:

Time/Date Started: _____ | _____
Time Purge End: _____
Purge Rate(s): _____ (gpm)
Purged Volume: _____(gal.)
Purge Method: pump_____ bailed_____
Water Quality Instrument: _____
Pump Type and ID: _____
Depth(s) to Intake: _____
Water Containerized/Amount? _____
PID Scan of Wellhead? _____
How was yield measured? _____
Did the well cavitate? YES_____ NO_____
Other: _____

SAMPLING INFORMATION:

Time/Date Started: _____ | _____
Sampled by: _____ & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: _____
Bottle Preservatives: _____
Duplicate Sampling? _____
Date Laboratory Received: _____
Results to be Sent to: _____
Sample: grab_____ composite_____ other_____
COC Form No.: _____
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 01-1633-00-1890-107
Purged by: Prosonic &
Sampled by: CAH &
Checked by: &

Well Identification: CP15-RS-35
Project Location:
Date: 12/8/02
Date:
Date:

WELL VOLUME CALCULATION:

Circle diameter and K used below: 1" I.D., K=0.041 gal/ft; 2" I.D., K=0.163 gal/ft; 4" I.D., K=0.653 gal/ft; 6" I.D., K=1.469 gal/ft; 8" I.D., K=2.61 gal/ft; 10" I.D., K=4.08 gal/ft

1 Well Volume:

[Total Depth (_____ft) - Depth to Water (_____ft)] x K gal/ft = _____gallons

Purge Volume:

1 Well Volume (_____gallons) x 3 = _____gallons **(3 well volumes)**

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH*	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1136	14.3	8.17	0.365	735	9.45		0.01		5'	
1143	15.1	8.28	0.377	675	8.81		0.01		5'6"	
1149	15.8	8.47	0.432	710	6.62		0.01			
1155	15.7	7.38	0.518	537	7.16					0.0 ppm
1201	16.3	8.55	0.441	612	6.72					
1208	16.6	8.93	0.679	440	4.06				~~8'4"~~	5'6"
1215	17.3	8.95	0.788	490	3.60		0.03			
1221	17.5	8.96	0.851	617	3.20					slight sheen
1230	17.6	8.87	0.99	382	3.21					"
1237	18.2	8.83	1.96	300	1.49		0.09			
1245	18.3	8.80	2.62	290	0.93		0.12			
1252	18.7	8.69	3.55	172	0.76					

flow-thru cell used

PURGE INFORMATION:

Time/Date Started: 1136 | 12/8/02
Time Purge End: 1408
Purge Rate(s): 0.35 (gpm)
Purged Volume: 50 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: ~~2"~~ 4" Super Whaler (Prosonic's)
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead?
How was yield measured? Bucket
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1407 | 12/8/02
Sampled by: &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCL
Duplicate Sampling? n/a
Date Laboratory Received:
Results to be Sent to:
Sample: grab X composite other
COC Form No.: DEC02-9
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

* pH drifting. Recalibrated @ 1115; keep probe in Cal solution between readings until 1208

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GROUNDWATER SAMPLE LOG

Project Name: BSC Sparrows Point
Project Number: 61-1633-00-1890-107
Purged by: Prosonic & _____
Sampled by: _____ & _____
Checked by: _____ & _____

Well Identification: CP15-RS-25'
Project Location: _____
Date: 12/08/02
Date: _____
Date: _____

WELL VOLUME CALCULATION:

Circle diameter and K used below: 1" I.D., K=0.041 gal/ft; 2" I.D., K=0.163 gal/ft; 4" I.D., K=0.653 gal/ft; 6" I.D., K=1.469 gal/ft; 8" I.D., K=2.61 gal/ft; 10" I.D., K=4.08 gal/ft

1 Well Volume:

[Total Depth (_____ft) - Depth to Water (_____ft)] x K gal/ft = _____gallons

Purge Volume:

1 Well Volume (_____gallons) x 3 = _____gallons **(3 well volumes)**

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0930									5.0	
0931	14.7	12.03	4.96	920	3.15				4.10	0.0 ppm
0937	16.7	12.31	7.27	999	0.35					
0944	17.8	12.34	7.98.52	810	0.09					0.0 ppm
0949	18.3	12.38	8.94	999	0.10					
0954	18.5	12.40	9.21	999	0.11					
0959	18.6	12.41	9.40	999	0.11				4.10	
1004	18.3	12.42	9.18	999	0.11		0.50			Cleaned water from flowthru
1011	18.4	12.43	9.17	999	0.02					
1017	18.4	12.42	9.34	772	0.11					

PURGE INFORMATION:

Time/Date Started: 0930 | 12/08/02
Time Purge End: 1021
Purge Rate(s): 0.72 (gpm)
Purged Volume: 30 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 14652
Pump Type and ID: Super Whaler (Prosonic)
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? bucket
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1020 | _____
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: _____
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC02-8
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) 1015 Collected sample WT-120802 from Prosonic water tank
1024 Tank water pH=10.11 Con.=0.317, DO=8.45, Temp=8.8, Sal=0.01
Rinse Horiba w/ dI H2O 1030 9.12 0.280 8.44 =8.4 0.01
Recalibrated Horiba

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GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-00-1890-107
Purged by: TDE & CAH
Sampled by: CAH &

Well Identification: CP17-RS-65
Project Location:
Date: 12/19/02
Date: 12/19/02

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1224									16' BTOC	1.22 ppm
1224	13.3	8.33	0.285	999	14.14		0.01		18'	
1230	17.0	7.76	2.76	999	0.72		0.00	0.13	19'	+/- 0.94 ppm
1233				~~999~~	~~2.33~~				18'8"	
1235	17.3	7.84	1.35	999	2.33		0.06		18'7"	
1241	16.4	7.88	0.793	999	4.20		0.03			
1247	16.4	7.76	0.904	999	3.00		0.03			PID = 0.0 ppm
1252	16.5	7.55	1.45	999	2.17		0.06			
1302	16.5	7.31	2.22	770	1.98		0.10			Connected flow through cell
1308	16.6	7.35	2.98	417	0.39		0.14			
1313	16.5	7.36	3.40	400	0.37		0.17			
1318	16.4	7.33	3.75	295	0.31		0.18			
1325	16.3	7.31	4.40	300	0.16		0.22			0.0 ppm
1331	16.2	7.28	5.00	250	0.13		0.25			
1336	16.2	7.27	5.35	240	0.06		0.27		18' 5.5"	
1341	16.1	7.25	5.61	230	0.05		0.29			
1346	16.0	7.24	5.91	255	0.01		0.31			
1352	16.0	7.22	6.14	230	0.01		0.32			
1401	16.0	7.20	6.57	200	0.00		0.34			
1406	15.9	7.19	6.71	220	0.00		0.35			
1411	15.8	7.18	6.84	210	0.02		0.36			

PURGE INFORMATION:

Time/Date Started: 1224 | 12/19/01
Time Purge End: 1216
Purge Rate(s): see above (gpm)
Purged Volume: 75 (gal.)
Purge Method: pump X bailed
Water Quality Instrument: ~~Super Wheler~~ Horiba U-10
Pump Type and ID: Super Whales 1503
Depth(s) to Intake:
Water Containerized/Amount? yes
PID Scan of Wellhead?
How was yield measured? bucket gauge
Did the well cavitate? YES NO X
Other:

SAMPLING INFORMATION:

Time/Date Started: 1414 | 12/19/02
Sampled by: CAH &
Sample Method:
Recovering Water Level Depth:
Parameters to be Analyzed:
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/19/02
Results to be Sent to:
Sample: grab X composite other
COC Form No.: DEC02-23
Other:

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

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GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: DL-1633-00-1890-107
Purged by: Prosonic & _____
Sampled by: CAH & _____

Well Identification: CP17-RS-55
Project Location: _____
Date: 12/19/02
Date: 12/19/02

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0947									15' 15"	1.3 gpm
0948	12.2	8.83	.260	999	13.49		0.01		17'	
0950									18.1"	0.5 gpm
0953	11.8	8.75	0.278	999	13.52		0.01		18' 1½"	
0955									18' 3"	0.42 gpm
0957	12.2	8.61	0.515	999	10.72		0.02		18' 3"	0.33 gpm
1003	12.9	8.75	0.841	754	3.36		0.03		18' 2"	
1010	~~12.9~~ CH 13.4	9.11	1.34	999	0.22		~~0.06~~ CH	0.06		1.0 ppm
1018	13.7	9.11	1.53	999	0.37		0.07		18'	
1024	13.8	9.06	1.76	999	0.33		0.08			0.7 ppm
1031	13.7	8.95	2.03	999	0.50		0.09			
1036	13.9	8.84	2.26	999	0.48		0.10		18'	
1041	14.0	8.72	2.49	999	0.56		0.12			
1048	13.9	8.60	2.71	999	0.60		0.13			
1054	14.0	8.44	2.95	999	0.80		0.14			0.0 ppm
1100	~~1060~~ 13.9	8.34	3.09	999	0.80		0.15			
1106	13.9	8.21	3.27	999	0.74		0.16			
1112	~~13.~~ CH 14.0	8.12	3.41	999	0.80		0.16			
1118	14.0	8.05	3.54	999	0.79		0.17			
1124	13.9	8.01	3.64	999	0.92		0.18			

PURGE INFORMATION:

Time/Date Started: 0947 | 12/19/02
Time Purge End: _____
Purge Rate(s): See above (gpm)
Purged Volume: 30 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 15093
Pump Type and ID: Super Whale
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1129 | 12/19/02
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/19/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC02-22
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: BSC-SPD
Project Number: 01-1633-00-1890-107
Purged by: Prosonic & _____
Sampled by: TDE & _____

Well Identification: CP17-RS-45
Project Location: _____
Date: 12/19/02
Date: 12/19/02

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
0753									16'11"	1.3 gpm
0755	15.0	9.90	0.387	999	11.13		0.01			
0759										0.5 gpm
0802	13.9	9.87	0.887	780	6.93		0.03		20'1.5"	
0808	15.0	11.97	5.41	737	1.14		0.28			0.0 ppm
0814	15.2	11.87	4.90	999	1.16		0.25			
0822	14.9	12.14	6.92	999	1.38		0.37			Attached flow through cell
0827	15.3	12.22	7.44	999	0.35		0.40		20'4"	
0832	15.2	12.28	7.84	999	0.25		0.42			
0837	15.3	12.29	7.91	999	0.23		0.42		20'5.5"	PID 0.5 ppm
0840										0.42 gpm
0842	15.2	12.29	7.79	999	0.20		0.42		20'4.5"	Clean out flow through cell
0849	15.3	12.38	8.96	999	0.17		0.48		20'3.75"	
0854	15.4	12.44	9.32	999	0.03		0.52		20'2½"	
0859	15.4	12.44	9.35	605	0.0		0.51			
0904	15.3	12.45	9.23	322	0.01		0.50		20'3"	

PURGE INFORMATION:

Time/Date Started: 0753 | 12/19/02
Time Purge End: _____
Purge Rate(s): see above (gpm)
Purged Volume: 40 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 15093
Pump Type and ID: Super Whaler
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? Bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 0906 | 12/19/02
Sampled by: TDE & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/19/02
Results to be Sent to: _____
Sample: grab Y composite _____ other _____
COC Form No.: DEC02-21
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: BSC - SP D
Project Number: 01-1633-00-1890-107
Purged by: Proconix & _____
Sampled by: CAH & TDE

Well Identification: CP17-RS-35
Project Location: _____
Date: 12/18/02
Date: _____

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1520									~~9'4"~~ CAH 16'3" BTOC	
1523	12.7	11.05	0.342	999	12.52		0.01		17'4.5"	0.625 gpm
1529	13.1	10.71	0.293	999	11.73		0.01			
1533									20'3"	0.23 gpm
1535 CAH	11.2	10.73	0.282	999	11.12		0.01		20'3"	0.14 gpm Connected Flow thro
1538 CAH									20'1"	0.14 gpm
1541	9.7	10.86	0.281	999	10.75		0.01			
CAH 1546	10.3	11.08	0.319	999	9.87		0.01			
1551	10.7	11.29	0.385	999	8.85		0.01			
1556	11.0	11.40	0.444	999	8.33		0.01		20' 1.5"	0.14gpm
1602	10.9	11.61	0.554	999	7.92		0.02			0.5 ppm
1607	10.5	11.74	0.675	999	7.32		0.02			
1612	10.0	11.86	0.809	999	7.03		0.03			Cleaned out flow thro
1617	9.0	11.96	0.900	999	7.87		0.03			
1624	10.1	12.25	2.23	999	5.55		0.10			0.12 gpm
1629	11.0	12.24	2.57	830	5.01		0.12			
1634	9.9	12.35	2.82	740	4.46		0.13			
1639	9.8	12.48	3.60	690	3.36		0.18			
1645	9.8	12.58	5.07	666	2.26		0.26			
1652	8.2	12.72	6.39	620	1.45		0.32		19' 9"	
1657	7.9	12.77	6.95	600	1.01		0.36		19'8"	Cont on back

PURGE INFORMATION:

Time/Date Started: 1521 | 12/18/02
Time Purge End: _____
Purge Rate(s): See above (gpm)
Purged Volume: 20 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 15093
Pump Type and ID: Super Whaler
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? Bucket Gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1709 | 12/18/02
Sampled by: CAH & _____
Sample Method: Grab
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/18/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC02-20
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

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GROUNDWATER SAMPLE LOG

Project Name: BSC - SPD
Project Number: 01-1633-00-1890-107
Purged by: Prosonic & _____
Sampled by: CAH & TDE

Well Identification: CP17 - RS - 25
Project Location: _____
Date: 12/18/02
Date: 12/18/02

GROUNDWATER PURGE INFORMATION:

Time	Temp. Celsius	pH	Cond. mS/cm	Turb. NTU	D.O. mg/l	Eh mv	Sal	Purged Quantity	D.T.W.	Comments
1343									14'3"	BTOC 0.3 gpm
1345	9.1	10.02	0.255	740	11.29		0.00		15'2"	
1349									16'4.5"	1.13 gpm
1351	11.1	10.14	0.258	630	10.05		0.00		17'	0.34 gpm
1356	11.1	11.82	0.288	135	7.09		0.03		16'6.5"	0.6 ppm Connected flow thru
1401	11.7	12.40	4.08	185	1.95		0.20		16'3"	
1406	12.1	12.39	3.40	187	0.61		0.16		16'2"	
1411	12.1	12.33	3.54	185	1.00		0.17		16' ½"	0.31 gpm
1418	12.8	12.34	3.81	999	2.29		0.19			
1423	14.1	12.43	5.19	999	0.14		0.27			
1427										0.38 gpm
1428	14.5	12.42	5.25	553	0.18		0.27			
1432	14.2	12.44	5.36	322	0.39		0.27			0.5 ppm
1437	13.9	12.46	5.49	380	0.69		0.28			

PURGE INFORMATION:

Time/Date Started: 1345 | 12/18/02
Time Purge End: 1443
Purge Rate(s): See above (gpm)
Purged Volume: 20 (gal.)
Purge Method: pump X bailed _____
Water Quality Instrument: Horiba U-10 15093
Pump Type and ID: Super Whale
Depth(s) to Intake: _____
Water Containerized/Amount? yes
PID Scan of Wellhead? _____
How was yield measured? Bucket gauge
Did the well cavitate? YES _____ NO X
Other: _____

SAMPLING INFORMATION:

Time/Date Started: 1442 | 12/18/02
Sampled by: CAH & _____
Sample Method: _____
Recovering Water Level Depth: _____
Parameters to be Analyzed: _____
Number of Bottles Collected: 2
Bottle Preservatives: HCl
Duplicate Sampling? n/a
Date Laboratory Received: 12/18/02
Results to be Sent to: _____
Sample: grab X composite _____ other _____
COC Form No.: DEC 02-19
Other: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.) _____

APPENDIX C

Appendix C
Data Assessment Report
ISG Sparrows Point, Inc. Facility
Site Wide Investigation
Report Date: November 29, 2004

I. INTRODUCTION

A total of 93 groundwater samples, 12 equipment and field blanks, and 16 trip blanks, were collected from May, 2004 through September, 2004 for the ISG Sparrows Point, Inc. facility. All samples were submitted to the Gascoyne Division of Microbac Laboratories, Inc. (Gascoyne) for the analysis. Samples for methane analysis were subcontracted to GPL Laboratories, LLLP (GPL). The requested analytical parameters included the methods listed below.

- Volatile Organic Compounds (VOCs) by SW846 Method 8260B
- Semivolatile Organic Compounds (VOCs) by SW846 Method 8270C
- Total and Dissolved Metals by SW846 Method 6010B/6020/7470A
- Available Cyanide by OIA-1677
- Total Cyanide by SW846 9010/9012A
- Sulfide by SW846 9030B/9034
- Alkalinity by EPA 310.1
- Chloride by EPA 325.3
- Ferrous Iron by SM 3500 Fe D
- Nitrate by EPA 353.2
- Sulfate by SW846 9038
- Methane by GPL RSK-175

Method Reference:

SW846 Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Edition, Final Update III, 1996.
Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, revised March 1983.
Standard Methods for the Examination of Water and Waste water, American Water Works Association, Water Pollution Control Federation, 18th Edition, 1992.
Method OIA-1677, Available Cyanide by Flow Injection, Exchange, and Amperometry, USEPA Office of Water, EPA-821-R-99-013, August 1999.

Tables 1.1 through 1.3 identify all samples collected with the corresponding laboratory identification. Samples are organized by analytical data package or Sample Delivery Group (SDG). The corresponding Data Assessment Summary Table for each SDG is also identified in Table 1.1. These tables include any data qualification, by sample and parameter, required as a result of the data assessment.

Table 1.1 Sample Summary		
Lab ID	Location ID	Data Assessment Summary Table ID
0406447-001	CO29-PZM010	2.1
0406447-002	CO29-PZM051	
0406447-003	CO30-PZM015	
0406447-005	CO30-PZM060	
0406447-006	CO33-PZM141	
0406447-007	CO32-PZM004	
0406447-009	CO32-PZM041	
0406447-010	CO10-PZM006	
0406447-011	CO10-PZM090	
0406447-013	CO10-PZM029	
0406447-015	CO26-PZM007	
0406447-016	CO26-PZM007	
0406447-017	CO26-PZM032	
0406447-018	CO35-PZM013	
0406447-019	CO35-PZM056	
0406449-001	CO28-PZM010	2.2
0406449-002	CO28-PZM048	
0406449-003	CO28-PZM125	
0406524-001	CO28-PZM010	2.3
0406524-002	CO28-PZM048	
0406524-003	CO28-PZM125	
0406524-004	CO29-PZM010	
0406524-005	CO29-PZM051	
0406524-006	CO30-PZM015	
0406524-007	CO30-PZM060	
0406524-008	CO33-PZM141	
0406573-001	TS05-PPM007	2.4
0406573-004	CO15-PZM005	
0406573-005	CO17-PZM005	
0406573-006	CO08-PZM036	
0406573-007	SW18-PZM114	
0406573-009	CO02-PZM006	
0406573-010	CO02-PZM041	
0406573-012	CO18-PZM006	
0406573-013	SW17-PZM113	
0406573-014	SW17-PZM007	
0406573-016	SW17-PZM038	
0406573-017	SW13-PZM111	
0406573-018	SW13-PZM025	
0406684-001	SW13-PZM003	2.5
0406684-002	CO27-PZM122	
0406684-003	CO27-PZM046	
0406684-004	CO27-PZM012	
0406684-005	SW14-PZM004	

Table 1.1 Sample Summary		
Lab ID	Location ID	Data Assessment Summary Table ID
0406684-006	SW14-PZM004	
0407041-001	SW14-PZM099	2.6
0407041-004	CP17-PZM013	
0407041-006	CP17-PZM058	
0407041-008	CP11-PZM010	
0407041-009	CP11-PZM040	
0407041-010	CP15-PZM020	
0407103-001	CP15-PZM042	2.7
0407103-002	CP09-PZM047	
0407103-003	CP09-PZM010	
0407103-004	CP05-PZM128	
0407103-005	CP05-PZM028	
0407103-006	CP14-PZM009	
0407110-001	CP14-PZM062	2.8
0407110-002	CP16-PZM018	
0407110-003	CP16-PZM035	
0407110-004	CP08-PZM008	
0407132-001	CP08-PZM034	2.9
0407132-002	HI07-PZM005	
0407132-003	HI07-PZM094	
0407132-004	HI08-PZM060	
0407132-005	HI08-PZM003	
0407132-007	SW18-PZM008	
0407132-008	SW18-PZM008	
0407132-009	TM04-PZM006	
0407132-010	TM04-PZM082	
0407132-011	TM09-PZM047	
0407132-013	TM09-PZM007	
0407234-001	TM09-PZM067	2.10
0407234-002	CP03-PZM008	
0407234-003	CP03-PZM025	
0407234-004	CP06-PZM009	
0407284-001	CP10-PZM008	2.11
0407284-002	GL19-PZM003	
0407284-006	GL20-PZM004	
0407284-007	GL20-PZM004	
0407284-008	GL02-PZM017	
0407284-009	GL02-PZM028	
0407306-001	GL18-PZP002	2.12
0407306-002	GL18-PZM039	
0407306-003	GL03-PZP001	
0407306-005	GL03-PZM013	
0407349-001	SW10-PZM012	2.13
0407349-002	TS10-PDM008	
0407349-005	FM03-PZM005	
0407349-007	FM03-PZM082	

Table 1.1 Sample Summary		
Lab ID	**Location ID**	**Data Assessment Summary Table ID**
0407349-009	GL02-PZM006	
0409562-001	CO27-PZM012	2.14
0409562-002	CO27-PZM122	

Table 1.2 Equipment and Field Blanks	
Lab ID	**Location ID**
0406447-008	CO32-PZM041
0406447-014	Field-01
0406573-011	CO18-PZM006
0407041-005	CP17-PZM058
0407110-006	Field Blank-02
0407132-012	TM09-PZM007
0407132-014	Field-03
0407284-005	GL20-PZM004
0407306-004	GL03-PZM013
0407306-006	Field-04
0407349-006	FM03-PZM005
0407349-008	Field-05

Table 1.3 Trip Blanks	
Location ID	**Location ID**
0406447-004	Trip Blank 02
0406447-012	Trip Blank 03 grab
0406447-020	Trip Blank-04
0406524-009	Trip Blank-05
0406573-008	Trip Blank-06
0406573-015	Trip Blank-07
0406573-019	Trip Blank-08
0406684-007	Trip Blank-09
0407041-007	Trip Blank-10
0407103-007	Trip Blank-11
0407110-005	Trip Blank-12
0407132-006	Trip Blank-13
0407132-015	Trip Blank-13
0407234-005	Trip Blank-14
0407284-010	Trip Blank-15
0407306-007	Trip Blank-16
0407349-011	Trip Blank-17

Full validation was performed for initial samples collected. Full validation includes an evaluation of the analytical data and supporting documentation to verify that data are easily traceable and sufficiently complete to permit logical reconstruction by a qualified individual other than the originator. Findings from the full data validation are included in Attachment 1 of this appendix. A standard review for data quality was performed by URS Corporation (URS) for all samples listed in Tables 1.1 through 1.3. A standard review does not include reconstruction of the analytical data, but does include assessment of supporting quality control (QC) parameters and a review for compliance with the cited methods. A standard review was also performed for samples collected from December 2002 through February 2003. The findings from that assessment are included in Attachment 2. The following information was reviewed in the standard review:

- Case Narrative
- Chain-of-Custody documents
- Laboratory sample ID and URS sample ID
- Sample matrix
- Sample results by sample, by analytical fraction
- Analytical method performed
- Units of measure
- Analysis detection limits
- Laboratory data qualifiers
- Date samples were extracted and/or analyzed
- Percent moisture (where applicable, for solid sample dry weight determination)
- Surrogate recoveries (where applicable)
- Internal Standards (where applicable)
- Laboratory Check Samples (LCS) results
- Laboratory Method Blank results
- Matrix Spike/Matrix Spike Duplicate/Duplicate results
- Electronic Data

Guidance documents for the assessment process included the referenced analytical methods and the "Region III Modifications to National Functional Guidelines for Organic Data Review" (November 1994) and the "Region III Modifications to National Functional Guidelines for Inorganic Data Review" (April 1993).

II. DATA ASSESSMENT

The sections below describe the data assessment procedures performed, and any resultant findings. Data qualifications as a result of this assessment are itemized in a Data Assessment Summary Table for each analytical data package. Unless otherwise noted, the acceptance criteria described in each section were met for each sample, and no qualifications were required.

A. Sample Receipt and Handling

The Chain of Custody and sample receiving documents are reviewed for correct sample identifications, preservatives, temperatures, dates, signatures, and condition of the containers and custody seals upon receipt. Lack of proper preservation could result in qualification or rejection of data, depending on the specific parameters and severity of the exceedance. Other discrepancies or deficiencies could require contacting the laboratory for additional information, and are assessed in accordance with the guidance documents on a case-by-case basis.

All samples were received at the laboratory under custody and intact. In a few cases, sample field identification was not listed on the COC or required revision per URS' instruction. These modifications are specified on the Data Assessment Summary Tables. The login documents indicated that all samples were received at temperatures within criteria. SW-846 preservation guidelines require that samples be maintained at 4±2°C. No results were qualified.

B. Holding Time Criteria

Analyses are reviewed for compliance with the required holding times. Analyses performed after the holding times are qualified according to the severity of the exceedance. Most analyses were performed within the method-required holding times. However, for the instances where holding time exceedances occurred, the affected samples requiring qualification are identified in the Data Assessment Tables.

C. Blank Evaluation

Blank samples include laboratory method blanks, field equipment blanks, and trip blanks. Blanks are evaluated to determine whether conditions exist resulting in reported sample concentrations that are not related to site conditions (i.e., if samples are contaminated from an external source). Contamination introduced from an external source is demonstrated when an analyte is detected in a blank, and the concentration in an associated sample is not significantly higher. Specifically, if the sample concentration is less than five times the blank concentration (or ten times for common laboratory contaminants such as acetone, methylene chloride, 2-butanone, and phthalate esters), it may be assumed that the analyte was introduced from an external source and was not actually present in the samples. The result is, therefore, qualified as non-detect (U) at the reported concentration, or at the laboratory reporting limit (RL), whichever is higher. If the sample concentration is greater than five times the associated blank concentration (or ten times for common contaminants), the amount attributable to external contamination is considered negligible and the reported chemical concentrations are actually present (i.e., no qualification is required).

Method blanks were analyzed with all analytical batches. Trip blanks and equipment blanks were also submitted with the project samples.

Low concentrations of selected target analytes were detected in several of the trip blanks and equipment blanks. Trace amounts of target analytes were also detected in laboratory method blanks.

Based on the concentrations detected in the various blanks, a number of positive results for the affected compounds reported by the laboratory were qualified as non-detect (flagged "U") at either the reporting limit or the value reported, as appropriate. The findings presented in Data Assessment Summary Tables reflect these qualifications.

D. Surrogate Recoveries (Organic Analyses)

Surrogates are chemicals not normally found in nature, but chemically behave in a similar fashion as the target analytes. Surrogate spikes are added prior to sample preparation for organic analyses and are used to evaluate the effects of the sample matrix on the extraction efficiency and/or instrument response. Surrogate recoveries are evaluated against QC acceptance limits established by the laboratory.

Most surrogate recoveries for project samples were within acceptance criteria and no qualifications were necessary. However, for select samples low surrogate recoveries were observed. Associated data were estimated if recoveries were below the QC acceptance criteria, but $\geq$10%. However, for significantly poor recoveries (i.e., <10%), associated nondetect results were rejected and positive concentrations were qualified as estimated.

E. Internal Standards (Organic Analyses)

Internal standards are used for GC/MS analyses to ensure that the system sensitivity and response are stable for every run, and for the quantitation of analyte concentrations. Internal standards are added to all samples, calibration standards, method blanks, matrix spikes, and LCSs. Internal standard responses should be $\geq$50%, but $\leq$200% of the corresponding response in the daily reference standard. If internal standard responses are outside of those limits, associated data are qualified as estimated or rejected, depending on the severity of the exceedance.

Internal standard responses for most project samples and associated QC samples met method criteria. However, moderately low responses for internal standard were identified for some samples as identified in the Data Assessment Summary Tables. All results associated with the affected internal standard(s) were qualified as estimated (flagged "J" or "UJ").

F. Laboratory Control Samples

A Laboratory Control Sample (LCS) is a "contaminant-free matrix" spiked with a known concentration of all analytes of interest or a representative subset of the target analytes. The LCS is carried through the complete sample preparation and the analytical procedures and thereby provides information on the method's performance. Percent recoveries are monitored to provide a continuous measure of each method's accuracy. The LCS recoveries are compared with established method performance criteria to determine data acceptability. Associated samples are qualified in a manner similar to that described for surrogate recoveries.

Most LCS recoveries associated with the project samples were within the established acceptance limits. However, where exceedances, occurred the associated results were qualified to indicate the potential bias (i.e., "K" for positive bias due high recoveries and "L" for low bias due to low recoveries).

G. Matrix Spike/Matrix Spike Duplicate/Laboratory Duplicate

An aliquot of the sample matrix is spiked with a known concentration of all compounds of interest to obtain Matrix Spike and Matrix Spike Duplicate (MS/MSD) samples. The MS/MSD samples are subjected to the entire analytical procedure in order to determine both accuracy and precision of the method for the matrix by measuring the percent recovery and the Relative Percent Difference (RPD) of the two spiked samples. These samples are used to assess matrix interference effects on the method, as well as to evaluate instrument performance. The matrix spikes do not control the analytical process but are used (in conjunction with the LCS) to evaluate the effect of the matrix on analytical performance. Associated data (the spiked sample or samples with a like matrix) are qualified following criteria similar to the LCS.

Several MS/MSD recoveries exceeded the established acceptance limits. If the recoveries were below the acceptance limits, but ≥10%, a negative bias was assumed and affected data were qualified as estimated (flagged "L" or "UL"). If the recovery was significantly poor (i.e., <10%) then associated nondetect data were rejected and positive concentrations were qualified as estimated. If recoveries were above the acceptance limits, only positive concentrations were qualified as estimated ("K") due to the potential positive bias.

Several RPD values also exceeded established acceptance limits. Associated data were qualified as estimated due to the poor spike precision.

The results requiring qualification are listed in Data Assessment Summary Tables included with this report.

H. Duplicate/Replicate Samples

Duplicate or replicate samples are analyzed to monitor and estimate the precision of data generated. Field duplicate samples are also an indicator of the representativeness of the samples collected. If significant differences between analyses are identified, associated data are qualified as estimated.

Field duplicate samples were collected throughout the sampling effort. Acceptable precision was demonstrated for most of the field duplicate pairs for all parameters. However, various exceedances were noted and affected data are estimated (flagged "J") due to poor duplicate precision as noted on the Data Assessment Summary Tables.

I. Dilutions and Reporting Limits

The reporting limits for all other analytes were consistent with project requirements and were adjusted properly for dilutions where necessary.

J. Miscellaneous Comments

Gascoyne qualifies positive inorganic results below the RL, but greater than one-half the reporting limit with a "B" qualifier. The laboratory qualifier was revised to a "J" to indicate an estimated value and to be consistent with Region III guidelines.

Identifying analytical batches for QC was difficult. Batch numbers were often not reported and/or did not correlate with the reported QC (e.g., LCS and method blank). Where necessary, correlation of batch QC to the project samples were based on analytical dates and/or assumed to be reported correctly by the lab.

Documentation was often incomplete or incorrect. Additional documentation was provided for samples not in the SDG. Furthermore, the case narratives included excess information not necessarily related to the project samples. Conversely, incorrect QC results and/or missing forms were noted on several occasions. In cases were reasonable assumptions regarding the applicability of the QC elements provided (i.e., the review items mentioned in Section I) could not be determined, associated data were qualified as estimated.

All sulfide results were qualified as biased low (L) since the method performed, as cited by the laboratory, does not include the distillation step as in the requested SW846 Method 9030B.

III. DATA QUALIFIERS

The following data qualifiers were used to indicate data usability. The final data set, as qualified, is presented in the Data Assessment Summary Tables.

U = The analyte was analyzed for, but was not detected. Value shown is the reporting limit.

R = Unreliable result. The analyte may or may not be present in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The analyte was not detected at or above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

K = Analyte present. The reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. The reported value may be biased low. Actual value is expected to be higher.

UL= Not detected, quantitation limit is biased low (expected to be higher).

The objective of this data assessment was to determine and document the quality and usability of the project data. Taking into consideration the qualifications described in this report (and any resulting bias), 100% of the data are considered usable.

Table 2.1
Laboratory Data Assessment Summary
Data Package #0406447
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0406447-001 CO29-PZM010	VOC	*Resampled due to improper storage. Resample results in package #0406524.*
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony and chromium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank. ► The result for tin (total) was qualified as estimated and high bias (K) due to MSd recovery above QC limits.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0406447-002 CO29-PZM051	VOC	*Resampled due to improper storage. Resample results in package #0406524.*
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony and chromium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0406447-003 CO30-PZM015	VOC	*Resampled due to improper storage. Resample results in package #0406524.*
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony and chromium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0406447-004 Trip Blank 02	VOC	*Not analyzed due to improper storage. Resample results in package #0406524.*
0406447-005 CO30-PZM060	VOC	*Resampled due to improper storage. Resample results in package #0406524.*
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony and chromium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.

Table 2.1
Laboratory Data Assessment Summary
Data Package #0406447
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0406447-006 CO33-PZM141	VOC	*Resampled due to improper storage. Resample results in package #0406524.*
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony and chromium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► Result for total cyanide was qualified as nondetect ("U") at the reported level due to contamination identified in the associated equipment blank.
0406447-007 CO32-PZM004	VOC	► Positive concentrations detected below the RL, but greater than half the RL were not reported in the electronic data. URS revised the electronic data to correspond with the hardcopy report. ► The results for 2-butanone, acetone, and methylene chloride were changed from 5.4 JB, 9.1 B, and 3 JB, respectively, to 5.0 U, 9.1 U, and 3 U ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony and chromium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0406447-008 CO32-EQB041	VOC	► Positive concentrations detected below the RL, but greater than half the RL were not reported in the electronic data. URS revised the electronic data to correspond with the hardcopy report. ► The results for 2-butanone, acetone, and methylene chloride were changed from 4 JB, 5.3 JB, and 3.7 B, respectively, to 5.0 U, 5 U, and 3.7 U ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony and chromium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
	Sample ID was changed to CO32-PZM041-EB in final data set to comply with database criteria	
0406447-009 CO32-PZM041	VOC	► The results for 2-butanone and methylene chloride were changed from 3.7 JB and 1.9 B, respectively, to 5 U and 1.9 U ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony and chromium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► Result for total cyanide was qualified as nondetect ("U") at the reported level due to contamination identified in the associated equipment blank.

Table 2.1
Laboratory Data Assessment Summary
Data Package #0406447
ISG Sparrows Point, Inc.

ample ID	Parameter	Comments
0406447-010 CO10-PZM006	VOC	► Positive concentrations detected below the RL, but greater than half the RL were not reported in the electronic data. URS revised the electronic data to correspond with the hardcopy report. ► The results for 2-butanone, acetone, and methylene chloride were changed from 5.2 B, 20 B, and 4.7 B, respectively, to 5.2 U, 20 U, and 4.7 U ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony and chromium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	None
0406447-011 CO10-PZM090	VOC	► The results for 2-butanone, acetone, and methylene chloride were changed from 3.2 B, 8.2 B, and 4.0 B, respectively, to 5 U, 8.2 U, and 4 U ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony and chromium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	► Result for total cyanide was qualified as nondetect ("U") at the reported level due to contamination identified in the associated equipment blank.
406447-012 rip Blank 03	VOC	► Positive concentrations of 2-butanone, acetone, and methylene chloride were detected in the trip blank. Associated data were qualified accordingly.
0406447-013 CO10-PZM029	VOC	► The results for 2-butanone, acetone, and methylene chloride were changed from 5.2 B, 21 B, and 2.8 B, respectively, to 5.2 U, 21 U, and 2.8 U ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony and chromium (dissolved) and arsenic (total) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	None
0406447-014 Field-01	VOC	► Positive concentrations detected below the RL, but greater than half the RL were not reported in the electronic data. URS revised the electronic data to correspond with the hardcopy report. ► Positive concentrations of acetone, and methylene chloride were detected in the field blank. Associated data were qualified accordingly.
	SVOC	None
	Metals	► Total chromium was detected in the field blank. Associated data were qualified accordingly.
0406447-015 CO26-PZM007	VOC	► The results for 2-butanone, acetone, and methylene chloride were changed from 19 B, 50 B, and 17 B, respectively, to 19 U, 50 U, and 17 U ug/l due to contamination identified in the associated lab and/or field blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony, chromium, and selenium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	None

Table 2.1
Laboratory Data Assessment Summary
Data Package #0406447
ISG Sparrows Point, Inc.

ample ID	Parameter	Comments
0406447-016 CO26-DUP007	VOC	► The results for 2-butanone, acetone, and methylene chloride were changed from 18 B, 38 B, and 14 B, respectively, to 18 U, 38 U, and 14 U ug/l due to contamination identified in the associated lab and/or field blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for arsenic, chromium, and selenium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	None
	Sample ID was changed to CO26-PZM007-DUP in final data set to comply with database criteria	
0406447-017 CO26-PZM032	VOC	► Positive concentrations detected below the RL, but greater than half the RL were not reported in the electronic data. URS revised the electronic data to correspond with the hardcopy report. ► The results for acetone and methylene chloride were changed from 3.5 JB and 4.5 B, respectively, to 5 U and 4.5 U ug/l due to contamination identified in the associated lab and/or field blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony and chromium (dissolved) and chromium (total) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	None
`406447-018 .O35-PZM013	VOC	► Positive concentrations detected below the RL, but greater than half the RL were not reported in the electronic data. URS revised the electronic data to correspond with the hardcopy report. ► The results for acetone and methylene chloride were changed from 20 JB and 15 B, respectively, to 25 U and 15 U ug/l due to contamination identified in the associated lab and/or field blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for arsenic and chromium (dissolved) and chromium (total) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	None
0406447-019 CO35-PZM056	VOC	► The result for methylene chloride was changed from 4.3 B to 4.3 U ug/l due to contamination identified in the associated lab and/or field blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. [Note: These results were not reported in the electronic data, but revised by URS to correspond with the hardcopy report.] ► Results for antimony and chromium (dissolved) and chromium (total) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	None
0406447-020 Trip Blank-04	VOC	► Positive concentration of methylene chloride was detected in the trip blank. Associated data were qualified accordingly.

`L = Reporting Limit

Parameters: VOC = Volatile Organic Compounds by SW846 Method 8260B
SVOC = Semivolatile Organic Compounds by SW846 Method 8270C
Metals = Total and Dissolved Metals by SW846 Method 6010B/6020/7470A
Misc. = Available Cyanide by OIA-1677; Total Cyanide by SW846 9010/9014; Sulfide by EPA 376.1

Table 2.2
Laboratory Data Validation Summary
Data Package #0406449
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0406449-001 CO28-PZM010	SVOC	► The non-detect results for 2,4-dinitrophenol, 3,3'-dichlorobenzidine, 4-nitrophenol, and pentachlorophenol were qualified as estimated (UJ) due to initial calibrations performed with less than the minimum number of standards required by the method. ► The results for 2-methylphenol, 3- and 4-methylphenol, naphthalene, and phenol were reported from secondary dilutions. All other results were reported from the undiluted analysis.
	Metals	► The ICP/MS results originally reported for this sample were discarded due to inconsistent internal standard responses. The laboratory modified their analytical procedures to improve internal standard responses and reanalyzed the sample at a later date. The data retained in the final data set are from the second analysis. ► Results for total and dissolved antimony and total and dissolved chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ► The total and dissolved tin results were qualified as biased high (K) due to high recoveries in the MS/MSD. The MS/MSD analyses were performed on sample CO28-PZM048. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The non-detect sulfide result was qualified as biased low ("UL") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0406449-002 CO28-PZM048	SVOC	► The non-detect results for 2,4-dinitrophenol, 3,3'-dichlorobenzidine, 4-nitrophenol, and pentachlorophenol were qualified as estimated (UJ) due to initial calibrations performed with less than the minimum number of standards required by the method.
	Metals	► The ICP/MS results originally reported for this sample were discarded due to inconsistent internal standard responses. The laboratory modified their analytical procedures to improve internal standard responses and reanalyzed the sample at a later date. The data retained in the final data set are from the second analysis. ► Results for total and dissolved antimony and total and dissolved chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ► The total and dissolved tin results were qualified as biased high (K) due to high recoveries in the MS/MSD. The MS/MSD analyses were performed on this sample. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0406449-003 CO28-PZM125	SVOC	► The non-detect results for 2,4-dinitrophenol, 3,3'-dichlorobenzidine, 4-nitrophenol, and pentachlorophenol were qualified as estimated (UJ) due to initial calibrations performed with less than the minimum number of standards required by the method.
	Metals	► The ICP/MS results originally reported for this sample were discarded due to inconsistent internal standard responses. The laboratory modified their analytical procedures to improve internal standard responses and reanalyzed the sample at a later date. The data retained in the final data set are from the second analysis. ► Results for total and dissolved antimony and total chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ► The total and dissolved tin results were qualified as biased high (K) due to high recoveries in the MS/MSD. The MS/MSD analyses were performed on sample CO28-PZM048. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.

Table 2.3
Laboratory Data Validation Summary
Data Package #0406524
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0406524-001 CO28-PZM010	VOC	▶ The result for methylene chloride (4.5 B ug/L) was changed to 4.5 U ug/L due to contamination identified in an associated lab and/or field blank. ▶ The result for benzene was reported from a 10-fold dilution. All other results were reported from the undiluted analysis.
0406524-002 CO28-PZM048	VOC	▶ The results for 2-butanone (500 JB ug/L), methylene chloride (430 B ug/L), and acetone (400 JB ug/L) were changed to 500 U, 430 U, and 500 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ▶ The results for benzene and toluene were reported from 2000-fold and 1000-fold dilutions, respectively. All other results were reported from a 100-fold dilution.
0406524-003 CO28-PZM125	VOC	▶ The results for 2-butanone (5.2 B ug/L), acetone (8.2 B ug/L), and methylene chloride (7.6 B ug/L), and were changed to 5.2 U, 8.2 U, and 7.6 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank.
0406524-004 CO29-PZM010	VOC	▶ The results for acetone (23 B ug/L) and methylene chloride (4.3 B ug/L), and were changed to 23 U and 4.3 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank.
0406524-005 CO29-PZM051	VOC	▶ The results for 2-butanone (4 JB ug/L), acetone (6.7 B ug/L), and methylene chloride (4.9 B ug/L), and were changed to 5 U, 6.7 U, and 4.9 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank.
0406524-006 CO30-PZM015	VOC	▶ The results for 2-butanone (500 JB ug/L), methylene chloride (510 B ug/L), and acetone (300 JB ug/L) were changed to 500 U, 510 U, and 500 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ▶ The result for benzene was reported from a 1000-fold dilution. All other results were reported from a 100-fold dilution.
0406524-007 CO30-PZM060	VOC	▶ The results for 2-butanone (4 JB ug/L), acetone (7.1 B ug/L), and methylene chloride (6.3 B ug/L), and were changed to 5 U, 7.1 U, and 6.3 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank.
0406524-008 CO33-PZM141	VOC	▶ The results for 2-butanone (3.6 JB ug/L), acetone (5.3 B ug/L), and methylene chloride (4.6 B ug/L), and were changed to 5 U, 5.3 U, and 4.6 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank.
0406524-009 Trip Blank-05	VOC	▶ 2-Butanone and methylene chloride were detected in this trip blank at 3.6 B and 2.3 B ug/L, respectively (similar concentrations of both were also detected in the method blank). Associated data were qualified accordingly.

Table 2.4
Laboratory Data Assessment Summary
Data Package #0406573
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0406573-001 TS05-PPM007	VOC	► The results for 2-butanone (500 J ug/L), acetone (700 ug/L), and methylene chloride (470 ug/L) were changed to 500 U, 700 U, and 470 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ► All results were reported from a 100-fold dilution due to high target concentrations.
	SVOC	None
	Metals	► Results for total and dissolved antimony, total and dissolved chromium, total and dissolved copper, and total and dissolved nickel were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0406573-004 C015-PZM005	Metals	► Results for total and dissolved antimony, total and dissolved chromium, total and dissolved cobalt, total copper, total lead, and total and dissolved nickel were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
0406573-005 C017-PZM005	VOC	► The results for 2-butanone (400 J ug/L), acetone (330 J ug/L), and methylene chloride (640 ug/L) were changed to 500 U, 500 U, and 640 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ► All results except benzene were reported from a 100-fold dilution due to high target concentrations. Benzene was reported from a further dilution.
	SVOC	► The naphthalene result was reported from a secondary dilution.
	Metals	► Results for total and dissolved antimony, total and dissolved chromium, dissolved lead, total and dissolved nickel, and total zinc were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► The non-detect result for available cyanide was qualfiied as baised low ("UL") due to a low recovery in the associated low-level LCS.
0406573-006 C008-PZM036	VOC	► The results for 2-butanone (360 J ug/L), acetone (330 J ug/L), and methylene chloride (600 ug/L) were changed to 500 U, 500 U, and 600 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ► All results were reported from a 100-fold dilution due to high target concentrations.
	SVOC	► The naphthalene result was reported from a secondary dilution.
	Metals	► Results for total and dissolved antimony, total and dissolved chromium, total and dissolved cobalt, total copper, total lead, total and dissolved nickel, and total zinc were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► The available cyanide result was qualified as biased high ("K") due to probable positive interference from the sulfide present (indicated by the relatively low total cyanide result and the relatively high sulfide result).

Table 2.4
Laboratory Data Assessment Summary
Data Package #0406573
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0406573-007 SW18-PZM114	VOC	▶ The results for acetone (22 B ug/L) and methylene chloride (5.2 B ug/L) were changed to 22 U and 5.2 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank.
	SVOC	None
	Metals	▶ Results for total and dissolved antimony, total and dissolved chromium, total and dissolved cobalt, total copper, total lead, and total zinc were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ▶ Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	▶ The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ▶ The non-detect result for available cyanide was qualfiied as baised low ("UL") due to a low recovery in the associated low-level LCS.
0406573-008 Trip Blank-06	VOC	▶ 2-Butanone and methylene chloride were detected in this Trip Blank at 3.4 JB ug/L and 2.2 B ug/L, respectively. Associated data were qualified accordingly.
0406573-009 C002-PZM006	VOC	▶ The results for 2-butanone (400 J ug/L), acetone (560 ug/L), and methylene chloride (600 ug/L) were changed to 500 U, 560 U, and 600 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ▶ All results except benzene and toluene were reported from a 100-fold dilution due to high target concentrations. Benzene and toluene were reported from further dilutions.
	SVOC	▶ The non-detect results associated with internal standard perylene-d12 were qualified as estimated (UJ) due to a response <50%, but >10%, of the reference standard. ▶ The naphthalene and pyridine results were reported from a secondary dilution.
	Metals	▶ Results for total and dissolved antimony, total and dissolved chromium, total and dissolved cobalt, dissolved copper, total iron, total and dissolved lead, and total and dissolved nickel were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ▶ Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	▶ The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ▶ The positive result for available cyanide was qualfiied as biased low ("L") due to a low recovery in the associated low-level LCS.
0406573-010 C002-PZM041	VOC	▶ The results for 2-butanone (200 J ug/L), acetone (190 J ug/L), and methylene chloride (270 ug/L) were changed to 500 U, 500 U, and 270 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ▶ All results except benzene were reported from a 50-fold dilution due to high target concentrations. Benzene was reported from a further dilution.
	SVOC	None
	Metals	▶ Results for total and dissolved antimony, total chromium, total and dissolved cobalt, total and dissolved copper, total lead, total and dissolved nickel, and total zinc were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ▶ Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	▶ The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ▶ The non-detect result for available cyanide was qualfiied as baised low ("UL") due to a low recovery in the associated low-level LCS.

Table 2.4
Laboratory Data Assessment Summary
Data Package #0406573
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0406573-011 C018-PZM006-EB	VOC	► 2-Butanone, acetone, and methylene chloride were detected in this Equipment Blank at 5 JB ug/L, 5.5B ug/L, and 6.6 B ug/L, respectively (similar concentrations were also detected in the method blank). Associated data were qualified accordingly.
	SVOC	None
	Metals	► Total and dissolved antimony, total and dissolved chromium, and total thallium were detected in this Equipment Blank (similar concentrations of antimony and chromium were also detected in the method blank). Associated data were qualified accordingly. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The non-detect result for available cyanide was qualfiied as baised low ("UL") due to a low recovery in the associated low-level LCS. ► Total cyanide was detected in this Equipment Blank at a concentration of 0.004 mg/L. Associated data were qualfied accordingly.
0406573-012 C018-PZM006	VOC	► The results for 2-butanone (4000 JB ug/L), acetone (400 JB ug/L), and methylene chloride (6300 B ug/L) were changed to 5000 U, 5000 U, and 6300 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ► All results except benzene were reported from a 1000-fold dilution due to high target concentrations. Benzene was reported from a further dilution. ► The laboratory inadvertently failed to report a result for trans-1,2-dichloroethene, reporting a different non-target analyte in its place. An examination of the raw data confirmed that trans-1,2-dichloroethene was not detected in the sample; the result should have been 1000 U ug/L. The correct result was added to the final data set, and the lab was contacted to revise the report.
	SVOC	► The non-detect results associated with internal standard perylene-d12 were qualified as estimated (UJ) due to a response <50%, but >10%, of the reference standard. ► The results for 2,4-dimethylphenol, 2-methylphenol, 4-/3-methylphenol, phenol, and pyridine were reported from a secondary dilution.
	Metals	► Results for total and dissolved antimony, total and dissolved chromium, and total and dissolved nickel were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► The non-detect result for available cyanide was qualfiied as baised low ("UL") due to a low recovery in the associated low-level LCS.

Table 2.4
Laboratory Data Assessment Summary
Data Package #0406573
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0406573-013 SW17-PZM113	VOC	► The results for acetone (7.3 B ug/L) and methylene chloride (7.7 B ug/L) were changed to 7.3 U and 7.7 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank.
	SVOC	None
	Metals	► Results for total and dissolved antimony, total and dissolved chromium, total lead, and dissolved nickel were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► The non-detect result for available cyanide was qualfiied as baised low ("UL") due to a low recovery in the associated low-level LCS. ► The total cyanide result was qualified as non-detect ("U") at the value reported due to the presence of cyanide in the associated equipment blank.
0406573-014 SW17-PZM007	VOC	► The results for acetone (400 JB ug/L) and methylene chloride (680 B ug/L) were changed to 500 U and 680 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ► All results were reported from a 100-fold dilution due to high target concentrations.
	SVOC	► The non-detect results associated with internal standard perylene-d12 were qualified as estimated (UJ) due to a response <50%, but >10%, of the reference standard. ► The naphthalene result was reported from a secondary dilution.
	Metals	► Results for total and dissolved antimony, total and dissolved chromium, and total and dissolved nickel were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► The non-detect result for available cyanide was qualfiied as baised low ("UL") due to a low recovery in the associated low-level LCS.
0406573-015 Trip Blank-07	VOC	► 2-Butanone and methylene chloride were detected in this Trip Blank at 3.3 JB ug/L and 1.9 B ug/L, respectively. Associated data were qualified accordingly.
0406573-016 SW17-PZM038	VOC	► The results for 2-butanone (1000 J ug/L), acetone (1300 JB ug/L), and methylene chloride (1300 B ug/L) were changed to 1700 U, 1700 U, and 1300 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ► All results were reported from a 330-fold dilution due to high target concentrations.
	SVOC	None
	Metals	► Results for total and dissolved antimony, total and dissolved chromium, and total and dissolved nickel were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► The non-detect result for available cyanide was qualfiied as baised low ("UL") due to a low recovery in the associated low-level LCS.

Table 2.4
Laboratory Data Assessment Summary
Data Package #0406573
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0406573-017 SW13-PZM111	VOC	► The results for 2-butanone (4 J ug/L), acetone (10 B ug/L), and methylene chloride (19 B ug/L) were changed to 5 U, 10 U, and 19 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank.
	SVOC	None
	Metals	► Results for total and dissolved antimony, total and dissolved chromium, and total and dissolved nickel were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► The non-detect result for available cyanide was qualfiied as baised low ("UL") due to a low recovery in the associated low-level LCS.
0406573-018 SW13-PZM025	VOC	► The results for 2-butanone (4 J ug/L), acetone (4 JB ug/L), and methylene chloride (3.1 B ug/L) were changed to 5 U, 5 U, and 3.1 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank.
	SVOC	None
	Metals	► Results for total and dissolved antimony, total and dissolved chromium, and total and dissolved nickel were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ► The results for copper, lead, and zinc were qualified as estimated ("J" or "UJ") due to poor precision between the lab duplcate results for this sample. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► The non-detect result for available cyanide was qualfiied as baised low ("UL") due to a low recovery in the associated low-level LCS.
0406573-019 Trip Blank-08	VOC	► Acetone and methylene chloride were detected in this Trip Blank at 5.6 B ug/L and 5.2 B ug/L, respectively. Associated data were qualified accordingly.

RL = Reporting Limit

Parameters: VOC = Volatile Organic Compounds by SW846 Method 8260B
SVOC = Semivolatile Organic Compounds by SW846 Method 8270C
Metals = Total and Dissolved Metals by SW846 Method 6010B/6020/7470A
Misc. = Available Cyanide by OIA-1677; Total Cyanide by SW846 9010/9014; Sulfide by EPA 376.1

Table 2.5
Laboratory Data Assessment Summary
Data Package #0406684
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0406684-001 SW13-PZM003	VOC	► The results for 2-butanone, acetone, and methylene chloride were changed from 5.2 J, 8.3 B, and 10 B, respectively, to 5.0 U, 8.3 U, and 10 U ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for antimony, chromium, lead, nickel, and selenium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	► Result for sulfide was qualified as estimated (J) due no QC included in the data package (incorrect batch QC reported).
	Att.	► Result for ferrous iron was qualified as estimated (J) due to holding time exceedance. ► The result for methane was qualified as nondetect due to contamination identified in the associated lab blank.
0406684-002 CO27-PZM122	VOC	► Assumed that this sample was switched with sample CO27-PZM012 due to incorrect container labels. A resample was collected and results confirmed this assumption. The resample results (Lab #0409562) replaced the original data in the final database. ► The results for acetone and methylene chloride were changed from 790 JB and 740 B, respectively, to 1200 UJ and 740 UJ ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium and nickel (total and dissolved) and antimony (total) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	► Result for sulfide was qualified as estimated (J) due no QC included in the data package (incorrect batch QC reported).
	Att.	► Assumed that sample container for methane analysis was switched with sample CO27-PZM012 due to incorrect labels. Resampling was scheduled to confirm assumption and methane result was qualified estimated (J). ► Result for ferrous iron was qualified as estimated (J) due to holding time exceedance. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines.
0406684-003 CO27-PZM046	VOC	► The results for acetone and methylene chloride were changed from 960 JB and 1100 B, respectively, to 1700 U and 1100 U ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium, nickel, and selenium (total and dissolved) and antimony (dissolved) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the lab blank.
	Misc.	► Result for sulfide was qualified as estimated (J) due no QC included in the data package (incorrect batch QC reported).
	Att.	► Result for ferrous iron was qualified as estimated (J) due to holding time exceedance. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines.

Table 2.5
Laboratory Data Assessment Summary
Data Package #0406684
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0406684-004 CO27-PZM012	VOC	► Assumed that this sample was switched with sample CO27-PZM122 due to incorrect container labels. A resample was collected and results confirmed this assumption. The resample results (Lab #0409562) replaced the original data in the final database. ► The results for 2-butanone, acetone, and methylene chloride were changed from 4 J, 4.9 B, and 6.4 B, respectively, to 4 UJ, 5.9 UJ, and 6.4 UJ ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium, nickel, and selenium (total and dissolved) and lead (total) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the lab blank.
	Misc.	► Result for sulfide was qualified as estimated (J) due no QC included in the data package (incorrect batch QC reported).
	Att.	► Assumed that sample container for methane analysis was switched with sample CO27-PZM122 due to incorrect labels. Resampling was scheduled to confirm assumption and methane result was qualified estimated (J). ► Result for ferrous iron was qualified as estimated (J) due to holding time exceedance.
0406684-005 SW14-PZM004	VOC	► The results for 2-butanone, acetone, and methylene chloride were changed from 2.9 J, 5.0 JB, and 3.6 B, respectively, to 5 U, 5 UJ, and 3.6 U ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium, nickel, and selenium (total and dissolved) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the lab blank.
	Misc.	► Result for sulfide was qualified as estimated (J) due no QC included in the data package (incorrect batch QC reported).
0406684-006 SW14-DUP004	VOC	► The results for 2-butanone, acetone, and methylene chloride were changed from 5.1 J, 6.8 JB, and 3.2 B, respectively, to 5.1 U, 6.8 UJ, and 3.2 U ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium, nickel, and selenium (total and dissolved) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the lab blank.
	Misc.	► Result for sulfide was qualified as estimated (J) due no QC included in the data package (incorrect batch QC reported).
	Sample ID was changed to SW14-PZM004-DUP in final data set to comply with database criteria	
0406684-007 Trip Blank-09	VOC	► Positive concentrations of 2-butanone and methylene chloride were detected in the trip blank. Associated data were qualified accordingly.

IS = Internal Standard

RL = Reporting Limit

Parameters: **VOC** = Volatile Organic Compounds by SW846 Method 8260B

SVOC = Semivolatile Organic Compounds by SW846 Method 8270C

Metals = Total and Dissolved Metals by SW846 Method 6010B/6020/7470A

Misc. = Available Cyanide by OIA-1677; Total Cyanide by SW846 9010/9014; Sulfide by EPA 376.1;

Att. = Additional Attenuation Parameters include: Alkalinity by EPA 310.1; Chloride by EPA 325.3; Ferrous Iron by SM 18 3500 Fe D; Nitrate by SM 18 4500 NO2 B; Nitrite by EPA 343.2; Sulfate by SW846 9038; Methane by GPL RSK-175.

Table 2.6
Laboratory Data Assessment Summary
Data Package #0407041
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407041-001 SW14-PZM099	VOC	► The results for acetone (7.7 B ug/L), methylene chloride (5.6 B ug/L), and toluene (0.8 J ug/L) were changed to 7.7 U, 5.6 U, and 1 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank.
	SVOC	► The result for bis(2-ethylhexyl)phthalate was changed from 29 ug/L to 29 U ug/L due to contamination identified in an associated lab and/or field blank.
	Metals	► Results for total and dissolved antimony,total and dissolved chromium, and total and dissolved nickel were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ► The positive total and dissolved tin results were qualified as biased high ("K") due to high LCS and matrix spike recoveries. The MS/MSD analyses were performed on this sample. ► The positive results for total and dissolved barium were qualified as estimated ("J") due to a high percent difference in the associated serial dilution. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407041-004 CP17-PZM013	VOC	► The results for 2-butanone (4 J ug/L), acetone (12 B ug/L), and methylene chloride (5.1 B ug/L) were changed to 5 U, 12 U, and 5.1 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank.
	SVOC	None
	Metals	► Results for total and dissolved antimony and total and dissolved chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ► The positive total and dissolved tin results were qualified as biased high ("K") due to high LCS and matrix spike recoveries. The MS/MSD analyses were performed on sample SW14-PZM099. ► The positive results for total and dissolved barium were qualified as estimated ("J") due to a high percent difference in the associated serial dilution. ► The ferrous iron result was qualified as estimated ("J") due to analysis beyond the method-specified holding time. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► The methane result was qualified as estimated due to analysis beyond the recommended holding time, as well as a high LCS recovery. The bias is indeterminate.
0407041-005 CP17-PZM058-EB	VOC	► Acetone, methylene chloride, and toluene were detected in this trip blank at 7.3 B, 6.3 B, and 0.5 J ug/L, respectively (similar concentrations of acetone and methylene chloride were also detected in the method blank). Associated data were qualified accordingly.
	SVOC	► Bis(2-ethylhexyl)phthalate was detected in this equipment blank at 110 ug/L. Associated data were qualified accordingly.
	Metals	► Total antimony and total and dissolved chromium were detected in this Equipment Blank (similar concentrations of both were also detected in the method blank). Associated data were qualified accordingly. ► The positive total and dissolved chromium results were qualified as biased high ("K") due to a high LCS recovery.
	Misc.	None

Table 2.6
Laboratory Data Assessment Summary
Data Package #0407041
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407041-006 CP17-PZM058	VOC	► The results for 2-butanone (5.8 ug/L), methylene chloride (4.9 B ug/L), and toluene (0.6 J ug/L) were changed to 5.8 U, 4.9 U, and 1 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ► The result for acetone was reported from a 10-fold dilution. All other results were reported from the undiluted analysis.
	SVOC	► The result for bis(2-ethylhexyl)phthalate was changed from 6.8 J ug/L to 10 U ug/L due to contamination identified in an associated lab and/or field blank.
	Metals	► Results for total and dissolved antimony and total and dissolved chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ► The positive total and dissolved tin results were qualified as biased high ("K") due to high LCS and matrix spike recoveries. The MS/MSD analyses were performed on sample SW14-PZM099. ► The positive results for total and dissolved barium were qualified as estimated ("J") due to a high percent difference in the associated serial dilution. ► The ferrous iron result was qualified as estimated ("J") due to analysis beyond the method-specified holding time. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfate result was changed from 1 mg/L to 1 U mg/L due to contamination identified in the associated method blank. ► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► The methane result was qualified as estimated due to analysis beyond the recommended holding time, as well as a high LCS recovery. The bias is indeterminate.
0407041-007 Trip Blank-10	VOC	► Acetone and methylene chloride were detected in this trip blank at 7.4 B and 3.7 B ug/L, respectively (similar concentrations of both were also detected in the method blank). Associated data were qualified accordingly.
0407041-008 CP11-PZM010	VOC	► The results for 2-butanone (14 ug/L) and methylene chloride (3.6 B ug/L) were changed to 14 U and 3.6 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ► The laboratory "B" flag, indicating that the analyte was detected in the method blank, was removed from the acetone result since it was greater than 10 times the blank concentration.
	SVOC	None
	Metals	► Results for total and dissolved antimony and total and dissolved chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ► The positive total and dissolved tin results were qualified as biased high ("K") due to high LCS and matrix spike recoveries. The MS/MSD analyses were performed on sample SW14-PZM099. ► The positive results for total and dissolved barium were qualified as estimated ("J") due to a high percent difference in the associated serial dilution. ► The ferrous iron result was qualified as estimated ("J") due to analysis beyond the method-specified holding time. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► The methane result was qualified as estimated due to analysis beyond the recommended holding time, as well as a high LCS recovery. The bias is indeterminate.
0407041-009 CP11-PZM040	VOC	► The results for acetone (14 ug/L), methylene chloride (4.2 B ug/L), and toluene (0.6 J ug/L) were changed to 14 U, 3.6 U, and 1 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank.

Table 2.6
Laboratory Data Assessment Summary
Data Package #0407041
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407041-009 CP11-PZM040	SVOC	► The result for bis(2-ethylhexyl)phthalate was changed from 8.8 J ug/L to 10 U ug/L due to contamination identified in an associated lab and/or field blank.
	Metals	► Results for total and dissolved antimony and total and dissolved chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ► The positive total and dissolved tin results were qualified as biased high ("K") due to high LCS and matrix spike recoveries. The MS/MSD analyses were performed on sample SW14-PZM099. ► The positive results for total and dissolved barium were qualified as estimated ("J") due to a high percent difference in the associated serial dilution. ► The ferrous iron result was qualified as estimated ("J") due to analysis beyond the method-specified holding time. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ► The methane result was qualified as estimated due to analysis beyond the recommended holding time, as well as a high LCS recovery. The bias is indeterminate.
0407041-010 CP15-PZM020	VOC	► The results for 2-butanone (19 ug/L) and methylene chloride (3.6 B ug/L) were changed to 19 U and 3.6 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ► The laboratory "B" flag, indicating that the analyte was detected in the method blank, was removed from the acetone result since it was greater than 10 times the blank concentration.
	SVOC	► The results for phenol was reported from a 5-fold dilution. All other results were reported from the undiluted analysis.
	Metals	► Results for total and dissolved antimony and total and dissolved chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ► The positive total and dissolved tin results were qualified as biased high ("K") due to high LCS and matrix spike recoveries. The MS/MSD analyses were performed on sample SW14-PZM099. ► The positive results for total and dissolved barium were qualified as estimated ("J") due to a high percent difference in the associated serial dilution. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.

Table 2.7
Laboratory Data Assessment Summary
Data Package #0407103
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
	Metals	↗ Results for total and dissolved antimony and total and dissolved chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ↗ The positive results for total and dissolved tin were qualified as estimated ("J") due to a high percent difference in the associated serial dilution. ↗ Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Metals	↗ Results for total and dissolved antimony and total and dissolved chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ↗ The positive results for total and dissolved tin were qualified as estimated ("J") due to a high percent difference in the associated serial dilution. ↗ Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Metals	↗ Results for total and dissolved antimony were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ↗ The positive total and dissolved chromium results were qualified as biased high ("K") due to a high LCS recovery. ↗ The positive results for total and dissolved tin were qualified as estimated ("J") due to a high percent difference in the associated serial dilution. ↗ Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
0407103-004 CP05-PZM128	Metals	↗ Results for total antimony and total and dissolved chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ↗ The positive results for total and dissolved tin were qualified as estimated ("J") due to a high percent difference in the associated serial dilution. ↗ Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Metals	↗ Results for total and dissolved chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ↗ The positive results for total and dissolved tin were qualified as estimated ("J") due to a high percent difference in the associated serial dilution.
	Metals	↗ Results for total and dissolved chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ↗ The positive results for total and dissolved tin were qualified as estimated ("J") due to a high percent difference in the associated serial dilution. ↗ Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.

Table 2.8
Laboratory Data Assessment Summary
Data Package #0407110
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407110-001 CP14-PZM062	VOCs	▶ The results for 2-butanone (5 JB ug/L) and methylene chloride (2.1 B ug/L) were changed to 5 U and 2.1 U ug/L, respectively, due to contamination identified in the associated lab and/or field blanks. ▶ The acetone result was reported from a 50-fold dilution. All other results were reported from the undiluted analysis.
	SVOCs	None
	Metals	▶ Results for dissolved antimony and total and dissolved chromium were qualified as nondetect ("U") at the reported concentration due to contamination identified in the method blank. ▶ Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	▶ The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407110-002 CP16-PZM018	VOCs	▶ The results for 2-butanone (4 JB ug/L) and methylene chloride (2.8 B ug/L) were changed to 5 U and 2.8 U ug/L, respectively, due to contamination identified in the associated lab and/or field blanks.
	SVOCs	None
	Metals	▶ Results for total antimony and total and dissolved chromium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank. ▶ Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	▶ The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407110-003 CP16-PZM035	VOCs	▶ The results for 2-butanone (9.9 B ug/L) and methylene chloride (2.7 B ug/L) were changed to 9.9 U and 2.7 U ug/L, respectively, due to contamination identified in the associated lab and/or field blanks.
	SVOCs	▶ The bis(2-ethylhexyl)phthalate result was reported from a secondary dilution.
	Metals	▶ Results for total and dissolved chromium were qualified as nondetect ("U") at the reported concentration due to contamination identified in the method blank. ▶ Laboratory B-flags to indicate positive concentrations below the RL were revised to J-flags to be consistent with Region 3 guidelines.
	Misc.	▶ The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407110-004 CP08-PZM008	VOCs	▶ The results for 2-butanone (180 JB ug/L), acetone (140 J ug/L), and methylene chloride (150 B ug/L) were changed to 250 U, 250 U, and 150 U ug/L, respectively, due to contamination identified in the associated lab and/or field blanks. ▶ The results for trichloroethene, tetrachloroethene, and chlorobenzene were qualified as biased low ("L") due to slightly low LCS recoveries. ▶ All results except benzene were reported from a 50-fold dilution due to high target concentrations. Benzene was reported from a further dilution.
	SVOCs	▶ The naphthalene result was reported from a secondary dilution.
	Metals	▶ Results for total and dissolved chromium were qualified as nondetect ("U") at the reported concentration due to contamination identified in the method blank.
	Misc.	▶ The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B. ▶ The methane result was qualified as biased low ("L") due to analysis of the unpreserved sample one day past the 7-day holding time.

Table 2.8
Laboratory Data Assessment Summary
Data Package #0407110
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407110-005 Trip Blank-12	VOCs	▶ 2-Butanone , acetone, and methylene chloride were detected in this Trip Blank at 3.1 JB ug/L, 2.8 JB ug/L, and 1.2 B ug/L, respectively. All three analytes were also detected in the method blank. Associated data were qualified accordingly.
0407110-006 Field Blank-02	VOCs	▶ 2-Butanone , acetone, and methylene chloride were detected in this Field Blank at 3.1 JB ug/L, 5.5 JB ug/L, and 1.3 B ug/L, respectively. All three analytes were also detected in the method blank. Associated data were qualified accordingly.

Table 2.9
Laboratory Data Assessment Summary
Data Package #0407132
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407132-001 CP08-PZM034	VOC	► The results for 2-butanone and methylene chloride were changed from 4 JB and 2 B, respectively, to 5.0 U and 2.0 U ug/l due to contamination identified in the associated lab and/or trip blank. ► The results for chlorobenzene, tetrachloroethene, and trichloroethene were qualified as estimated and may be biased low (**L**) due to low LCS recoveries.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low (**L**) since the cited method does not include the distillation step in the requested SW846 Method 9030B. ► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines.
	Att.	► The methane result was qualified as biased high (**K**) due to high LCS recovery.
0407132-002 HI07-PZM005	VOC	► The results for 2-butanone and methylene chloride were changed from 2.8 JB and 2.1 B, respectively, to 5.0 U and 2.1 U ug/l due to contamination identified in the associated lab and/or trip blank. ► The results for chlorobenzene, tetrachloroethene, and trichloroethene were qualified as estimated and may be biased low (**L**) due to low LCS recoveries.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the distillation step in the requested SW846 Method 9030B.
0407132-003 HI07-PZM094	VOC	► The results for 2-butanone and methylene chloride were changed from 3.8 JB and 2.0 B, respectively, to 5.0 U and 2.0 U ug/l due to contamination identified in the associated lab and/or trip blank. ► The results for chlorobenzene, tetrachloroethene, and trichloroethene were qualified as estimated and may be biased low (**L**) due to low LCS recoveries.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium (total and dissolved) were qualified as nondetect ("U") at the reported level due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.

Table 2.9
Laboratory Data Assessment Summary
Data Package #0407132
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407132-004 HI08-PZM060	VOC	► The results for 2-butanone and methylene chloride were changed from 3.5 JB and 2.1 B, respectively, to 5.0 U and 2.1 U ug/l due to contamination identified in the associated lab and/or trip blank. ► The results for chlorobenzene, tetrachloroethene, and trichloroethene were qualified as estimated and may be biased low (**L**) due to low LCS recoveries.
		► The results for chlorobenzene, tetrachloroethene, and trichloroethene were qualified as estimated and may be biased low (**L**) due to low LCS recoveries.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for antimony, chromium, and nickel (total) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the lab blank. ► Results for chromium, nickel, and zinc (dissolved) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the distillation step in the requested SW846 Method 9030B.
0407132-005 HI08-PZM003	VOC	► The results for 2-butanone and methylene chloride were changed from 3.8 JB and 1.7 B, respectively, to 5.0 U and 1.7 U ug/l due to contamination identified in the associated lab and/or trip blank. ► The results for chlorobenzene, tetrachloroethene, and trichloroethene were qualified as estimated and may be biased low (**L**) due to low LCS recoveries.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for antimony, chromium, nickel, and zinc (total and dissolved) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the distillation step in the requested SW846 Method 9030B.
0407132-006 Trip Blank-13	VOC	► Positive concentrations of 2-butanone and methylene chloride were detected in the trip blank. Associated data were qualified accordingly.
0407132-007 SW18-PZM008	VOC	► The results for 2-butanone and methylene chloride were changed from 3.7 JB and 1.3 B, respectively, to 5.0 U and 1.3 U ug/l due to contamination identified in the associated lab and/or trip blank. ► The results for chlorobenzene, tetrachloroethene, and trichloroethene were qualified as estimated and may be biased low (**L**) due to low LCS recoveries.
	SVOC	► The results associated with IS#6 (perylene-d_{12})[(1)] were qualified as estimated (**J**) due to IS response <50%, but ≥25% of the reference standard.
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium, selenium, and zinc (total and dissolved) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the distillation step in the requested SW846 Method 9030B.
	Sample ID was changed to SW18-PZM008-DUP in final data set to comply with database criteria	

Table 2.9
Laboratory Data Assessment Summary
Data Package #0407132
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407132-008 SW18-DUP008	VOC	► The results for 2-butanone and acetone were changed from 3.3 JB and 6.3 B, respectively, to 5.0 U and 6.3 U ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium and selenium (total and dissolved) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the lab blank.
	Misc.(2)	None
0407132-009 TM04-PZM006	VOC	► The results for 2-butanone and methylene chloride were changed from 15 JB and 10 B, respectively, to 25 U and 10 U ug/l due to contamination identified in the associated lab and/or trip blank. ► The results for chlorobenzene, tetrachloroethene, and trichloroethene were qualified as estimated and may be biased low (L) due to low LCS recoveries.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium and selenium (total and dissolved) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the lab blank. ► The results for zinc (total) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the equipment blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the distillation step in the requested SW846 Method 9030B.
0407132-010 TM04-PZM082	VOC	► The results for 2-butanone and methylene chloride were changed from 3.3 JB and 1.8 B, respectively, to 5.0 U and 1.8 U ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium and nickel (total and dissolved) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include thedistillation step in the requested SW846 Method 9030B.
0407132-011 TM09-PZM047	VOC	► The results for 2-butanone and methylene chloride were changed from 3.2 JB and 1.0 JB, respectively, to 5.0 U and 1.0 U ug/l due to contamination identified in the associated lab and/or trip blank. ► The results for chlorobenzene, tetrachloroethene, and trichloroethene were qualified as estimated and may be biased low (L) due to low LCS recoveries.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium (total and dissolved) and nickel (dissolved) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the distillation step in the requested SW846 Method 9030B. ► Results for total cyanide was qualified as nondetect ("U") at the reported level due to contamination identified in the equipment blank.

Table 2.9
Laboratory Data Assessment Summary
Data Package #0407132
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407132-012 TM09-EQB007	VOC	► Positive concentrations of 2-butanone, acetone, and methylene chloride were detected in the trip blank. Results were attributable to lab contamination. No further qualification was performed.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Positive concentrations of chromium, thallium, and zinc (total and dissolved) and iron (dissolved) were detected in the equipment blank. Affected results not attibutable to lab contamination and/or subsequently qualified, were qualified as nondetect in the associated samples.
	Misc.[2]	None
	Sample ID was changed to TM09-PZM007-EB in final data set to comply with database criteria	
0407132-013 TM09-PZM007	VOC	► The results for 2-butanone and methylene chloride were changed from 5.9 B and 1.2 B, respectively, to 5.9 U and 1.2 U ug/l due to contamination identified in the associated lab and/or trip blank. ► The results for chlorobenzene, tetrachloroethene, and trichloroethene were qualified as estimated and may be biased low (L) due to low LCS recoveries.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for arsenic, chromium, selenium, and zinc (total and dissolved) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the lab blank. ► Results for thallium (total and dissolved) and iron (total) were qualified as nondetect ("U") at the reported level or the RL, whichever higher, due to contamination identified in the equipment blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include thedistillation step in the requested SW846 Method 9030B.
0407132-014 Field-03	VOC	► Positive concentrations of 2-butanone, acetone, and methylene chloride were detected in the trip blank. Results were attributable to lab contamination. No further qualification was performed.
0407132-015 Trip Blank-13	VOC	► Positive concentrations of 2-butanone and methylene chloride were detected in the trip blank. Results were attributable to lab contamination. No further qualification was performed.

IS = Internal Standard

LCS = Laboratory Control Sample

RL = Reporting Limit

Parameters: **VOC** = Volatile Organic Compounds by SW846 Method 8260B

SVOC = Semivolatile Organic Compounds by SW846 Method 8270C

Metals = Total and Dissolved Metals by SW846 Method 6010B/6020/7470A

Misc. = Available Cyanide by OIA-1677; Total Cyanide by SW846 9010/9014; Sulfide by EPA 376.1;

Att. = Additional Attenuation Parameters include: Alkalinity by EPA 310.1; Chloride by EPA 325.3; Ferrous Iron by SM 18 3500 Fe D; Nitrate by SM 18 4500 NO2 B; Nitrite by EPA 343.2; Sulfate by SW846 9038; Methane by GPL RSK-175.

[1] Analytes associated with Internal Standard (IS) #6 (perylene-d_{12}) are as follows:

Benzo(a)pyrene	Dibenz(a,h)anthracene
Benzo(b)fluoranthene	Di-n-octyphthalate
Benzo(k)fluoranthene	Indeno(1,2,3-cd)pyrene
Benzo(g,h,i)perylene	

Sulfide analysis not requested.

Table 2.10
Laboratory Data Assessment Summary
Data Package #0407234
ISG Sparrows Point, Inc.

ample ID	Parameter	Comments
0407234-001 TM09-PZM067	VOC	► The results for 2-butanone and methylene chloride were changed from 4 JB and 0.6 JB, respectively, to 5.0 U and 1.0 U ug/l due to contamination identified in the associated lab and/or trip blank.
	SVOC	► The results associated with IS#6 (perylene-d_{12}) were qualified as estimated due to IS response >100% of the reference standard.
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for total antimony, lead, vanadium, and zinc were qualified as nondetect ("U") at the reported level or the RL (whichever higher) due to contamination identified in the lab blank. ► The result for dissolved zinc was qualified as nondetect ("U") at the RL due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407234-002 CP03-PZM008	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► The result for total zinc was qualified as nondetect ("U") at the RL due to contamination identified in the lab blank. ► Results for dissolved lead and vanadium were qualified as nondetect ("U") at the reported level or the RL (whichever higher) due to contamination identified in the lab blank.
0407234-003 CP03-PZM025	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► The results for total vanadium and zinc were qualified as nondetect ("U") at the reported level or the RL (whichever higher) due to contamination identified in the lab blank. ► The result for dissolved zinc was qualified as nondetect ("U") at the RL due to contamination identified in the lab blank.
0407234-004 CP06-PZM009	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► The results for total lead, vanadium and zinc were qualified as nondetect ("U") at the reported level or the RL (whichever higher) due to contamination identified in the lab blank. ► The results for dissolved vanadium and zinc were qualified as nondetect ("U") at the reported level or the RL (whichever higher) due to contamination identified in the lab blank.
0407234-005 Trip Blank-14	VOC	► Positive concentrations of acetone and methylene chloride were detected in the trip blank. Associated data were qualified accordingly.

IS = Internal Standard

RL = Reporting Limit

Parameters: VOC = Volatile Organic Compounds by SW846 Method 8260B

SVOC = Semivolatile Organic Compounds by SW846 Method 8270C

Metals = Total and Dissolved Metals by SW846 Method 6010B/6020/7470A

Misc. = Available Cyanide by OIA-1677; Total Cyanide by SW846 9010/9014; Sulfide by EPA 376.1

Table 2.11
Laboratory Data Assessment Summary
Data Package #0407284
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407284-001 CP10-PZM008	Metals	► Total and dissolved chromium were were qualified as nondetect ("U") at the reported concentrations due to contamination identified in the method blank and equipment blank.
0407284-002 GL19-PZM003	VOC	► The results for 2-butanone (3.1 J ug/L), acetone (3.9 J ug/L), bromoform (2.8 ug/L), and toluene (0.7 J ug/L) were changed to 5 U, 5 U, 2.8 U, and 1 U ug/L, respectively, due to contamination identified in the associated lab and/or field blanks. ► The non-detect chlorobenzene result was qualified as biased low (L) due to a slightly low recovery in the associated LCS.
	SVOC	None
	Metals	► Total and dissolved chromium and dissolved vanadium were were qualified as nondetect ("U") at the reported concentrations due to contamination identified in the method blank and/or equipment blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407284-005 GL20-EQB004	VOC	► 2-Butanone, acetone, methylene chloride, and toluene were detected in this Equipment Blank at 3.7 J, 5.3, 2.2, and 0.8 J ug/L, respectively (similar concentrations of acetone, methylene chloride, and 2-butanone were also detected in the method blank). Associated data were qualified accordingly.
	SVOC	None
	Metals	► Total and dissolved antimony, total and dissolved chromium, and total and dissolved vanadium were detected in this Equipment Blank (a similar concentration of chromium was also detected in the method blank). Associated data were qualified accordingly.
	Misc.	None
0407284-006 GL20-PZM004	VOC	► The results for 2-butanone (2.6 J ug/L), acetone (3.9 J ug/L), and toluene (1.2 ug/L) were changed to 5 U, 5 U, and 1.2 U ug/L, respectively, due to contamination identified in the associated lab and/or field blanks. ► The non-detect chlorobenzene result was qualified as biased low (L) due to a slightly low recovery in the associated LCS.
	SVOC	None
	Metals	► Total and dissolved antimony, total and dissolved chromium, and total and dissolved vanadium were were qualified as nondetect ("U") at the reported concentrations or the reporting limit (whichever was higher) due to contamination identified in the method blank and/or equipment blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407284-007 GL20-DUP004	VOC	► The results for 2-butanone (2.8 J ug/L), acetone (3.1 J ug/L), and toluene (1.2 ug/L) were changed to 5 U, 5 U, and 1.2 U ug/L, respectively, due to contamination identified in the associated lab and/or field blanks. ► The non-detect chlorobenzene result was qualified as biased low (L) due to a slightly low recovery in the associated LCS.
	SVOC	None
	Metals	► Total and dissolved chromium and total and dissolved vanadium were were qualified as nondetect ("U") at the reported concentrations due to contamination identified in the method blank and/or equipment blank.
	Misc.	None
0407284-008 GL02-PZM017	Metals	► Total and dissolved chromium were were qualified as nondetect ("U") at the reported concentrations due to contamination identified in the method blank and equipment blank.

Table 2.11
Laboratory Data Assessment Summary
Data Package #0407284
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407284-009 GL02-PZM028	Metals	▶ Dissolved antimony and total and dissolved chromium were were qualified as nondetect ("U") at the reported concentrations or the reporting limit (whichever was higher) due to contamination identified in the method blank and/or equipment blank.
0407284-010 Trip Blank-15	VOC	▶ 2-Butanone, acetone, bromoform, and methylene chloride were detected in this Trip Blank at 3.7 J, 3 J, 3.2, and 2.3 ug/L, respectively (similar concentrations of acetone, methylene chloride, and 2-butanone were also detected in the method blank). Associated data were qualified accordingly.

RL = Reporting Limit

Parameters: VOC = Volatile Organic Compounds by SW846 Method 8260B
SVOC = Semivolatile Organic Compounds by SW846 Method 8270C
Metals = Total and Dissolved Metals by SW846 Method 6010B/6020/7470A
Misc. = Available Cyanide by OIA-1677; Total Cyanide by SW846 9010/9014; Sulfide by EPA 376.1

Table 2.12
Laboratory Data Assessment Summary
Data Package #0407306
ISG Sparrows Point, Inc.

ample ID	Parameter	Comments
0407304-001 GL18-PZP002	VOC	► The results for 2-butanone and acetone were changed from 3.5 JB and 39 J, respectively, to 3.5 U and 50 U ug/l due to contamination identified in the associated lab and/or trip blank. ► The result for chlorobenzene was qualified as estimated and may be biased low (L) due to low LCS recovery.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium (total and dissolved) and thallium (dissolved) were qualified as nondetect ("U") at the reported level or the RL (whichever higher) due to contamination identified in the lab blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407306-002 GL18-PZM039	VOC	► The results for 2-butanone and acetone were changed from 4 JB and 4 J, respectively, to 5 U and 5 U ug/l due to contamination identified in the associated lab and/or trip blank. ► The result for chlorobenzene was qualified as estimated and may be biased low (L) due to low LCS recovery.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium and selenium (total and dissolved) and vandium (dissolved) were qualified as nondetect ("U") at the reported level or the RL (whichever higher) due to contamination identified in the lab blank. ► The results for thallium (dissolved) were qualified as nondetect ("U") at the reported level or the RL (whichever higher) due to contamination identified in the equipment blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407306-003 GL03-PZP001	VOC	► The result for acetone was changed from 3.6 J to 5 U ug/l due to contamination identified in the associated trip blank. ► The result for chlorobenzene was qualified as estimated and may be biased low (L) due to low LCS recovery.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium (total and dissolved) and selenium (total) were qualified as nondetect ("U") at the reported level or the RL (whichever higher) due to contamination identified in the lab blank. ► The results for vanadium (total) were qualified as nondetect ("U") at the reported level or the RL (whichever higher) due to contamination identified in the equipment blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407306-004 GL03-EQB013	VOC	► Positive concentrations of 2-butanone, acetone, bromoform, and methylene chloride were detected in the equipment blank. Associated data were qualified accordingly.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Positive concentrations of chromium and vanadium (total and dissolved) and antimony (dissolved) were detected in the equipment blank. Associated data were qualified accordingly.
	Misc.	None

Table 2.12
Laboratory Data Assessment Summary
Data Package #0407306
ISG Sparrows Point, Inc.

ample ID	Parameter	Comments
0407306-005 GL03-PZP013	VOC	► The results for 2-butanone and acetone were changed from 2.9 JB and 6.6 respectively, to 5 U and 6.6 U ug/l due to contamination identified in the associated lab and/or trip blank. ► The result for chlorobenzene was qualified as estimated and may be biased low (L) due to low LCS recovery.
	SVOC	None
	Metals	► Laboratory B-flags to indicate positive concentrations below the RL were revised to a J-flag to be consistent with Region 3 guidelines. ► Results for chromium and selenium (total and dissolved) were qualified as nondetect ("U") at the reported level or the RL (whichever higher) due to contamination identified in the lab blank. ► Results for vanadium (total) and thallium (dissolved) were qualified as nondetect ("U") at the reported level or the RL (whichever higher) due to contamination identified in the equipment blank.
	Misc.	► The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407306-004 Field-04	VOC	► Positive concentrations of 2-butanone, acetone, bromoform, and methylene chloride were detected in the field blank. Associated data were qualified accordingly.
0407306-007 Trip Blank-16	VOC	► Positive concentrations of 2-butanone, acetone, bromoform, and methylene chloride were detected in the trip blank. Associated data were qualified accordingly.

IS = Internal Standard

RL = Reporting Limit

Parameters: VOC = Volatile Organic Compounds by SW846 Method 8260B

SVOC = Semivolatile Organic Compounds by SW846 Method 8270C

Metals = Total and Dissolved Metals by SW846 Method 6010B/6020/7470A

Misc. = Available Cyanide by OIA-1677; Total Cyanide by SW846 9010/9014; Sulfide by EPA 376.1

Table 2.13
Laboratory Data Assessment Summary
Data Package #0407349
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407349-001 SW10-PZM012	VOC	↗ The results for 2-butanone (3 JB ug/L) and bromoform (2.9 ug/L) were changed to 5 U and 2.9 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ↗ The non-detect result for chlorobenzene was qualified as biased low ("L") due to a low LCS recovery.
	SVOC	None
	Metals	↗ Results for total antimony, total and dissolved cadmium, total and dissolved chromium, and total and dissolved vanadium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ↗ The total and dissolved beryllium results were qualified as biased low ("L") due to low recoveries in the associated continuing calibration verification samples. ↗ The dissolved copper and total and dissolved zinc results were qualified as biased high ("K") due to high recoveries for copper and zinc in the LCS.
	Misc.	↗ The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407349-002 TS10-PDM008	VOC	↗ The results for 2-butanone (4 JB ug/L) and acetone (5.7 ug/L) were changed to 5 U and 5.7 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ↗ The non-detect result for chlorobenzene was qualified as biased low ("L") due to a low LCS recovery.
	SVOC	None
	Metals	↗ Results for total and dissolved cadmium, total and dissolved chromium, dissolved thallium, and total and dissolved vanadium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ↗ The total and dissolved beryllium results were qualified as biased low ("L") due to low recoveries in the associated continuing calibration verification samples. ↗ The total and dissolved zinc results were qualified as biased high ("K") due to a high recovery for zinc in the LCS.
	Misc.	↗ The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407349-005 FM03-PZM005	VOC	↗ The results for acetone (4 J ug/L) and bromoform (3 ug/L) were changed to 5 U and 3 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ↗ The non-detect result for chlorobenzene was qualified as biased low ("L") due to a low LCS recovery.
	SVOC	None
	Metals	↗ Results for total and dissolved antimony, total and dissolved cadmium, total and dissolved chromium, and total and dissolved thallium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ↗ The total and dissolved beryllium results were qualified as biased low ("L") due to low recoveries in the associated continuing calibration verification samples. ↗ The dissolved vanadium result was qualified as biased high ("K") due to a high recovery in one associated continuing calibration verification sample. ↗ The total and dissolved copper and zinc results were qualified as biased high ("K") due to high recoveries for copper and zinc in the LCS.
	Misc.	↗ The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.

Table 2.13
Laboratory Data Assessment Summary
Data Package #0407349
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407349-006 FM03-PZM005-EB	VOC	↗ 2-Butanone, acetone, bromoform, methylene chloride, and toluene were detected in this equipment blank at 3.8 JB, 4 J, 2.6, 3.2 B, and 0.6 J ug/L, respectively. Associated data were qualified accordingly. ↗ The non-detect result for chlorobenzene was qualified as biased low ("L") due to a low LCS recovery.
	SVOC	None
	Metals	↗ Total and dissolved cadmium, total and dissolved chromium, total and dissolved thallium, total vanadium, and total and dissolved zinc were detected in this Equipment Blank (similar concentrations of antimony, thallium, chromium, and vanadium were also detected in the method blank). Associated data were qualified accordingly. ↗ The total and dissolved beryllium results were qualified as biased low ("L") due to low recoveries in the associated continuing calibration verification samples. ↗ The total vanadium result was qualified as biased high ("K") due to a high recovery in one associated continuing calibration verification sample. ↗ The total and dissolved zinc results were qualified as biased high ("K") due to a high recovery for zinc in the LCS.
	Misc.	None
0407349-007 FM03-PZM082	VOC	↗ The results for 2-butanone (3 JB ug/L), acetone (3.7 J ug/L), and toluene (0.5 J ug/L) were changed to 5 U, 3.7 U, and 1 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ↗ The non-detect result for chlorobenzene was qualified as biased low ("L") due to a low LCS recovery.
	SVOC	None
	Metals	↗ Results for total antimony, total and dissolved cadmium, total and dissolved chromium, total and dissolved thallium, total vanadium, and dissolved zinc were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ↗ The total and dissolved beryllium results were qualified as biased low ("L") due to low recoveries in the associated continuing calibration verification samples. ↗ The total and dissolved copper and total zinc results were qualified as biased high ("K") due to high recoveries for copper and zinc in the LCS.
	Misc.	↗ The sulfide result was qualified as biased low ("L") since the cited method does not include the the distillation step in the requested SW846 Method 9030B.
0407349-008 Field-05	VOC	↗ 2-Butanone, acetone, bromoform, chloroform, and methylene chloride were detected in this field blank at 3 JB, 3.5 J, 3.5, 0.7 J, and 2 B ug/L, respectively. Associated data were qualified accordingly. ↗ The non-detect result for chlorobenzene was qualified as biased low ("L") due to a low LCS recovery.
0407349-009 GL02-PZM006	Metals	↗ Results for total and dissolved antimony, total and dissolved cadmium, total and dissolved chromium, total and dissolved thallium, and total vanadium were qualified as nondetect ("U") at the reported concentration or the RL (whichever higher) due to contamination identified in the method blank and /or the equipment blank. ↗ The total and dissolved beryllium results were qualified as biased low ("L") due to low recoveries in the associated continuing calibration verification samples. ↗ The dissolved vanadium result was qualified as biased high ("K") due to a high recovery in one associated continuing calibration verification sample. ↗ The total and dissolved copper and zinc results were qualified as biased high ("K") due to high recoveries for copper and zinc in the LCS.

Table 2.13
Laboratory Data Assessment Summary
Data Package #0407349
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0407349-010 Purge Water-01	VOC	↗ The results for 2-butanone (11 JB ug/L) chloroform (0.7 J ug/L), and methylene chloride (1.4 B ug/L) were changed to 11 U, 1 U, and 1.4 U ug/L, respectively, due to contamination identified in an associated lab and/or field blank. ↗ The non-detect result for chlorobenzene was qualified as biased low ("L") due to a low LCS recovery. ↗ The results for benzene and toluene were reported from 50-fold and 5-fold dilutions, respectively. All other results were reported from the undiluted analysis.
0407349-011 Trip Blank-17	VOC	↗ 2-Butanone, acetone, benzene, bromoform, and methylene chloride were detected in this trip blank at 2.5 JB, 3.1 J, 1.1, 3.6, amd 1.7 B ug/L, respectively (similar concentrations of 2-butanone and methylene chloride were also detected in the method blank). Associated data were qualified accordingly. ↗ The non-detect result for chlorobenzene was qualified as biased low ("L") due to a low LCS recovery.

Table 2.14
Laboratory Data Assessment Summary
Data Package #0409562
ISG Sparrows Point, Inc.

Sample ID	Parameter	Comments
0409562-001 CO27-PZM012	VOC	► Sample originally collected 6/28/04 (Lab #0406684) and assumed switched with sample CO27-PZM122 due to incorrect container labels. Resample confirms assumptions and replaced the original data in the final database. ► The laboratory reported results for additional [non-target] analytes. Only the requested analytes were retained in the database. ► The results for acetone was changed from 130 B to 130 U ug/l due to contamination identified in the associated lab and/or trip blank.
0409562-002 CO27-PZM122	VOC	► Sample originally collected 6/28/04 (Lab #0406684) and assumed switched with sample CO27-PZM012 due to incorrect container labels. Resample confirms assumptions and replaced the original data in the final database. ► The results for acetone, methylene chloride, and toluene were changed from 110 B, 11 B, and 0.7 J, respectively, to 110 U, 11 U, and 1 U ug/l due to contamination identified in the associated lab and/or trip blank.
0409562-003 Trip Blank	VOC	► Positive concentrations of acetone and methylene chloride were detected in the trip blank. Associated data were qualified accordingly.

IS = Internal Standard

RL = Reporting Limit

Parameters: **VOC** = Volatile Organic Compounds by SW846 Method 8260B

ATTACHMENT 1 TO APPENDIX C
DATA VALIDATION REPORT
ISG Sparrows Point, Inc.

Data Packages: 0406449 and 0406524
Validator: Peggy Schuler, URS Corporation
Report Date: November 29, 2004

OVERVIEW

This report presents the findings from the validation of analytical data for twelve groundwater samples and one trip blank collected in support of the ISG Sparrows Point Nature and Extent Investigation in June 2004. All samples were originally collected on June 16, 2004, and submitted to Microbac Laboratories, Inc., Gascoyne Division (Gascoyne) for analysis. Due to a laboratory error, the volatiles fractions were left unrefrigerated over a weekend, rendering the samples unusable. The volatiles fractions were therefore recollected on June 22, 2004 along with five samples from another sample delivery group, and all eight were analyzed and reported in a separate data package. The list of samples, with laboratory identification numbers and analyses appears below.

Sample and Analysis Summary

Sample ID	Laboratory ID	Date Collected	Analyses Requested (1)				
			VOC	SVOC	Total Met	Diss Met	Gen Chem
CO28-PZM010	0406449-001	06/16/2004		X	X	X	X
CO28-PZM048	0406449-002	06/16/2004		X	X	X	X
CO28-PZM125	0406449-003	06/16/2004		X	X	X	X
CO28-PZM010	0406524-001	06/22/2004	X				
CO28-PZM048	0406524-002	06/22/2004	X				
CO28-PZM125	0406524-003	06/22/2004	X				
CO29-PZM010	0406524-004	06/22/2004	X				
CO29-PZM051	0406524-005	06/22/2004	X				
CO30-PZM015	0406524-006	06/22/2004	X				
CO30-PZM060	0406524-007	06/22/2004	X				
CO33-PZM141	0406524-008	06/22/2004	X				
Trip Blank-05	0406524-009	06/22/2004	X				

(1) Methods: VOC = Volatile Organic Compounds [SW-846 Method 8260B]
SVOC = Semivolatile Organic Compounds [SW-846 Method 8270C]
Total Mets = Total Basis Metals (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Ni, Se, Ag, Tl, Sn, V, Zn, Hg) [SW-846 Methods 6010B, 6020, and 7470A]
Diss Mets = Dissolved Basis Metals (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Ni, Se, Ag, Tl, Sn, V, Zn, Hg) [SW-846 Methods 6010B, 6020, and 7470A]
Gen Chem = Total Cyanide [SW-846 Method 9010B/9014], Available Cyanide [EPA Method 1677], Sulfide [EPA Method 376.1]

SUMMARY

All project samples were analyzed successfully by the requested methods, with the exception of sulfide (see *Minor Problems* below). No major quality control deficiencies (i.e., deficiencies resulting in the qualification of analytical results as unusable) were experienced during analysis of these samples.

Selected analytical results were qualified as estimated due to minor quality control deficiencies. These issues are discussed in the *Minor Problems* section.

MAJOR PROBLEMS

- No problems resulting in rejection of data were identified.

MINOR PROBLEMS

- Initial calibrations for four semivolatile compounds were performed with less than the required number of standards due to poor or no instrument response in the lowest calibration standard(s). The reporting limit for each of the affected compounds was elevated to the concentration of the lowest standard with good response. Since presence or absence could be adequately determined at those levels, and since none of the compounds were detected in the samples, the results were reported as non-detect at the elevated reporting limits. The results were, however, qualified as estimated ("UJ") due to the lack of method-compliant calibrations. The affected compounds were 2,4-dinitrophenol, 3,3-dichlorobenzidine, 4-nitrophenol, and pentachlorophenol.

- Common lab contaminants acetone, 2-butanone, and methylene chloride were found in all of the volatiles method blanks. The positive results for these compounds in all samples were within ten times the blank concentration (in some cases, adjusted for dilution). Consequently, all positive results for these three compounds were qualified "U," indicating that the concentrations found were not substantially above the level in the blank, and are therefore considered not detected at the concentration reported or the reporting limit, whichever was higher.

- Trace concentrations of the common lab contaminants 2-butanone and methylene chloride were found in the trip blank submitted with project samples. Positive results for these compounds in associated samples within ten times the blank concentration were qualified "U," indicating that the concentrations found were not substantially above the level in the blank, and are therefore considered not detected at the concentration reported or the reporting limit, whichever was higher. Note that all samples were already qualified "U" due to the presence of these analytes in the method blank.

- The MS/MSD recoveries for tin in sample CO28-PZM048 were above the upper QC acceptance limit (139/127%; upper limit 125%). Consequently, the total and dissolved tin results in all three SDG 0406449 samples were qualified as estimated with a high bias, "K."

- All sulfide results were qualified as estimated with a low bias, "L," due to the omission by the laboratory of the distillation step specified in the requested method, SW-846 Method 9030B.

NOTES

- Supporting documentation supplied by the laboratory was often incomplete, poorly organized, illegible, or irrelevant to the SDGs being reviewed. Much of the missing information (e.g., mass spectra for volatile and semivolatile analyses and initial calibration curves for quadratic equations) was provided by the laboratory upon request, but the effort required to reconstruct the analytical results from the raw data was, in many cases, excessive. Since that level of effort would be impractical for all of the data produced in this investigation (given the scope and schedule for the project), data assessment for the remaining data packages will consist of a general review of data quality indicators as summarized by the laboratory, without reconstruction of the data. As such, the reviewed data will be suitable for establishing nature and extent (the objective of this investigation), but will not be considered "legally defensible" as defined by USEPA Region III guidelines.

- An unusually large number of early-eluting compounds were manually integrated in the volatile organic initial and continuing calibration standards. Liberal use of manual integration can indicate an insufficient frequency of instrument maintenance or the use of outdated integration parameters, among other possible circumstances; however, it is not technically a deviation from the method and, therefore, did not result in any qualification of data. In addition, manual integrations were inconsistently identified in the data package (justification codes and analyst/supervisor signatures were often missing from the quantitation reports), and before-and-after chromatograms were not provided. Upon request, the laboratory submitted a copy of their manual integration standard operating procedure (SOP) and revised the SDG narrative to state that all manual integrations were performed in accordance with that procedure. Lacking the opportunity to examine before-and-after chromatograms, the reviewer must assume that the manual integrations performed were legitimate and properly executed, despite the documentation deficiencies.

- In the original ICP/MS metals analyses, the internal standards were below method criteria in nearly all associated continuing calibration verifications and blanks, and one or more were above method criteria in each of the samples. After discussing the problem with the laboratory, the analytical procedure was modified to match the sample and standard matrices more closely, thereby improving the internal standard responses. All samples were subsequently reanalyzed, and the original data were discarded.

- The calibration verification percent difference from the initial calibration exceeded 20% for each of six semivolatile compounds. Since the apparent bias in each case was positive, the non-detect results for these compounds in all associated samples required no qualification.

- Selected volatile and semivolatile targets were overrange in the primary analysis of one or more samples each (in some cases, the primary analysis was a dilution due to high constituent concentrations). These samples were subsequently analyzed at further dilutions to quantify the overrange targets. All overrange results in the original analyses were discarded from the final data set, and only the diluted results were retained (flagged "D" in the data tables).

- The laboratory reported inorganic analyte results between the reporting limit and one-half the reporting limit with "B" flags, in accordance with USEPA Contract Laboratory Program conventions. To be consistent with the organic data, as well as to comply with USEPA Region III guidelines, the laboratory "B" flags were changed to "J" flags.

REPORT CONTENT

The data packages for this project were reviewed following USEPA Region III guidelines presented in *Innovative Approaches to Data Validation*, dated June 1995; *Region III Modifications to National Functional Guidelines for Organic Data Review*, dated September 1994; *Region III Modifications to Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses*, dated April 1993; and *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846), Third Edition*, dated June 1997.

One hundred percent of the samples were validated to USEPA Region III Levels M-3 and IM-2, as defined in *Innovative Approaches*, above. The text of this report only addresses those problems that affect data usability.

This report was prepared in accordance with USEPA Region III Standard Operating Procedure R3QA604.0, *Data Validation Report Preparation*, with the following exception: The laboratory data reports and supporting documentation for the validation findings are not included as appendices, but are available upon request. Also, the sample data are tabulated with all of the project data accompanying the overall Data Assessment Report, and have not been included separately in this report.

DATA QUALIFIERS

CODES RELATING TO IDENTIFICATION

U = The analyte was analyzed for, but was not detected. Also used when the analyte was detected, but not substantially above the level reported in laboratory or field blanks. The associated number indicates the reporting limit, possibly elevated in the case of blank contamination.

R = Unreliable result. Analyte may or may not be present in the sample.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

CODES RELATED TO QUANTITATION

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

D = Result reported from a secondary dilution.

ATTACHMENT 2 TO APPENDIX C
DATA ASSESSMENT REPORT
ISG Sparrows Point, Inc.
Fall 2002 Data

Groundwater samples listed in Table 1 below were collected from December 2002 through February 2003 and submitted to Microbac Laboratories, Inc., Gascoyne Division (Gascoyne) for analysis to support project requirements for ISG Sparrows Point Facility Investigation.

Table 1
Groundwater Sample Identification Numbers

CO08-PZM098	CO33-RS-25	CP17-RS-45
CO10-PZM090	CO33-RS-35	CP17-RS-55
CO27-PZM122	CO33-RS-55	CP17-RS-65
CO27-PZM122	CO33-RS-65	FM03-PZM082
CO27-RS-115	CO33-RS-74	GL18-RS-25
CO27-RS-25	CO34-RS-55	GL18-RS-45
CO27-RS-35	CO35-RS-25	GL19-PZM003
CO27-RS-45	CO35-RS-45	GL20-PZM004
CO27-RS-55	CO35-RS-65	HI05-PZM108
CO28-RS-25	CP05-RS-25	HI07-PZM094
CO28-RS-35	CP05-RS-35	HI07-PZM094
CO28-RS-45	CP05-RS-45	HI08-RS-25
CO28-RS-57	CP15-PZM042	HI08-RS-45
CO29-RS-25	CP15-RS-25	HI08-RS-55
CO29-RS-45	CP15-RS-35	HI08-RS-65
CO29-RS-55	CP15-RS-85	SW13-PZM025
CO29-RS-65	CP16-PZM035	SW13-PZM111
CO30-PZM060	CP16-RS-34	SW14-PZM099
CO30-PZM060	CP16-RS-44	SW17-PZM113
CO30-RS-25	CP16-RS-54	SW18-PZM114
CO30-RS-35	CP16-RS-64	TM04-PZM082
CO30-RS-45A	CP16-RS-74	TM05-PZM069
CO30-RS-45B	CP16-RS-84	TM09-PZM067
CO30-RS-55	CP17-RS-25	TM15-PZM065
CO30-RS-65	CP17-RS-35	

Analyses included volatile organic compounds (VOCs) by SW846 Method 8260B. A standard review for analytical data quality was performed by URS Corporation (URS) for the referenced sample. A standard review does not include reconstruction of the analytical data, but does include assessment of supporting quality control (QC) parameters. This includes a review of associated check sample recoveries, surrogate recoveries (where applicable), laboratory blank results, matrix spike/matrix spike duplicate recoveries, detection limits, and holding times.

Any significant findings from the review are discussed below:

1. Supporting quality control data were not submitted with the data packages originally received from the laboratory. The additional information was subsequently requested and received from Gascoyne to URS. However, it was not readily clear how to correlate the laboratory QC (i.e., LCSs and method blanks) with the project samples. It was assumed that QC could be associated based on date. In other words, the QC provided was assumed to be associated with project samples if the analytical dates corresponded. However, if multiple instruments were used and/or multiple batches were analyzed in a single, this assumption would be incorrect. Gascoyne verified that the analytical date of laboratory QC typically correlates to the project samples. However, circumstances such as those mentioned could occur. For future analyses, correlation to laboratory QC must be readily apparent to the data reviewer (e.g., batch identification).

2. Laboratory-derived QC acceptance limits were provided as well as method limits (SW846). The laboratory limits were less stringent than the method limits and several exceedances to the method limits were observed. Consequently, it was assumed that the laboratory controls off the laboratory limits. Gascoyne verified that the laboratory-derived limits are used to evaluate the data as they more closely represent current conditions (e.g., instrumentation, matrix, etc.). However, the method limits are provided for reference only. No further action was necessary.

3. The QC forms for the method blanks indicated that the date received was *after* the analysis date. It was further observed that the date received was always 1/1/2003. The laboratory response indicated that the forms must be manually updated with each use and the method blank forms were inadvertently not updated with the correct date. No further action was required.

4. All blank results for *m,p*-xylenes were hand-edited from 2 U µg/L to 1 U µg/L. Since these isomers co-elute and often can not be distinguished separately, the laboratory was asked to substantiate the modification to the reporting limits. The laboratory confirmed that the calibration standards contain both isomers, and the lowest calibration standard is 1 µg/L, supporting a reporting limit of 1 µg/L. However, the isomers are reported as a combined value, not individually. In other words, if both isomers were present at 1 µg/L (the low standard concentration), than the reported value for the combined isomers would be 2 µg/L, not 1 µg/L. Therefore, all nondetect results for *m,p*-xylenes were qualified as estimated (UJ).

5. Methylene chloride was detected in the method blank analyzed on 12/18/02. However, the associated project sample results were not qualified to indicate potential laboratory contamination. Sample contamination is demonstrated if the associated blank concentration is within ten times the sample concentration for common contaminants and five times for all other chemicals. Methylene chloride is considered a common contaminant and the detected concentrations in the associated project samples were less than ten times the concentration in the associated laboratory blank. Therefore, the detected concentrations of methylene chloride were assumed to be due to contamination and not actually present in the sample. Data were

qualified as nondetect (i.e., "U") at the laboratory reporting limits or reported value (whichever higher). The affected samples were as follows:

Sample ID	Lab ID	Qualification
CO30-PZM-Deep	(0212390-001)	4.3 → 4.3 U µg/l
SW17-RS-25	(0212390-002)	1.8 → 1.8 U µg/l
CP17-RS-25	(0212406-001)	1.4 → 1.4 U µg/l
WT-121802	(0212406-002)	2.3 → 2.3 U µg/l
CP17-RS-35	(0212410-001)	3.2 → 3.2 U µg/l

6. Similar to comment #5 above, methylene chloride was detected at 4 µg/L in the method blank analyzed on 2/5/03. The only associated project sample that also contained methylene chloride was CO33-RS-105 and the result was qualified with a "B." However, the note on the hardcopy indicated that the methylene chloride concentration in the method blank was 1000 µg/L rather than 4 µg/L. Since a 250x dilution was performed for this sample, it was assumed that the method blank concentration was also multiplied by the sample's dilution factor. The laboratory verified this assumption. In other words, the method blank concentration for methylene chloride was actually 4 µg/L, rather than 1000 µg/L as implied on the sample result form. It is agreed that the methylene chloride concentration in the sample was likely due to trace on-column contamination (as demonstrated by the method blank) and then further multiplied by the sample dilution factor, resulting in a deceptively high concentration. However, the method blank concentration should be reported accurately (i.e., a dilution factor should not be applied unless a dilution was performed). In conclusion, the sample concentration was qualified as nondetect (300 U µg/L) due to laboratory contamination.

7. Most samples demonstrated acceptable surrogate recoveries. Some samples had high recoveries for one of three surrogates indicating a possible high bias. In select cases, surrogate recoveries were below QC acceptance limits. Typically if more than one of three surrogates were below QC acceptance limits, but greater than or equal to 10% recovery, associated data were qualified as estimated. In all cases, two of the three surrogates met criteria and/or surrogate recoveries were above 10%. No qualification of data was required.

APPENDIX D

Key to Data Qualifiers
Nature & Extent Investigation
ISG Sparrows Point, Inc.

Qualifier	Definition
U	The analyte was analyzed for, but was not detected. Also used when the analyte was detected, but not substantially above the level reported in laboratory or field blanks. The associated number indicates the reporting limit.
R	Unreliable result. Analyte may or may not be present in the sample.
J	Analyte present. Reported value may not be accurate or precise.
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
UJ	Not detected, quantitation limit may be inaccurate or imprecise.
UL	Not detected, quantitation limit is probably higher.
D	Result reported from a secondary dilution.
--	Not analyzed.

Table D-1
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL02 PZM006 Shallow Fall 2001	GL02 PZM017 Shallow Fall 2001	GL02 PZM028 Intermediate Fall 2001	GL03 PZM013 Intermediate Summer 2004	GL03 PZP001 Shallow Summer 2004	GL05 PZM020 Shallow Fall 2001	GL07 PZM031 Intermediate Fall 2001	GL08 PZM000 Shallow Fall 2001	GL08 PZM036 Intermediate Fall 2001	GL10 PZM012 Shallow Fall 2001
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	69	0.46 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	36	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	5.6 J	10 U	10 U	6.6 U	5 U	10 U	10 U	10 U	10 U	10 U
Benzene	53	0.32 J	1 U	43	2.4	0.43 J	0.32 J	1.5	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	0.37 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 UL	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	2 U	2 U	2 U	1 U	1 U	2 U	2 U	2 U	2 U	2 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	4.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	2 U	2 U	2 U	1 U	1 U	2 U	2 U	0.92 J	2 U	2 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	5.9	1 U	1 U	0.6 J	0.5 J	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	0.94 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	0.32 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	8.6	2 U	2 U	1 U	1 U	2 U	2 U	2 U	2 U	2 U
Xylene, total	10	3 U	3 U	1 U	1 U	3 U	3 U	3 U	3 U	3 U

Table D-1
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL10 PZP003 Shallow Fall 2001	GL11 PZM030 Intermediate Fall 2001	GL11 PZM030 DUP Intermediate Fall 2001	GL11 PZP002 Shallow Fall 2001	GL13 PZP003 Shallow Fall 2001	GL13 PZM012 Shallow Fall 2001	GL13 PZM012 DUP Shallow Fall 2001	GL13 PZM032 Intermediate Fall 2001	GL15 PZP008 Shallow Fall 2001	GL15 PZM022 Intermediate Fall 2001
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	4.8	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	10 U	10 U	10 U	10 U	3.4 J	10 U	10 U	10 U	10 U	710
Benzene	1 U	1 U	1 U	3.5	1.1	1 U	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	1 U	0.26 J	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Xylene, total	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U

Table D-1
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL15 PZM022 DUP Intermediate Fall 2001	GL16 PZP003 Shallow Fall 2001	GL17 PZM005 Shallow Fall 2001	GL17 PZP008 Shallow Fall 2001	GL17 PZM032 Intermediate Fall 2001	GL18 PZM039 Intermediate Summer 2004	GL18 PZP002 Shallow Fall 2001	GL18 PZP002 DUP Shallow Fall 2001	GL18 PZP002 Shallow Summer 2004	GL19 PZM003 Shallow Fall 2002
1,1,1,2-Tetrachloroethane	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
1,1,1-Trichloroethane	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	1 U
1,1,2,2-Tetrachloroethane	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
1,1,2-Trichloroethane	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
1,1-Dichloroethane	10 U	2.6	1 U	1 U	1 U	1 U	140	120	170	1 U
1,1-Dichloroethene	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	1 U
1,2-Dichloroethane	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	1 U
1,2-Dichloropropane	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
2-Butanone	50 U	20	5 U	5 U	5 U	5 U	250 U	150 U	35 U	--
2-Hexanone	50 U	5 U	5 U	5 U	5 U	5 U	250 U	150 U	50 U	--
4-Methyl-2-pentanone	50 U	23	3.9 J	5 U	5 U	5 U	250 U	150 U	50 U	--
Acetone	440	67	4.4 J	11	10 U	5 U	500 U	300 U	50 U	--
Benzene	10 U	140	8.3	0.64 J	0.97 J	1 U	1500	1300	1500	5.2
Bromoform	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
Carbon disulfide	10 U	0.68 J	1 U	1.4	1 U	1 U	50 U	30 U	10 U	--
Carbon tetrachloride	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	1 U
Chlorobenzene	10 U	1 U	1 U	1 U	1 U	1 UL	50 U	30 U	10 UL	1 U
Chloroethane	20 U	2 U	2 U	2 U	2 U	1 U	100 U	60 U	10 U	--
Chloroform	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
cis-1,3-Dichloropropene	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
Ethylbenzene	10 U	0.27 J	0.24 J	1 U	1 U	1 U	50 U	7 J	9 J	1 U
Methylene chloride	5.3 U	2 U	2 U	2 U	2 U	1 U	100 U	60 U	10 U	1 U
Tetrachloroethene	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	13
Toluene	10 U	1.1	1.9	0.38 J	0.25 J	1 U	300	200	290	1 U
trans-1,2-Dichloroethene	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	1 U
trans-1,3-Dichloropropene	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
Trichloroethene	10 U	0.44 J	1 U	1 U	1 U	1 U	50 U	30 U	10 U	1 U
Vinyl chloride	20 U	0.73 J	2 U	2 U	2 U	1 U	20 J	60 U	10 U	1 U
Xylene, total	30 U	1.5 J	3.6	3 U	3 U	1 U	110 J	76 J	140	1 UJ

Table D-1
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL19 PZM003 Shallow Summer 2004	GL20 PZM004 Shallow Fall 2002	GL20 PZM004 Shallow Summer 2004	GL20 PZM004 DUP Shallow Summer 2004
1,1,1,2-Tetrachloroethane	1 U	--	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	--	1 U	1 U
1,1,2-Trichloroethane	1 U	--	1 U	1 U
1,1-Dichloroethane	1 U	9.9	4.8	5.2
1,1-Dichloroethene	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	--	1 U	1 U
2-Butanone	5 U	--	5 U	5 U
2-Hexanone	5 U	--	5 U	5 U
4-Methyl-2-pentanone	5 U	--	5 U	5 U
Acetone	5 U	--	5 U	5 U
Benzene	0.6 J	38	19	20
Bromoform	2.8	--	1 U	1 U
Carbon disulfide	1 U	--	1 U	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U
Chlorobenzene	1 UL	1 U	1 UL	1 UL
Chloroethane	1 U	--	1 U	1 U
Chloroform	1 U	--	1 U	1 U
cis-1,3-Dichloropropene	1 U	--	1 U	1 U
Ethylbenzene	1 U	1	1 U	1 U
Methylene chloride	1 U	1 U	1 U	1 U
Tetrachloroethene	4.9	1 U	1 U	1 U
Toluene	1 U	2	1.2 U	1.2 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	--	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U
Vinyl chloride	1 U	1 U	1 U	1 U
Xylene, total	1 U	2.3	1.8	1.9

Table D-1
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL02 PZM006 Shallow Fall 2001	GL02 PZM017 Shallow Fall 2001	GL02 PZM028 Intermediate Fall 2001	GL03 PZM013 Shallow Summer 2004	GL03 PZP001 Shallow Summer 2004	GL05 PZM020 Shallow Fall 2001	GL07 PZM031 Intermediate Fall 2001	GL08 PZM000 Shallow Fall 2001	GL08 PZM036 Intermediate Fall 2001	GL10 PZM012 Shallow Fall 2001
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	69	0.46 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	36	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	5.6 J	10 U	10 U	6.6 U	5 U	10 U	10 U	10 U	10 U	10 U
Benzene	53	0.32 J	1 U	43	2.4	0.43 J	0.32 J	1.5	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	0.37 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 UL	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	2 U	2 U	2 U	1 U	1 U	2 U	2 U	2 U	2 U	2 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	4.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	2 U	2 U	2 U	1 U	1 U	2 U	2 U	0.92 J	2 U	2 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	5.9	1 U	1 U	0.6 J	0.5 J	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	0.94 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	0.32 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	8.6	2 U	2 U	1 U	1 U	2 U	2 U	2 U	2 U	2 U
Xylene, total	10	3 U	3 U	1 U	1 U	3 U	3 U	3 U	3 U	3 U

Table D-1
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL10 PZP003 Shallow Fall 2001	GL11 PZM030 Intermediate Fall 2001	GL11 PZM030 DUP Intermediate Fall 2001	GL11 PZP002 Shallow Fall 2001	GL13 PZP003 Shallow Fall 2001	GL13 PZM012 Shallow Fall 2001	GL13 PZM012 DUP Shallow Fall 2001	GL13 PZM032 Intermediate Fall 2001	GL15 PZP008 Shallow Fall 2001	GL15 PZM022 Intermediate Fall 2001
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	4.8	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	10 U	10 U	10 U	10 U	3.4 J	10 U	10 U	10 U	10 U	710
Benzene	1 U	1 U	1 U	3.5	1.1	1 U	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	1 U	0.26 J	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Xylene, total	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U

Table D-1
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Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL15	GL16	GL17	GL17	GL17	GL18	GL18	GL18	GL18	GL19
	PZM022 DUP	PZP003	PZM005	PZP008	PZM032	PZM039	PZP002	PZP002 DUP	PZP002	PZM003
	Intermediate	Shallow	Shallow	Shallow	Intermediate	Intermediate	Shallow	Shallow	Shallow	Shallow
	Fall 2001	Fall 2001	Fall 2001	Fall 2001	Fall 2001	Summer 2004	Fall 2001	Fall 2001	Summer 2004	Fall 2002
1,1,1,2-Tetrachloroethane	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
1,1,1-Trichloroethane	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	1 U
1,1,2,2-Tetrachloroethane	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
1,1,2-Trichloroethane	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
1,1-Dichloroethane	10 U	2.6	1 U	1 U	1 U	1 U	140	120	170	1 U
1,1-Dichloroethene	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	1 U
1,2-Dichloroethane	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	1 U
1,2-Dichloropropane	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
2-Butanone	50 U	20	5 U	5 U	5 U	5 U	250 U	150 U	35 U	--
2-Hexanone	50 U	5 U	5 U	5 U	5 U	5 U	250 U	150 U	50 U	--
4-Methyl-2-pentanone	50 U	23	3.9 J	5 U	5 U	5 U	250 U	150 U	50 U	--
Acetone	440	67	4.4 J	11	10 U	5 U	500 U	300 U	50 U	--
Benzene	10 U	140	8.3	0.64 J	0.97 J	1 U	1500	1300	1500	5.2
Bromoform	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
Carbon disulfide	10 U	0.68 J	1 U	1.4	1 U	1 U	50 U	30 U	10 U	--
Carbon tetrachloride	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	1 U
Chlorobenzene	10 U	1 U	1 U	1 U	1 U	1 UL	50 U	30 U	10 UL	1 U
Chloroethane	20 U	2 U	2 U	2 U	2 U	1 U	100 U	60 U	10 U	--
Chloroform	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
cis-1,3-Dichloropropene	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
Ethylbenzene	10 U	0.27 J	0.24 J	1 U	1 U	1 U	50 U	7 J	9 J	1 U
Methylene chloride	5.3 U	2 U	2 U	2 U	2 U	1 U	100 U	60 U	10 U	1 U
Tetrachloroethene	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	13
Toluene	10 U	1.1	1.9	0.38 J	0.25 J	1 U	300	200	290	1 U
trans-1,2-Dichloroethene	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	1 U
trans-1,3-Dichloropropene	10 U	1 U	1 U	1 U	1 U	1 U	50 U	30 U	10 U	--
Trichloroethene	10 U	0.44 J	1 U	1 U	1 U	1 U	50 U	30 U	10 U	1 U
Vinyl chloride	20 U	0.73 J	2 U	2 U	2 U	1 U	20 J	60 U	10 U	1 U
Xylene, total	30 U	1.5 J	3.6	3 U	3 U	1 U	110 J	76 J	140	1 UJ

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Analyte, ug/L	GL19 PZM003 Shallow Summer 2004	GL20 PZM004 Shallow Fall 2002	GL20 PZM004 Shallow Summer 2004	GL20 PZM004 DUP Shallow Summer 2004
1,1,1,2-Tetrachloroethane	1 U	--	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	--	1 U	1 U
1,1,2-Trichloroethane	1 U	--	1 U	1 U
1,1-Dichloroethane	1 U	9.9	4.8	5.2
1,1-Dichloroethene	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	--	1 U	1 U
2-Butanone	5 U	--	5 U	5 U
2-Hexanone	5 U	--	5 U	5 U
4-Methyl-2-pentanone	5 U	--	5 U	5 U
Acetone	5 U	--	5 U	5 U
Benzene	0.6 J	38	19	20
Bromoform	2.8	--	1 U	1 U
Carbon disulfide	1 U	--	1 U	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U
Chlorobenzene	1 UL	1 U	1 UL	1 UL
Chloroethane	1 U	--	1 U	1 U
Chloroform	1 U	--	1 U	1 U
cis-1,3-Dichloropropene	1 U	--	1 U	1 U
Ethylbenzene	1 U	1	1 U	1 U
Methylene chloride	1 U	1 U	1 U	1 U
Tetrachloroethene	4.9	1 U	1 U	1 U
Toluene	1 U	2	1.2 U	1.2 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	--	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U
Vinyl chloride	1 U	1 U	1 U	1 U
Xylene, total	1 U	2.3	1.8	1.9

Table D-2
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL02 PZM006 Shallow Fall 2001	GL02 PZM017 Shallow Fall 2001	GL02 PZM028 Intermediate Fall 2001	GL03 PZM013 Shallow Summer 2004	GL03 PZP001 Shallow Summer 2004	GL05 PZM020 Shallow Fall 2001	GL07 PZM031 Intermediate Fall 2001
1,2,4-Trichlorobenzene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	20 UJ	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	28 J	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	100 U	50 U	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	20 UJ	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	17 J	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	20 U	10 U	10 U	10 U	10 U	10 U	10 U
3- & 4-Methylphenol	75	10 U	10 U	10 U	10 U	10 U	10 U
3,3-Dichlorobenzidine	100 U	50 U	50 U	20 U	20 U	50 U	50 U
3,3'-Dimethylbenzidine	100 U	50 U	50 U	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	100 UJ	50 U	50 U	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether	20 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	20 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	20 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	100 U	50 U	50 U	50 U	50 U	50 U	50 U
Acenaphthene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	20 UJ	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	20 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	20 U	10 U	10 U	10 U	10 U	10 U	1.2 J
Dimethylphthalate	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	20 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	100 U	50 U	50 U	10 U	10 U	50 U	50 U
Hexachloroethane	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	20 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	20 UJ	10 U	10 U	67	5.2 J	2.8 J	0.69 J
Nitrobenzene	20 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Pentachloroethane	100 U	50 U	50 U	50 U	50 U	50 U	50 U
Pentachlorophenol	100 U	50 U	50 U	50 U	50 U	50 U	50 U
Phenanthrene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenol	2.6 J	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	20 U	10 U	10 U	10 U	10 U	1.5 J	10 U
Pyridine	40 U	20 U	20 U	20 U	20 U	20 U	20 U

Table D-2
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Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL08 PZM000 Shallow Fall 2001	GL08 PZM036 Intermediate Fall 2001	GL10 PZM012 Shallow Fall 2001	GL10 PZP003 Shallow Fall 2001	GL11 PZM030 Intermediate Fall 2001	GL11 PZM030 DUP Intermediate Fall 2001	GL11 PZP002 Shallow Fall 2001
1,2,4-Trichlorobenzene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	5.2 J	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	100 U	50 U	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	5.3 J	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	20 U	10 U	10 U	10 U	10 U	10 U	10 U
3- & 4-Methylphenol	6.8 J	10 U	10 U	10 U	10 U	10 U	10 U
3,3-Dichlorobenzidine	100 U	50 U	50 U	50 U	50 U	50 U	50 U
3,3'-Dimethylbenzidine	100 U	50 U	50 U	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	100 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether	20 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	20 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	20 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	100 U	50 U	50 U	50 U	50 U	50 U	50 U
Acenaphthene	1.6 J	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	20 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	20 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	20 U	10 U	10 U	10 U	1.3 J	1 J	10 U
Dimethylphthalate	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	20 U	0.5 J	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	100 U	50 U	50 U	50 U	50 U	50 U	50 U
Hexachloroethane	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	4.8 J	6.3 J	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachloroethane	100 U	50 U	50 U	50 U	50 U	50 U	50 U
Pentachlorophenol	100 U	50 U	50 U	50 U	50 U	50 U	50 U
Phenanthrene	20 U	1.1 J	10 U	10 U	10 U	10 U	0.57 J
Phenol	4.8 J	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	20 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyridine	40 U	20 U	20 U	20 U	20 U	20 U	20 U

Table D-2
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Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL13 PZM012 Shallow Fall 2001	GL13 PZM012 DUP Shallow Fall 2001	GL13 PZM032 Intermediate Fall 2001	GL13 PZP003 Shallow Fall 2001	GL15 PZM022 Intermediate Fall 2001	GL15 PZM022 DUP Intermediate Fall 2001	GL15 PZP008 Shallow Fall 2001
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	3.9 J	2.6 J	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	1.3 J	0.92 J	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3- & 4-Methylphenol	2.5 J	1.4 J	10 U	10 U	10 U	10 U	10 U
3,3-Dichlorobenzidine	50 U	50 U	50 U	50 U	50 U	50 U	50 U
3,3'-Dimethylbenzidine	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	0.77 J	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	77	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachloroethane	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyridine	20 U	20 U	20 U	20 U	20 U	20 U	20 U

Table D-2
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL17 PZM005 Shallow Fall 2001	GL17 PZM032 Intermediate Fall 2001	GL18 PZM039 Intermediate Summer 2004	GL18 PZP002 Shallow Fall 2001	GL18 PZP002 DUP Shallow Fall 2001	GL18 PZP002 Shallow Summer 2004
1,2,4-Trichlorobenzene	20 U	10 U	10 U	20 U	20 U	10 U
1,2-Dichlorobenzene	20 U	10 U	10 U	20 U	20 U	10 U
1,3-Dichlorobenzene	20 U	10 U	10 U	20 U	20 U	10 U
1,4-Dichlorobenzene	20 U	10 U	10 U	20 U	20 U	10 U
2,4,5-Trichlorophenol	20 U	10 U	10 U	20 U	20 U	10 U
2,4,6-Trichlorophenol	20 U	10 U	10 U	20 U	20 U	10 U
2,4-Dichlorophenol	20 UJ	10 U	10 U	20 UJ	20 U	10 U
2,4-Dimethylphenol	210	10 U	10 U	20 UJ	20 U	740 D
2,4-Dinitrophenol	100 U	50 U	50 U	100 U	100 U	50 U
2,4-Dinitrotoluene	20 U	10 U	10 U	20 U	20 U	10 U
2,6-Dinitrotoluene	20 U	10 U	10 U	20 U	20 U	10 U
2-Chloronaphthalene	20 U	10 U	10 U	20 U	20 U	10 U
2-Chlorophenol	20 U	10 U	10 U	20 U	20 U	10 U
2-Methylnaphthalene	5.9 J	1.3 J	10 U	25 J	26	160
2-Methylphenol	34	10 U	10 U	720	690	360 D
2-Nitrophenol	20 UJ	10 U	10 U	20 UJ	20 U	10 U
3- & 4-Methylphenol	340 J	10 U	10 U	2000	1900	1000 D
3,3-Dichlorobenzidine	100 U	50 U	20 U	100 U	100 U	20 U
3,3'-Dimethylbenzidine	100 U	50 U	50 U	100 U	100 U	50 U
4,6-Dinitro-2-methylphenol	100 UJ	50 U	50 U	100 UJ	100 U	50 U
4-Bromophenyl phenyl ether	20 U	10 U	10 U	20 U	20 U	10 U
4-Chloro-3-methylphenol	20 U	10 U	10 U	20 U	20 U	10 U
4-Chlorophenyl phenyl ether	20 U	10 U	10 U	20 U	20 U	10 U
4-Nitrophenol	100 U	50 U	50 U	100 U	100 U	50 U
Acenaphthene	2 J	23	10 U	33	35	24
Acenaphthylene	20 U	10 U	10 U	84	94	120
Anthracene	20 U	10 U	10 U	17 J	19 J	10 U
Benzo(a)anthracene	20 U	10 U	10 U	20 U	20 U	10 U
Benzo(a)pyrene	20 U	10 U	10 U	20 U	20 U	10 U
Benzo(b)fluoranthene	20 U	10 U	10 U	20 U	20 U	10 U
Benzo(g,h,i)perylene	20 U	10 U	10 U	20 U	20 U	10 U
Benzo(k)fluoranthene	20 U	10 U	10 U	20 U	20 U	10 U
bis(2-Chloroethoxy)methane	20 UJ	10 U	10 U	20 UJ	20 U	10 U
bis(2-Chloroethyl)ether	20 U	10 U	10 U	20 U	20 U	10 U
bis(2-Ethylhexyl)phthalate	20 U	10 U	10 U	20 U	20 U	10 U
Butylbenzylphthalate	20 U	10 U	10 U	20 U	20 U	10 U
Chrysene	20 U	10 U	10 U	20 U	20 U	10 U
Dibenz(a,h)anthracene	20 U	10 U	10 U	20 U	20 U	10 U
Dibenzofuran	2 J	12	10 U	56	63	54
Diethylphthalate	20 U	10 U	10 U	20 U	20 U	10 U
Dimethylphthalate	20 U	10 U	10 U	20 U	20 U	10 U
Di-n-butylphthalate	20 U	10 U	10 U	20 U	20 U	10 U
Di-n-octylphthalate	20 U	10 U	10 U	20 U	20 U	10 U
Fluoranthene	20 U	10 U	10 U	9.9 J	12 J	11
Fluorene	2.1 J	11	10 U	61	68	55
Hexachlorobenzene	20 U	10 U	10 U	20 U	20 U	10 U
Hexachlorobutadiene	20 UJ	10 U	10 U	20 UJ	20 U	10 U
Hexachlorocyclopentadiene	100 U	50 U	10 U	100 U	100 U	10 U
Hexachloroethane	20 U	10 U	10 U	20 U	20 U	10 U
Indeno(1,2,3-cd)pyrene	20 U	10 U	10 U	20 U	20 U	10 U
Isophorone	20 UJ	10 U	10 U	20 UJ	20 U	10 U
Naphthalene	1100	14	10 U	2700	2600	2000 D
Nitrobenzene	20 UJ	10 U	10 U	20 UJ	20 U	10 U
Pentachloroethane	100 U	50 U	50 U	100 U	100 U	50 U
Pentachlorophenol	100 U	50 U	50 U	100 U	100 U	50 U
Phenanthrene	3 J	1.8 J	10 U	77	86	73
Phenol	1800	10 U	10 U	1700	1700	490 D
Pyrene	20 U	10 U	10 U	4.5 J	5.6 J	13
Pyridine	40 U	20 U	20 U	76	91	42

Table D-2
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL19 PZM003 Shallow Fall 2002	GL19 PZM003 Shallow Summer 2004	GL20 PZM004 Shallow Fall 2002	GL20 PZM004 Shallow Summer 2004	GL20 PZM004 DUP Shallow Summer 2004
1,2,4-Trichlorobenzene	--	10 U	--	10 U	10 U
1,2-Dichlorobenzene	--	10 U	--	10 U	10 U
1,3-Dichlorobenzene	--	10 U	--	10 U	10 U
1,4-Dichlorobenzene	--	10 U	--	10 U	10 U
2,4,5-Trichlorophenol	--	10 U	--	10 U	10 U
2,4,6-Trichlorophenol	--	10 U	--	10 U	10 U
2,4-Dichlorophenol	--	10 U	--	10 U	10 U
2,4-Dimethylphenol	--	10 U	--	110	100
2,4-Dinitrophenol	--	50 U	--	50 U	50 U
2,4-Dinitrotoluene	--	10 U	--	10 U	10 U
2,6-Dinitrotoluene	--	10 U	--	10 U	10 U
2-Chloronaphthalene	--	10 U	--	10 U	10 U
2-Chlorophenol	--	10 U	--	10 U	10 U
2-Methylnaphthalene	--	10 U	--	10 U	10 U
2-Methylphenol	--	10 U	--	14	14
2-Nitrophenol	--	10 U	--	10 U	10 U
3- & 4-Methylphenol	--	10 U	--	11	11
3,3-Dichlorobenzidine	--	20 U	--	20 U	20 U
3,3'-Dimethylbenzidine	--	50 U	--	50 U	50 U
4,6-Dinitro-2-methylphenol	--	50 U	--	50 U	50 U
4-Bromophenyl phenyl ether	--	10 U	--	10 U	10 U
4-Chloro-3-methylphenol	--	10 U	--	10 U	10 U
4-Chlorophenyl phenyl ether	--	10 U	--	10 U	10 U
4-Nitrophenol	--	50 U	--	50 U	50 U
Acenaphthene	--	10 U	--	10 U	10 U
Acenaphthylene	--	10 U	--	10 U	10 U
Anthracene	--	10 U	--	10 U	10 U
Benzo(a)anthracene	--	10 U	--	10 U	10 U
Benzo(a)pyrene	--	10 U	--	10 U	10 U
Benzo(b)fluoranthene	--	10 U	--	10 U	10 U
Benzo(g,h,i)perylene	--	10 U	--	10 U	10 U
Benzo(k)fluoranthene	--	10 U	--	10 U	10 U
bis(2-Chloroethoxy)methane	--	10 U	--	10 U	10 U
bis(2-Chloroethyl)ether	--	10 U	--	10 U	10 U
bis(2-Ethylhexyl)phthalate	--	18	--	10 U	10 U
Butylbenzylphthalate	--	10 U	--	10 U	10 U
Chrysene	--	10 U	--	10 U	10 U
Dibenz(a,h)anthracene	--	10 U	--	10 U	10 U
Dibenzofuran	--	10 U	--	10 U	10 U
Diethylphthalate	--	10 U	--	10 U	10 U
Dimethylphthalate	--	10 U	--	10 U	10 U
Di-n-butylphthalate	--	10 U	--	10 U	10 U
Di-n-octylphthalate	--	10 U	--	10 U	10 U
Fluoranthene	--	10 U	--	10 U	10 U
Fluorene	--	10 U	--	10 U	10 U
Hexachlorobenzene	--	10 U	--	10 U	10 U
Hexachlorobutadiene	--	10 U	--	10 U	10 U
Hexachlorocyclopentadiene	--	10 U	--	10 U	10 U
Hexachloroethane	--	10 U	--	10 U	10 U
Indeno(1,2,3-cd)pyrene	--	10 U	--	10 U	10 U
Isophorone	--	10 U	--	10 U	10 U
Naphthalene	1 U*	10 U	54*	16	15
Nitrobenzene	--	10 U	--	10 U	10 U
Pentachloroethane	--	50 U	--	50 U	50 U
Pentachlorophenol	--	50 U	--	50 U	50 U
Phenanthrene	--	10 U	--	10 U	10 U
Phenol	--	10 U	--	10 U	10 U
Pyrene	--	10 U	--	10 U	10 U
Pyridine	--	20 U	--	20 U	20 U

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Table D-3
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL02 PZM006 Shallow Fall 2001	GL02 PZM006 Shallow Summer 2004	GL02 PZM017 Shallow Fall 2001	GL02 PZM017 Shallow Summer 2004	GL02 PZM028 Intermediate Fall 2001	GL02 PZM028 Intermediate Summer 2004	GL03 PZM013 Shallow Summer 2004	GL03 PZP001 Shallow Summer 2004	GL04 PZM026 Intermediate Fall 2000	GL04 PZM046 Lower Fall 2000
Antimony, total	4.1 U	2 U	4.1 U	2 U	4.1 U	2 U	2 U	2 U	--	--
Arsenic, total	7.9 J	6.2	11.6	16	66	90	5 J	5 U	--	--
Barium, total	21.5 U	22	74.7 U	79	151 U	130	28	61	--	--
Beryllium, total	4 U	1 U	3.9 U	1 U	3.9 U	1 U	1 U	1 U	--	--
Cadmium, total	0.63 U	2.1 U	0.63 U	1 U	0.63 U	1 U	1 U	1 U	--	--
Chromium, total	1.3 J	10 U	1.1 U	5.7 U	2.9 J	6.5 U	8.8 U	7.5 U	--	--
Cobalt, total	0.86 U	1.2	9.9 U	8.8	0.86 U	2.3	2.4	1 U	--	--
Copper, total	0.77 U	4.4 K	0.77 U	3.7	0.77 U	8.6	2 U	4.3	--	--
Iron, total	53.4 J	--	155000	--	26700	--	--	--	200000	130000
Lead, total	1.8 U	1.4	1.8 U	1 U	1.9 J	1.2	1 U	9.7	--	--
Mercury, total	0.054 UL	0.2 U	0.054 UL	0.2 U	0.054 UL	0.2 U	0.2 U	0.2 U	--	--
Nickel, total	31.9 U	30	9.4 U	11	2.4 U	12	4.1	5	--	--
Selenium, total	7.2	8.6	3.2 U	19	3.2 U	38	8.6 U	5 U	--	--
Silver, total	0.75 U	5 U	0.75 U	5 U	0.75 U	5 U	5 U	5 U	--	--
Thallium, total	5.7 U	1.4 U	11.2	1 U	5.7 U	1 U	0.8 J	0.6 J	--	--
Tin, total	28.8 U	520 J	28.8 U	140	28.8 U	390	280	540	--	--
Vanadium, total	5.8 J	24 U	7.4 J	5 U	12.7 J	5 U	11 U	15 U	--	--
Zinc, total	3.5 J	87 K	9.9 J	14	44	16	10 U	10 U	--	--
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	228000	--	2020000	--	4040000	--	--	--	2100000	1300000
Cyanide, available	900	--	49 J	--	16 J	--	2 J	2 U	--	--
Cyanide, total	--	--	--	--	--	--	140	26	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	898000	--	188000	--	294000	--	--	--	21000	130000
Sulfide	1000 U	--	1000 U	--	1000 U	--	19000 L	1500 L	--	--

Table D-3
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL04 PZP001 Shallow Fall 2000	GL05 PZM008 Shallow Fall 2000	GL05 PZM020 Shallow Fall 2000	GL05 PZM020 Shallow Fall 2001	GL07 PZM013 Shallow Fall 2000	GL07 PZM031 Intermediate Fall 2000	GL07 PZM031 Intermediate Fall 2001	GL08 PZM000 Shallow Fall 2001	GL08 PZM036 Intermediate Fall 2001	GL10 PZM012 Shallow Fall 2001
Antimony, total	--	--	--	4.1 U	--	--	4.1 U	4.1 U	4.1 U	4.1 U
Arsenic, total	--	--	--	17.1	--	--	7.7 J	6.1 J	31.7	2 U
Barium, total	--	--	--	108 U	--	--	106 U	99.2 U	56 J	180 U
Beryllium, total	--	--	--	3.2 U	--	--	2.9 U	3.6 U	3.4 U	4.4 U
Cadmium, total	--	--	--	0.63 U	--	--	0.63 U	0.63 U	0.63 U	0.66 J
Chromium, total	--	--	--	1.1 U	--	--	12.1	1.1 U	3 U	1.1 U
Cobalt, total	--	--	--	4.8 U	--	--	1.9 U	1.9 U	1 J	0.86 U
Copper, total	--	--	--	0.77 U	--	--	0.77 U	0.77 U	0.77 U	0.77 U
Iron, total	200	73000	7800	--	9400	14000	--	1100	114000	85300
Lead, total	--	--	--	1.8 U	--	--	4.9	1.8 U	1.8 U	1.8 U
Mercury, total	--	--	--	0.054 UL	--	--	0.054 UL	0.054 UL	0.054 U	0.054 UL
Nickel, total	--	--	--	4.3 U	--	--	24 J	6.3 J	2.4 U	2.4 U
Selenium, total	--	--	--	3.2 U	--	--	3.2 U	3.2 U	3.2 U	3.2 U
Silver, total	--	--	--	0.75 U	--	--	0.75 U	0.75 U	0.75 U	0.75 U
Thallium, total	--	--	--	5.7 U	--	--	5.7 U	5.7 U	5.7 U	5.7 U
Tin, total	--	--	--	28.8 U	--	--	28.8 U	28.8 U	28.8 U	28.8 U
Vanadium, total	--	--	--	8.9 J	--	--	1.5 U	10.7 J	10.4 J	4.8 J
Zinc, total	--	--	--	1.5 U	--	--	176	1.5 U	7.6 J	1.5 U
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	29000	160000	2900000	--	310000	390000	--	736000	71300	202000
Cyanide, available	--	--	--	1.8 J	--	--	10 J	2300 J	35 J	37
Cyanide, total	--	--	--	--	--	--	--	--	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	200000	600000	230000	--	52000	40000	--	29400	102000	1000 U
Sulfide	--	--	--	1000 U	--	--	1000 U	1000 U	1000 U	1000 U

Table D-3
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL10 PZP003 Shallow Fall 2001	GL11 PZM030 Intermediate Fall 2001	GL11 PZM030 DUP Intermediate Fall 2001	GL11 PZP002 Shallow Fall 2001	GL13 PZM012 Shallow Fall 2001	GL13 PZM012 DUP Shallow Fall 2001	GL13 PZM032 Intermediate Fall 2001	GL13 PZP003 Shallow Fall 2001	GL15 PZM022 Intermediate Fall 2001	GL15 PZM022 DUP Intermediate Fall 2001
Antimony, total	4.1 U	4.1 U	4.1 U	4.1 U	20.6 U	20.6 U	4.1 U	4.1 U	4.1 U	4.1 U
Arsenic, total	3.5 J	8.4 J	7.2 J	3.6 J	2 U	2 U	2 U	6.4 J	2 U	2 U
Barium, total	137 J	138 U	144 U	39.2 U	32.6	32.2	482	32 U	146 J	141 J
Beryllium, total	6.1 U	5.2 U	4.5 U	3 U	0.56 U	0.68 U	5.2 U	4.6 U	3.8 U	3.8 U
Cadmium, total	0.9 J	0.63 U	1 J	0.63 U	3.2 U	3.2 U	0.63 U	0.63 U	2.5 J	1.8 J
Chromium, total	6.3	1.1 U	1.1 U	1.1 U	5.6 U	1.1 U	1.1 U	1.1 U	28.8	27.3
Cobalt, total	7.2 U	0.86 U	0.86 U	1.9 U	0.86 U	0.86 U	0.86 U	1.9 U	0.86 U	0.86 U
Copper, total	0.77 U	0.77 U	0.77 U	0.77 U	3.9 U	442	0.77 U	0.77 U	0.77 U	0.77 U
Iron, total	--	156000	159000	3420	1410000	1420000	153000	1580	238000 J	230000 J
Lead, total	1.8 U	1.8 U	1.8 U	1.8 U	9.1 U	9.1 U	5.6	1.8 U	3.6 U	3.6 U
Mercury, total	0.054 UL	0.054 UL	0.054 UL	0.054 UL	0.054 U	0.054 U	0.054 UL	0.054 UL	0.071 J	0.054 U
Nickel, total	20.4 U	2.4 U	2.4 U	9.9 U	2.4 U	2.4 U	2.4 U	7.4 U	16.3 J	15 J
Selenium, total	3.2 U	3.2 U	3.2 U	3.2 U	79.8 U	79.8 U	3.2 U	8.1	3.2 U	5.8
Silver, total	0.75 U	0.75 U	0.75 U	0.75 U	6	5.7	0.75 U	0.75 U	0.75 U	0.75 U
Thallium, total	5.7 U	5.7 U	13.6	5.7 U	144 U	144 U	14.6	5.7 U	11.7	11.4
Tin, total	28.8 U	28.8 U	28.8 U	28.8 U	144 U	144 U	28.8 U	28.8 U	28.8 U	28.8 U
Vanadium, total	16.7 J	11.6 J	8.3 J	3.8 J	54.9 J	57.3 J	9.8 J	4.9 J	12.7 J	12.8 J
Zinc, total	56.3	1.5 U	1.5 U	15.5 U	7.5 U	7.5 U	10.5 J	1.5 U	1.5 U	1.5 U
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	--	374000	353000	216000	145000	153000	1630000	84600	808000	800000
Cyanide, available	150 J	75 J	78 J	870 J	20 U	20 U	35 J	770 J	16	27
Cyanide, total	--	--	--	--	--	--	--	--	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	--	1000 U	1000 U	774000	3870000	3880000	197000	309000	219000	219000
Sulfide	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U

Table D-3
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL15 PZP008 Shallow Fall 2001	GL16 PZP003 Shallow Fall 2001	GL17 PZM005 Shallow Fall 2001	GL17 PZM032 Intermediate Fall 2001	GL18 PZM039 Intermediate Summer 2004	GL18 PZP002 Shallow Fall 2001	GL18 PZP002 Shallow Summer 2004	GL18 PZP002 DUP Shallow Fall 2001	GL19 PZM003 Shallow Summer 2004	GL20 PZM004 Shallow Summer 2004
Antimony, total	4.1 U	4.1 U	4.1 U	4.1 U	2 U	4.1 U	2 U	4.1 U	2 U	2 U
Arsenic, total	4.5 J	19.7	20.5	2 U	22	15	11	14.9	3 J	3 U
Barium, total	28.9 J	126 J	56.1 U	1150 J	350	71.9 U	62	75.6 U	17	38
Beryllium, total	0.4 U	5.7 U	4.7 U	3.8 U	1 U	3.3 U	1 U	3.2 U	1 U	1 U
Cadmium, total	0.63 U	20.7	0.63 U	3.2 J	1 U	0.63 U	1 U	0.63 U	1 U	1 U
Chromium, total	1.1 U	65.8	1.1 U	1.1 U	6.2 U	1.1 U	7.4 U	1.1 U	6.4 U	8.1 U
Cobalt, total	25.1 J	16.6 J	0.86 U	0.86 U	6	1.7 U	2	1.8 J	1	0.5 J
Copper, total	1.1 U	97.1	0.77 U	0.77 U	2 U	0.77 U	2 U	0.77 U	2 U	2 U
Iron, total	9350	--	136	409000 J	--	--	--	--	--	--
Lead, total	1.8 U	676	1.8 U	3.6 U	1 U	1.8 U	1 U	1.8 U	1.1	2.1
Mercury, total	0.054 U	1.8 L	0.054 UL	0.054 U	0.2 U	0.06 L	0.2 U	0.054 UL	0.2 U	0.2 U
Nickel, total	5.2 J	110	36 J	2.4 U	3.8	26 J	37	27.7 J	14	2.7
Selenium, total	3.2 U	5.8	3.2 U	6.4 U	7.8 U	7.7	13	7.8	6.4	5 U
Silver, total	0.75 U	1.9 J	0.75 U	0.75 U	5 U	0.75 U	5 U	0.75 U	5 U	5 U
Thallium, total	5.7 U	5.9 J	6 J	20.8	1.3	5.7 U	7.8	7.8 J	1 U	1 U
Tin, total	28.8 U	28.8 U	28.8 U	36.8 U	170	28.8 U	1600	28.8 U	1300	20 U
Vanadium, total	2.5 J	210	31 J	13.6 J	5 U	163	59	176	57	7.7 U
Zinc, total	19.9 J	3050	1.5 U	4.9 J	10 U	1.5 U	9 J	1.5 U	9 J	10 U
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	98500	--	704000	1950000	--	--	--	--	--	--
Cyanide, available	590	--	9100	67	2 U	30200 J	23	30900 J	2 U	2 U
Cyanide, total	--	--	--	--	8.6	--	750	--	21	140
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	801000	--	790000	89900	--	--	--	--	--	--
Sulfide	1000 U	--	1000 U	1000 U	8000 L	1000 U	21000 L	1000 U	1000 UL	8000 L

Table D-3
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL20 PZM004 DUP Shallow Summer 2004
Antimony, total	2 U
Arsenic, total	3 J
Barium, total	38
Beryllium, total	1 U
Cadmium, total	1 U
Chromium, total	8.7 U
Cobalt, total	1 U
Copper, total	2 U
Iron, total	--
Lead, total	2.4
Mercury, total	0.2 U
Nickel, total	2.6
Selenium, total	5 U
Silver, total	5 U
Thallium, total	1 U
Tin, total	20 U
Vanadium, total	12 U
Zinc, total	6 J
Alkalinity	--
Chloride	--
Cyanide, available	2 U
Cyanide, total	130
Methane	--
Nitrate, as N	--
Nitrite, as N	--
Sulfate	--
Sulfide	--

Table D-4
Dissolved Metals in Groundwater, Summer 2004
Release Site Characterization and Nature & Extent Investigation
Greys Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	GL02 PZM006 Shallow Summer 2004	GL02 PZM017 Shallow Summer 2004	GL02 PZM028 Intermediate Summer 2004	GL03 PZM013 Shallow Summer 2004	GL03 PZP001 Shallow Summer 2004	GL18 PZM039 Intermediate Summer 2004	GL18 PZP002 Shallow Summer 2004	GL19 PZM003 Shallow Summer 2004	GL20 PZM004 Shallow Summer 2004	GL20 PZM004 DUP Shallow Summer 2004
Antimony, dissolved	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic, dissolved	6.8	15	91	4 J	5 U	22	11	5 U	3 J	3 J
Barium, dissolved	24	79	130	25	60	350	60	17	39	39
Beryllium, dissolved	1 UL	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium, dissolved	1.6 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium, dissolved	11 U	5.3 U	4.4 U	8.8 U	7.5 U	5.7 U	7.6 U	7.9 U	8.4 U	9.1 U
Cobalt, dissolved	1.2	8.8	2.2	2.3	1 U	5.7	2	0.9 J	1 U	0.9 J
Copper, dissolved	3.5 K	3.4	8.2	2 U	3.1	4.2	2 U	2 J	2 U	2 U
Lead, dissolved	0.7 J	1 U	1 U	1 U	1.1	2.5	1 U	0.8 J	1.6	1.6
Mercury, dissolved	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel, dissolved	30	11	12	3.6	4.9	3.9	37	15	2.5	2.7
Selenium, dissolved	9	19	37	7 U	5 U	8.9 U	14	5.4	5 U	5 U
Silver, dissolved	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Thallium, dissolved	1.2 U	1 U	1 U	1 U	1 U	1 U	2.6 U	1 U	1 U	1 U
Tin, dissolved	540 J	140	380	270	550	190	1600	1300	30	20 U
Vanadium, dissolved	23 K	5 U	5 U	5 U	12	5 U	60	52 U	11 U	17 U
Zinc, dissolved	36 K	14	6 J	10 U	10 U	6 J	6 J	10	10 U	110

Table D-5
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	HI02 PZM006 Shallow Fall 2001	HI02 PZM006 DUP Shallow Fall 2001	HI02 PZM032 Intermediate Fall 2001	HI02 PZM032 DUP Intermediate Fall 2001	HI04 PZM006 Shallow Fall 2001	HI04 PZM034 Intermediate Fall 2001	HI05 PZM012 Shallow Fall 2001	HI05 PZM046 Lower Fall 2001	HI05 PZM046 DUP Lower Fall 2001	HI05 PZM108 Lower Fall 2002
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
1,1-Dichloroethene	1 U	1 U	3.2	2.4	1 U	1 U	1 U	1 U	1 U	5 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
2-Butanone	1.2 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	100 U
2-Hexanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U
4-Methyl-2-pentanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	50 U
Acetone	6.3 J	5.2 J	10 U	10 U	9.4 J	10 U	4.3 J	10 U	10 U	100 U
Benzene	0.77 J	1.2	1 U	1 U	1 U	1 U	1.3	1 U	1 U	5 U
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Carbon disulfide	1.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Chloroethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Methylene chloride	2 U	2 U	2 U	0.71 J	0.73 J	1.1 J	0.91 J	2 U	2 U	5 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Toluene	0.67 J	0.47 J	1 U	1 U	5.9	1 U	0.39 J	1 U	1 U	5 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Trichloroethene	1 U	1 U	0.32 J	0.32 J	1 U	1 U	1 U	1 U	1 U	5 U
Vinyl chloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	10 U
Xylene, total	0.97 J	3 U	3 U	3 U	3 U	3 U	0.78 J	3 U	3 U	5 U

Table D-5
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	HI07 PZM005 Shallow Fall 2001	HI07 PZM005 Shallow Summer 2004	HI07 PZM032 Intermediate Fall 2001	HI07 PZM094 Lower Fall 2002	HI07 PZM094 Lower Summer 2004	HI08 PZM003 Shallow Summer 2004	HI08 PZM060 Lower Summer 2004	TM02 PZM009 Shallow Fall 2001	TM02 PZM009 DUP Shallow Fall 2001	TM02 PZM028 Intermediate Fall 2001
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	5 U	5 U	1.2 J	--	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	5 U	5 U	5 U	--	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	5 U	5 U	5 U	--	5 U	5 U	5 U	5 U	1.2 J	5 U
Acetone	10 U	6.8	5.8 J	--	3.1 J	3.3 J	3.4 J	10 U	10 U	5.3 J
Benzene	25	16	71	1 U	1 U	1 U	1 U	2.1	2.8	6.1
Bromoform	1 U	1 U	1 U	--	1 U	1.9	1 U	1 U	1 U	1 U
Carbon disulfide	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 UL	1 U	1 U	1 UL	1 UL	1 UL	1 U	1 U	1 U
Chloroethane	2 U	1 U	2 U	--	1 U	1 U	1 U	2 U	2 UJ	2 U
Chloroform	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	0.43 J	1 U	1	1 U	1 U	1 U	1 U	0.26 J	0.27 J	0.56 J
Methylene chloride	2 U	2.1 U	2 U	1 U	2 U	1.7 U	2.1 U	2 U	2 U	2 U
Tetrachloroethene	1 U	1 UL	1 U	1 U	1 UL	1 UL	1 UL	1 U	1 U	1 U
Toluene	7.9	4.6	22	6.9	0.8 J	1 U	1 U	2.4	2.8	5.2
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 UL	1 U	1 U	1 UL	1 UL	1 UL	0.29 J	0.36 J	1
Vinyl chloride	2 U	1 U	2 U	1 U	1 U	1 U	1 U	2 U	2 U	2 U
Xylene, total	9.4	5.6	27	1 UJ	1 U	1 U	1 U	1.9 J	2 J	9.8

Table D-5
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM02 PZM028 DUP Intermediate Fall 2001	TM02 PZM062 Lower Fall 2001	TM03 PZM004 Shallow Fall 2001	TM03 PZM037 Intermediate Fall 2001	TM04 PZM006 Shallow Fall 2001	TM04 PZM006 Shallow Summer 2004	TM04 PZM028 Intermediate Fall 2001	TM04 PZM056 Lower Fall 2001	TM04 PZM082 Intermediate Fall 2002	TM04 PZM082 Intermediate Summer 2004
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	5 U	50 U	5 U	--	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	5 U	50 U	5 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	5 U	50 U	5 U	--	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	5 U	50 U	5 U	--	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	2.3	5 U	50 U	5 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	5 U	50 U	5 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	5 U	50 U	5 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	5 U	50 U	5 U	--	1 U
2-Butanone	5 U	1.4 J	5 U	5 U	5 U	25 U	250 U	25 U	--	5 U
2-Hexanone	5 U	5 U	5 U	5 U	5 U	25 U	250 U	25 U	--	5 U
4-Methyl-2-pentanone	5 U	5 U	5 U	5 U	5 U	25 U	250 U	25 U	--	5 U
Acetone	3.6 J	6.7 J	2.7 J	10 U	3.2 J	17 J	500 U	50 U	--	5 U
Benzene	5.8	2.7	1 U	0.31 J	1400	610	1200	130	83	11
Bromoform	1 U	1 U	1 U	1 U	1 U	5 U	50 U	5 U	--	1 U
Carbon disulfide	1 U	1 U	1 U	1 U	1 U	5 U	50 U	5 U	--	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	5 U	50 U	5 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	5 UL	50 U	5 U	1 U	1 U
Chloroethane	2 U	2 U	2 U	2 U	2 UJ	5 U	100 UJ	10 UJ	--	1 U
Chloroform	1 U	1 U	30	1 U	1 U	5 U	50 U	5 U	--	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	5 U	50 U	5 U	--	1 U
Ethylbenzene	0.48 J	1 U	1 U	1 U	24	19	28 J	1.3 J	5	1 U
Methylene chloride	2 U	2 U	2 U	2 U	2 U	10 U	100 U	10 U	1 U	1.8 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 UL	50 U	5 U	1 U	1 U
Toluene	4.6	2.1	1 U	1 U	9.9	6.1	24 J	5 U	0.8 J	0.7 J
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	5 U	50 U	5 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	5 U	50 U	5 U	--	1 U
Trichloroethene	1	2	1 U	1 U	1 U	1 UL	50 U	5 U	1 U	1 U
Vinyl chloride	2 U	2 U	2 U	2 U	3.6	5 U	100 U	10 U	1 U	1 U
Xylene, total	8.8	3.7	3 U	3 U	47	42	86 J	5.2 J	3.2	0.5 J

Table D-5
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM05 PZM005 Shallow Fall 2001	TM05 PZM040 Intermediate Fall 2001	TM05 PZM069 Lower Fall 2002	TM06 PZM008 Shallow Fall 2001	TM06 PZM034 Intermediate Fall 2001	TM07 PZM005 Shallow Fall 2001	TM07 PZM005 DUP Shallow Fall 2001	TM07 PZM045 Intermediate Fall 2001	TM08 PZM007 Shallow Fall 2001	TM08 PZM038 Intermediate Fall 2001
1,1,1,2-Tetrachloroethane	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	5 U	1 U	1 U	1.7	1.7	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	5 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	5 U	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	10 U	10 U	100 U	10 U	10 U	10 U	10 U	10 U	10 U	3.2 J
Benzene	2	1 U	5 U	0.29 J	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	2 U	2 U	10 U	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 U	2 U
Chloroform	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	0.25 J	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	2 U	2 U	5 U	2 U	2 U	0.5 J	2 U	2 U	2 U	2 U
Tetrachloroethene	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	0.71 J	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	2 U	2 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Xylene, total	1.5 J	3 U	10 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U

Table D-5
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM08 PZM038 DUP Intermediate Fall 2001	TM09 PZM007 Shallow Fall 2001	TM09 PZM007 Shallow Summer 2004	TM09 PZM047 Lower Fall 2001	TM09 PZM047 DUP Lower Fall 2001	TM09 PZM047 Lower Summer 2004	TM09 PZM067 Lower Fall 2002	TM09 PZM067 Lower Summer 2004	TM10 PZM007 Shallow Fall 2001	TM11 PZM007 Shallow Fall 2001
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1.9	1 U	1 U	1 U	1 U	1 U	0.31 J	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
2-Butanone	5 U	5 U	5.9 U	5 U	5 U	5 U	--	5 U	5 U	5 U
2-Hexanone	5 U	5 U	5 U	5 U	5 U	5 U	--	5 U	5 U	5 U
4-Methyl-2-pentanone	5 U	5 U	5 U	5 U	5 U	5 U	--	5 U	10 U	10 U
Acetone	3.1 J	10 U	11	10 U	10	5.9	--	5 U	0.55 J	1 U
Benzene	1 U	4.5	1 U	1 U	0.38 J	1 U	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
Carbon disulfide	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	0.51 J
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 UL	1 U	1 U	1 UL	1 U	1 U	1 U	1 U
Chloroethane	2 U	2 U	1 U	2 U	2 U	1 U	--	1 U	2 U	2 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.44 J	1 U
Methylene chloride	2 U	2 U	1.2 U	2 U	2 U	1 U	1 U	1 U	2 U	0.97 J
Tetrachloroethene	1 U	1 U	1 UL	1 U	1 U	1 UL	1 U	1 U	0.72 J	1 U
Toluene	1 U	1.3	0.5 J	1 U	1 U	1 U	1 U	1 J	1.2	1 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 UL	1 U	1 U	1 UL	1 U	1 U	0.68 J	1 U
Vinyl chloride	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	2 U	2 U
Xylene, total	3 U	1.9 J	1 U	3 U	3 U	1 U	1 UJ	1 U	2.6 J	3 U

Table D-5
COPI List VOCs in Groundwater from 2001 through 2004
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Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM11 PZM034 Intermediate Fall 2001	TM12 PZM006 Shallow Fall 2001	TM13 PZM007 Shallow Fall 2001	TM13 PZM007 DUP Shallow Fall 2001	TM13 PZM046 Lower Fall 2001	TM13 PZM046 DUP Lower Fall 2001	TM14 PZM005 Shallow Fall 2001	TM15 PZM007 Shallow Fall 2001	TM15 PZM011 Shallow Fall 2001	TM15 PZM011 DUP Shallow Fall 2001
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	8.5	1.3 J	8.8
2-Hexanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.6 J	5 U	1.8 J
Acetone	10 U	10 U	10 U	3.7 J	10 U	10 U	10 U	37	7.8 J	38
Benzene	1 U	0.35 J	4.5	3.2	1 U	1 U	0.53 J	1.5	4.3	1.4
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.2	1 U	1.3
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	0.4 J	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.23 J	1 U
Methylene chloride	0.5 J	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1.3	0.91 J	1 U	1 U	0.31 J	0.42 J	1.2	0.41 J
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Xylene, total	3 U	3 U	1.8 J	0.88 J	3 U	3 U	3 U	3 U	1.3 J	3 U

Table D-5
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM15	TM15	TM16	TM17	TM18	FM01	FM01	FM01	FM02	FM02
	PZM031	PZM065	PZM007	PZM005	PZM005	PZM003	PZM041	PZM041 DUP	PZM002	PZM033
	Intermediate	Lower	Shallow	Shallow	Shallow	Shallow	Intermediate	Intermediate	Shallow	Intermediate
	Fall 2001	Fall 2002	Fall 2001	Fall 2001	Fall 2001	Fall 2001	Fall 2001	Fall 2001	Fall 2001	Fall 2001
1,1,1,2-Tetrachloroethane	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	5 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	5 U	50 U	5 U	0.34 J	5 U	5 U	5 U	5 U	0.41 J	5 U
Acetone	6.3 J	100 U	3.2 J	2.9 J	10 U	10 U	10 U	10 U	2.5 J	10 U
Benzene	1 U	5 U	1.6	1 U	1 U	1 U	1 U	1 U	2.3	1 U
Bromoform	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	1 U	5 U	0.88 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	2 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Chloroform	1 U	5 U	1 U	1 U	1 U	31	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	5 U	0.34 J	1 U	1 U	1 U	1 U	1 U	0.44 J	1 U
Methylene chloride	0.49 J	5 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Tetrachloroethene	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	5 U	2	1 U	1 U	1 U	1 U	1 U	0.83 J	1 U
trans-1,2-Dichloroethene	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	2 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Xylene, total	1.5 J	5 U	3.4	3 U	3 U	3 U	3 U	3 U	3.3	3 U

Table D-5
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	FM03 PZM005 Shallow Fall 2001	FM03 PZM005 Shallow Summer 2004	FM03 PZM026 Intermediate Fall 2001	FM03 PZM082 Lower Fall 2002	FM03 PZM082 Lower Summer 2004	FM04 PZM009 Shallow Fall 2001	FM04 PZM036 Intermediate Fall 2001	FM05 PZM004 Shallow Fall 2001	FM05 PZM024 Intermediate Fall 2001
1,1,1,2-Tetrachloroethane	1 U	1 U	75 U	--	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	3.8	4.5	75 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	75 U	--	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	75 U	--	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	8.5	4.9	1900	1 U	1 U	1.4	1 U	1 U	1 U
1,1-Dichloroethene	0.5 J	1 U	470	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.38 J	1 U	75 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	75 U	--	1 U	1 U	1 U	1 U	1 U
2-Butanone	5 U	5 U	380 U	--	5 U	5 U	5 U	5 U	5 U
2-Hexanone	5 U	5 U	380 U	--	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	5 U	5 U	380 U	--	5 U	5 U	5 U	5 U	5 U
Acetone	3.1 J	5 U	750 U	--	3.7 U	10 U	10 U	10 U	10 U
Benzene	0.35 J	1 U	75 U	1 U	1 U	1 U	1 U	1.7	1 U
Bromoform	1 U	3 U	75 U	--	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	1 U	1 U	75 U	--	1 U	1 U	1 U	0.79 J	1 U
Carbon tetrachloride	1 U	1 U	75 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 UL	75 U	1 U	1 UL	1 U	1 U	1 U	1 U
Chloroethane	2 UJ	1 U	150 UJ	--	1 U	2 U	2 U	2 U	2 U
Chloroform	2.7	6.6	75 U	--	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	75 U	--	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	75 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	0.64 J	1 U	150 U	1 U	1 U	2 U	2 U	2 U	2 U
Tetrachloroethene	1 U	1 U	75 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	0.35 J	1 U	75 U	1 U	1 U	1 U	1 U	0.62 J	1 U
trans-1,2-Dichloroethene	1 U	1 U	75 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	75 U	--	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	75 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	2 U	1 U	150 U	1 U	1 U	2 U	2 U	2 U	2 U
Xylene, total	3 U	1 U	220 U	1 UJ	1 U	3 U	3 U	0.75 J	3 U

Table D-5
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	SW10 PZM012 Shallow Summer 2004	TS10 PDM008 Shallow Summer 2004
1,1,1,2-Tetrachloroethane	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U
1,1-Dichloroethane	1 U	1 U
1,1-Dichloroethene	1 U	1 U
1,2-Dichloroethane	1 U	1 U
1,2-Dichloropropane	1 U	1 U
2-Butanone	5 U	5 U
2-Hexanone	5 U	5 U
4-Methyl-2-pentanone	5 U	5 U
Acetone	5 U	5.7 U
Benzene	1 U	1 U
Bromoform	2.9 U	1 U
Carbon disulfide	1 U	1 U
Carbon tetrachloride	1 U	1 U
Chlorobenzene	1 UL	1 UL
Chloroethane	1 U	1 U
Chloroform	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U
Ethylbenzene	1 U	1 U
Methylene chloride	1 U	1 U
Tetrachloroethene	1 U	1 U
Toluene	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U
Trichloroethene	1 U	1 U
Vinyl chloride	1 U	1 U
Xylene, total	1 U	1 U

Table D-6
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	HI02 PZM006 Shallow Fall 2001	HI02 PZM032 Intermediate Fall 2001	HI04 PZM006 Shallow Fall 2001	HI04 PZM034 Intermediate Fall 2001	HI05 PZM012 Shallow Fall 2001	HI05 PZM046 Lower Fall 2001	HI05 PZM046 DUP Lower Fall 2001
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	32	2.6 J	10 U	10 U	14	10 U	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	1.4 J	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	1.1 J	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3- & 4-Methylphenol	10	2.2 J	2.5 J	10 U	3.8 J	10 U	10 U
3,3-Dichlorobenzidine	50 U	50 U	50 U	50 U	50 U	50 U	50 U
3,3'-Dimethylbenzidine	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acenaphthene	1.5 J	10 U	1.2 J	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	12	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	0.74 J	10 U	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	0.65 J	10 U	10 U
Fluorene	1.3 J	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	7.3 J	10 U	0.89 J	10 U	1 J	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachloroethane	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Phenanthrene	1.1 J	10 U	0.85 J	10 U	10 U	10 U	10 U
Phenol	2.6 J	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyridine	20 U	20 U	20 U	20 U	20 U	20 U	20 U

Table D-6
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Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	HI05 PZM108 Lower Fall 2002	HI07 PZM005 Shallow Fall 2001	HI07 PZM005 Shallow Summer 2004	HI07 PZM032 Intermediate Fall 2001	HI07 PZM094 Lower Fall 2002	HI07 PZM094 Lower Summer 2004	HI08 PZM003 Shallow Summer 2004
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	--	10 U	10 U
1,2-Dichlorobenzene	--	10 U	10 U	10 U	--	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	--	10 U	10 U
1,4-Dichlorobenzene	--	10 U	10 U	10 U	--	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	--	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	--	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	--	10 U	10 U
2,4-Dimethylphenol	10 U	22	14	240	--	10 U	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	--	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	--	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	--	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	--	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	--	10 U	10 U
2-Methylnaphthalene	10 U	2.4 J	10 U	20	--	10 U	10 U
2-Methylphenol	10 U	0.94 J	10 U	5.1 J	--	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	--	10 U	10 U
3- & 4-Methylphenol	--	10	8.2 J	100	--	10 U	10 U
3,3-Dichlorobenzidine	20 U	50 U	20 U	50 U	--	20 U	20 U
3,3'-Dimethylbenzidine	--	50 U	50 U	50 U	--	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	--	50 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	--	10 U	10 U
4-Chloro-3-methylphenol	20 U	10 U	10 U	10 U	--	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	--	10 U	10 U
4-Nitrophenol	50 U	50 U	50 U	50 U	--	50 U	50 U
Acenaphthene	10 U	0.85 J	10 U	2.4 J	--	10 U	10 U
Acenaphthylene	10 U	1.2 J	10 U	2.9 J	--	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	--	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	--	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	--	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	--	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	--	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	--	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	--	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	--	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	--	10 U	28
Butylbenzylphthalate	10 U	10 U	10 U	10 U	--	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	--	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	--	10 U	10 U
Dibenzofuran	10 U	0.91 J	10 U	2.7 J	--	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	--	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	--	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	--	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	--	10 U	10 U
Fluoranthene	10 U	1 J	10 U	0.82 J	--	10 U	10 U
Fluorene	10 U	1.2 J	10 U	4.5 J	--	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	--	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	--	10 U	10 U
Hexachlorocyclopentadiene	10 U	50 U	10 U	50 U	--	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	--	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	--	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	--	10 U	10 U
Naphthalene	10 U	40	16	240	1 U*	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	--	10 U	10 U
Pentachloroethane	--	50 U	50 U	50 U	--	50 U	50 U
Pentachlorophenol	50 U	50 U	50 U	50 U	--	50 U	50 U
Phenanthrene	10 U	3 J	10 U	5.7 J	--	10 U	10 U
Phenol	10 U	4.8 J	10 U	30	--	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	--	10 U	10 U
Pyridine	--	4.1 J	20 U	16 J	--	20 U	20 U

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Table D-6
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	HI08 PZM060 Lower Summer 2004	TM02 PZM009 Shallow Fall 2001	TM02 PZM028 Intermediate Fall 2001	TM02 PZM028 DUP Intermediate Fall 2001	TM02 PZM062 Lower Fall 2001	TM03 PZM004 Shallow Fall 2001	TM03 PZM037 Intermediate Fall 2001
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	79	180	170	45	3.6 J	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	1.3 J	11	11	3.5 J	38	10 U
2-Methylphenol	10 U	4.5 J	5.2 J	5.2 J	2 J	1.5 J	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3- & 4-Methylphenol	10 U	77	85	77	27	8.3 J	10 U
3,3-Dichlorobenzidine	20 U	50 U	50 U	50 U	50 U	50 U	50 U
3,3'-Dimethylbenzidine	--	50 U	50 U	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acenaphthene	10 U	2.2 J	2.8 J	2.6 J	1.7 J	7.1 J	10 U
Acenaphthylene	10 U	10 U	1.3 J	1.2 J	1 J	18	10 U
Anthracene	10 U	10 U	1.3 J	1.1 J	10 U	12	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U	10	10 U
Benzo(a)pyrene	10 U	10 U	10 UJ	10 UJ	10 U	7.5 J	10 U
Benzo(b)fluoranthene	10 U	10 U	10 UJ	10 UJ	10 U	7.8 J	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 UJ	10 UJ	10 U	6.7 J	10 U
Benzo(k)fluoranthene	10 U	10 U	10 UJ	10 UJ	10 U	6.8 J	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	11	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 UJ	10 UJ	10 U	2.3 J	10 U
Dibenzofuran	10 U	1 J	3.6 J	3.3 J	1.8 J	36	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 UJ	10 UJ	10 U	10 U	10 U
Fluoranthene	10 U	10 U	1.5 J	1.4 J	1.4 J	34	1.1 J
Fluorene	10 U	1.5 J	3.6 J	3.5 J	2.1 J	34	0.62 J
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	50 U	50 U	50 U	50 U	50 U	50 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 UJ	10 UJ	10 U	6.5 J	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	20	150	150	41	240	2.7 J
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachloroethane	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Phenanthrene	10 U	3.8 J	7.8 J	7.6 J	5.1 J	75	2.5 J
Phenol	10 U	10 U	8 J	7.7 J	29	6.9 J	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U	27	10 U
Pyridine	20 U	20 U	20 U	20 U	20 U	20 U	20 U

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COPI List SVOCs in Groundwater from 2001 through 2004
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Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM04 PZM006 Shallow Fall 2001	TM04 PZM006 Shallow Summer 2004	TM04 PZM028 Intermediate Fall 2001	TM04 PZM056 Lower Fall 2001	TM04 PZM082 Intermediate Fall 2002	TM04 PZM082 Intermediate Summer 2004	TM05 PZM005 Shallow Fall 2001
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	--	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	--	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	--	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	--	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	--	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	--	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	--	10 U	10 U
2,4-Dimethylphenol	51	15	41	4.4 J	--	10 U	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	--	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	--	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	--	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	--	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	--	10 U	10 U
2-Methylnaphthalene	1.2 J	10 U	1.9 J	10 U	--	10 U	3.4 J
2-Methylphenol	0.91 J	10 U	10 U	10 U	--	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	--	10 U	10 U
3- & 4-Methylphenol	10 U	10 U	10 U	10 U	--	10 U	10 U
3,3-Dichlorobenzidine	50 U	20 U	50 U	50 U	--	20 U	50 U
3,3'-Dimethylbenzidine	50 U	50 U	50 U	50 U	--	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	--	50 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	--	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	--	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	--	10 U	10 U
4-Nitrophenol	50 U	50 U	50 U	50 U	--	50 U	50 U
Acenaphthene	10 U	10 U	1.2 J	10 U	--	10 U	1.7 J
Acenaphthylene	1.3 J	10 U	1.8 J	10 U	--	10 U	1.5 J
Anthracene	10 U	10 U	10 U	10 U	--	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	--	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	--	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	--	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	--	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	--	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	--	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	--	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	--	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	--	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	--	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	--	10 U	10 U
Dibenzofuran	10 U	10 U	0.72 J	10 U	--	10 U	1.7 J
Diethylphthalate	10 U	10 U	10 U	10 U	--	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	--	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	--	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	--	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	--	10 U	1 J
Fluorene	10 U	10 U	1.1 J	10 U	--	10 U	2.5 J
Hexachlorobenzene	10 U	10 U	10 U	10 U	--	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	--	10 U	10 U
Hexachlorocyclopentadiene	50 U	10 U	50 U	50 U	--	10 U	50 U
Hexachloroethane	10 U	10 U	10 U	10 U	--	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	--	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	--	10 U	10 U
Naphthalene	200	51	150	20	42 *	11	48
Nitrobenzene	10 U	10 U	10 U	10 U	--	10 U	10 U
Pentachloroethane	50 U	50 U	50 U	50 U	--	50 U	50 U
Pentachlorophenol	50 U	50 U	50 U	50 U	--	50 U	50 U
Phenanthrene	0.86 J	10 U	1.2 J	10 U	--	10 U	5.3 J
Phenol	2.1 J	28	3.6 J	9.6 J	--	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	--	10 U	10 U
Pyridine	20 U	20 U	20 U	20 U	--	20 U	20 U

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Table D-6
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM05 PZM040 Intermediate Fall 2001	TM05 PZM069 Lower Fall 2002	TM06 PZM008 Shallow Fall 2001	TM06 PZM034 Intermediate Fall 2001	TM07 PZM005 Shallow Fall 2001	TM07 PZM005 DUP Shallow Fall 2001	TM07 PZM045 Intermediate Fall 2001
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	--	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	--	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3- & 4-Methylphenol	10 U	--	10 U	10 U	10 U	10 U	10 U
3,3-Dichlorobenzidine	50 U	20 U	50 U	50 U	50 U	50 U	50 U
3,3'-Dimethylbenzidine	50 U	--	50 U	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	20 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acenaphthene	3 J	10 U	2.1 J	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	0.82 J	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	1.1 J	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	50 U	10 U	50 U	50 U	50 U	50 U	50 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	7.1 J	--	10 U	10 U	0.6 J	0.77 J	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachloroethane	50 U	--	50 U	50 U	50 U	50 U	50 U
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Phenanthrene	2.2 J	10 U	0.79 J	10 U	10 U	10 U	10 U
Phenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyridine	20 U	--	20 U	20 U	20 U	20 U	20 U

Table D-6
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM08 PZM007 Shallow Fall 2001	TM08 PZM038 Intermediate Fall 2001	TM08 PZM038 DUP Intermediate Fall 2001	TM09 PZM007 Shallow Fall 2001	TM09 PZM007 Shallow Summer 2004	TM09 PZM047 Lower Fall 2001	TM09 PZM047 Lower Summer 2004
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	50 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	50 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	50 U	10 U
2,4-Dimethylphenol	5.2 J	160	140	1300	500 D	1900	1700 D
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U	250 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	50 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	0.63 J	10 U	50 U	10 U
2-Methylphenol	10 U	3.2 J	3.1 J	37	16	120	47
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	50 U	10 U
3- & 4-Methylphenol	4 J	41	40	1300	370 D	4100	1600 D
3,3-Dichlorobenzidine	50 U	50 U	50 U	50 U	20 U	250 U	20 U
3,3'-Dimethylbenzidine	50 U	50 U	50 U	50 U	50 U	250 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	50 U	250 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	50 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U	50 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	50 U	10 U
4-Nitrophenol	50 U	50 U	50 U	50 U	50 U	250 U	50 U
Acenaphthene	10 U	10 U	10 U	1.2 J	10 U	50 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	50 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	50 U	10 U
bis(2-Ethylhexyl)phthalate	5.7 J	10 U	10 U	10 U	10 U	50 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Dibenzofuran	10 U	10 U	10 U	0.63 J	10 U	50 U	10 U
Diethylphthalate	10 U	10 U	10 U	0.62 J	10 U	50 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Fluorene	10 U	10 U	10 U	1.5 J	10 U	50 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Hexachlorocyclopentadiene	50 U	50 U	50 U	50 U	10 U	250 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Naphthalene	10 U	1.3 J	3.2 J	10 U	9.2 J	50 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Pentachloroethane	50 U	50 U	50 U	50 U	50 U	250 U	50 U
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U	250 U	50 U
Phenanthrene	0.6 J	10 U	10 U	2.2 J	10 U	50 U	10 U
Phenol	1.5 J	11	10	520	25	9800	1600 D
Pyrene	10 U	10 U	10 U	10 U	10 U	50 U	10 U
Pyridine	20 U	20 U	20 U	20 U	20 U	100 U	20 U

Table D-6
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM09 PZM067 Lower Fall 2002	TM09 PZM067 Lower Summer 2004	TM10 PZM007 Shallow Fall 2001	TM11 PZM007 Shallow Fall 2001	TM11 PZM034 Intermediate Fall 2001	TM12 PZM006 Shallow Fall 2001	TM13 PZM007 Shallow Fall 2001
1,2,4-Trichlorobenzene	--	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	--	10 U	3.2 J	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	--	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	--	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	--	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	--	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	--	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	--	10 U	10 U	10 U	10 U	10 U	6 J
2,4-Dinitrophenol	--	50 U	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	--	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	--	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	--	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	--	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	--	10 U	1.9 J	10 U	10 U	1.1 J	8.8 J
2-Methylphenol	--	10 U	10 U	10 U	10 U	10 U	0.75 J
2-Nitrophenol	--	10 U	10 U	10 U	10 U	10 U	10 U
3- & 4-Methylphenol	--	10 U	10 U	10 U	10 U	10 U	14
3,3-Dichlorobenzidine	--	20 U	50 U	50 U	50 U	50 U	50 U
3,3'-Dimethylbenzidine	--	50 U	50 U	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	--	50 U	50 U	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether	--	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	--	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	--	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	--	50 U	50 U	50 U	50 U	50 U	50 U
Acenaphthene	--	10 U	2.9 J	10 U	10 U	10 U	1.2 J
Acenaphthylene	--	10 U	10 U	10 U	10 U	1.3 J	2 J
Anthracene	--	10 U	0.82 J	10 U	10 U	0.84 J	10 U
Benzo(a)anthracene	--	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	--	10 UJ	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	--	10 UJ	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	--	10 UJ	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	--	10 UJ	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	--	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	--	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	--	10	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	--	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	--	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	--	10 UJ	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	--	10 U	1.6 J	10 U	10 U	1.5 J	2.2 J
Diethylphthalate	--	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	--	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	--	10 UJ	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	--	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	--	10 U	1.8 J	10 U	10 U	2.1 J	1.4 J
Fluorene	--	10 U	2.1 J	10 U	10 U	2.6 J	3 J
Hexachlorobenzene	--	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	--	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	--	10 U	50 U	50 U	50 U	50 U	50 U
Hexachloroethane	--	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	--	10 UJ	10 U	10 U	10 U	10 U	10 U
Isophorone	--	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	1 U*	10 U	12	4.8 J	10 U	7 J	330
Nitrobenzene	--	10 U	10 U	10 U	10 U	10 U	10 U
Pentachloroethane	--	50 U	50 U	50 U	50 U	50 U	50 U
Pentachlorophenol	--	50 U	50 U	50 U	50 U	50 U	50 U
Phenanthrene	--	10 U	5 J	0.82 J	10 U	5.4 J	5.8 J
Phenol	--	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	--	10 U	1.2 J	10 U	10 U	1.6 J	10 U
Pyridine	--	20 U	20 U	20 U	20 U	20 U	20 U

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Table D-6
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM13 PZM046 Lower Fall 2001	TM14 PZM005 Shallow Fall 2001	TM15 PZM007 Shallow Fall 2001	TM15 PZM011 Shallow Fall 2001	TM15 PZM011 DUP Shallow Fall 2001	TM15 PZM065 Lower Fall 2002	TM16 PZM007 Shallow Fall 2001
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	--	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	--	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	9.3 J	5.9 J	15	12	10 U	14
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	0.7 J	0.73 J	10 U	10 U
2-Methylnaphthalene	10 U	1.9 J	20	1.5 J	1.7 J	10 U	10 U
2-Methylphenol	10 U	10 U	3.3 J	7.5 J	8 J	10 U	0.98 J
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3- & 4-Methylphenol	10 U	2.7 J	12	48	46	--	6.2 J
3,3-Dichlorobenzidine	50 U	50 U	50 U	50 U	50 U	20 U	50 U
3,3'-Dimethylbenzidine	50 U	50 U	50 U	50 U	50 U	--	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U	20 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acenaphthene	10 U	1.8 J	15	1.7 J	1.9 J	10 U	1.2 J
Acenaphthylene	10 U	10 U	4 J	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	1.2 J	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	10 U	1.6 J	8.7 J	10 U	0.8 J	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	0.82 J	1.2 J	10 U	10 U	10 U	10 U
Fluorene	10 U	2.2 J	9.6 J	1.2 J	1.2 J	10 U	0.95 J
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	50 U	50 U	50 U	50 U	50 U	10 U	50 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	3.5 J	11	89	14	16	10 U	3.5 J
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachloroethane	50 U	50 U	50 U	50 U	50 U	--	50 U
Pentachlorophenol	50 U	2.5 J	50 U	50 U	50 U	50 U	50 U
Phenanthrene	10 U	4.1 J	10	2 J	2 J	10 U	2 J
Phenol	10 U	10 U	29	220	210	10 U	2.6 J
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyridine	20 U	20 U	20 U	20 U	20 U	--	20 U

Table D-6
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM17 PZM005 Shallow Fall 2001	TM18 PZM005 Shallow Fall 2001	FM01 PZM003 Shallow Fall 2001	FM01 PZM041 Intermediate Fall 2001	FM01 PZM041 DUP Intermediate Fall 2001	FM02 PZM002 Shallow Fall 2001	FM02 PZM033 Intermediate Fall 2001
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	1.2 J	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3- & 4-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3,3-Dichlorobenzidine	50 U	50 U	50 U	50 U	50 U	50 U	50 U
3,3'-Dimethylbenzidine	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acenaphthene	10 U	0.91 J	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	17	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	10 U	0.56 J	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	0.85 J	0.73 J	10 U	10 U	10 U	10 U
Fluorene	10 U	0.74 J	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	12	0.59 J	10 U	10 U	3.7 J	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachloroethane	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Phenanthrene	1 J	2 J	0.98 J	10 U	10 U	1.4 J	10 U
Phenol	10 U	10 U	10 U	10 U	10 U	3.4 J	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyridine	20 U	20 U	20 U	20 U	20 U	20 U	20 U

Table D-6
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	FM03 PZM005 Shallow Fall 2001	FM03 PZM005 Shallow Summer 2004	FM03 PZM026 Intermediate Fall 2001	FM03 PZM082 Lower Fall 2002	FM03 PZM082 Lower Summer 2004	FM04 PZM009 Shallow Fall 2001	FM04 PZM036 Intermediate Fall 2001
1,2,4-Trichlorobenzene	10 U	10 U	10 U	--	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	--	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	--	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	--	10 U	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	--	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	--	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	--	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	--	10 U	10 U	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	--	50 U	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	--	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	--	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	--	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	--	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	--	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	--	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	--	10 U	10 U	10 U
3- & 4-Methylphenol	10 U	10 U	10 U	--	10 U	10 U	10 U
3,3-Dichlorobenzidine	50 U	20 U	50 U	--	20 U	50 U	50 U
3,3'-Dimethylbenzidine	50 U	50 U	50 U	--	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	--	50 U	50 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	--	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	--	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	--	10 U	10 U	10 U
4-Nitrophenol	50 U	50 U	50 U	--	50 U	50 U	50 U
Acenaphthene	10 U	10 U	10 U	--	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	--	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	--	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	--	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	--	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	--	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	--	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	--	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	--	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	--	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	--	5.2 J	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	--	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	--	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	--	10 U	10 U	10 U
Dibenzofuran	10 U	10 U	10 U	--	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	--	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	--	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	--	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	--	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	--	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	--	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	--	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	--	10 U	10 U	10 U
Hexachlorocyclopentadiene	50 U	10 U	50 U	--	10 U	50 U	50 U
Hexachloroethane	10 U	10 U	10 U	--	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	--	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	--	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	1 U*	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	--	10 U	10 U	10 U
Pentachloroethane	50 U	50 U	50 U	--	50 U	50 U	50 U
Pentachlorophenol	50 U	50 U	50 U	--	50 U	50 U	50 U
Phenanthrene	10 U	10 U	10 U	--	10 U	10 U	10 U
Phenol	10 U	10 U	10 U	--	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	--	10 U	10 U	10 U
Pyridine	20 U	20 U	20 U	--	20 U	20 U	20 U

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Table D-6
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	FM05 PZM004 Shallow Fall 2001	FM05 PZM024 Intermediate Fall 2001	SW10 PZM012 Shallow Summer 2004	TS10 PDM008 Shallow Summer 2004
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U
2-Methylnaphthalene	3.6 J	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U
3- & 4-Methylphenol	10 U	10 U	10 U	10 U
3,3-Dichlorobenzidine	50 U	50 U	20 U	20 U
3,3'-Dimethylbenzidine	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U
4-Nitrophenol	50 U	50 U	50 U	50 U
Acenaphthene	0.95 J	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U
Dibenzofuran	1.3 J	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U
Fluoranthene	1.5 J	10 U	10 U	10 U
Fluorene	1.8 J	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	50 U	50 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U
Naphthalene	320	4.5 J	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U
Pentachloroethane	50 U	50 U	50 U	50 U
Pentachlorophenol	50 U	50 U	50 U	50 U
Phenanthrene	3.6 J	10 U	10 U	10 U
Phenol	10 U	10 U	10 U	10 U
Pyrene	1 J	10 U	10 U	10 U
Pyridine	20 U	20 U	20 U	20 U

Table D-7
Total Metals and Miscellaneous Analytes in Groundwater, 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment/Tin Mill Canal/Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	HI01 PZM009 Shallow Fall 2000	HI01 PZM035 Intermediate Fall 2000	HI01 PZM056 Lower Fall 2000	HI02 PZM006 Shallow Fall 2001	HI02 PZM032 Intermediate Fall 2001	HI04 PZM006 Shallow Fall 2001	HI04 PZM034 Intermediate Fall 2001	HI05 PZM012 Shallow Fall 2000	HI05 PZM012 Shallow Fall 2001	HI05 PZM046 Lower Fall 2000
Antimony, total	--	--	--	4.5 J	4.1 U	4.1 U	4.1 U	--	4.1 U	--
Arsenic, total	--	--	--	2.1 U	44.7	3.9 J	11.7	--	10.8	--
Barium, total	--	--	--	33.4 J	40.2 U	144 J	106 J	--	12.6 J	--
Beryllium, total	--	--	--	0.83 U	1.1 U	1.1 U	2 U	--	2.6 U	--
Cadmium, total	--	--	--	0.63 U	0.63 U	0.63 U	0.63 U	--	0.63 U	--
Chromium, total	--	--	--	1.1 U	1.6 U	79.5	5.2	--	234	--
Cobalt, total	--	--	--	0.86 U	1.8 J	4.4 U	0.86 U	--	16.1 J	--
Copper, total	--	--	--	3.9 U	0.77 U	22.7 U	6.5 U	--	48.7	--
Iron, total	1300	93000	130000	45 U	28100 L	--	51900	80000	--	58000
Lead, total	--	--	--	1.8 U	1.8 U	36.5	2 U	--	53.7	--
Mercury, total	--	--	--	0.054 R	0.054 L	0.069 J	0.054 U	--	0.13 U	--
Nickel, total	--	--	--	2.9 J	3 J	8 U	2.4 U	--	63.5	--
Selenium, total	--	--	--	3.2 U	3.2 U	3.2 U	3.2 U	--	3.2 U	--
Silver, total	--	--	--	1.1 U	0.75 U	0.75 U	0.75 U	--	1.3 J	--
Thallium, total	--	--	--	5.7 U	5.7 U	5.7 U	5.7 U	--	5.7 U	--
Tin, total	--	--	--	28.8 U	28.8 U	240	28.8 U	--	1190	--
Vanadium, total	--	--	--	182	9.5 J	8.9 J	1.5 U	--	13.6 J	--
Zinc, total	--	--	--	2.1 U	4.4 U	175	11.4 J	--	271	--
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	130000	4800000	1600000	85600	292000	--	286000	1800000	--	720000
Cyanide, amenable	--	--	--	5000 J	31 J	330	28	--	200	--
Cyanide, available	--	--	--	--	--	--	--	--	--	--
Cyanide, total	--	--	--	--	--	--	--	--	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	220000	550000	270000	198000	275000	--	40900	1400000	--	57000
Sulfide	--	--	--	1000 U	1000 U	1000 U	1000 U	--	1000 U	--

Table D-7
Total Metals and Miscellaneous Analytes in Groundwater, 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment/Tin Mill Canal/Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	HI05 PZM046 Lower Fall 2001	HI05 PZM046 DUP Lower Fall 2001	HI05 PZM108 Lower Fall 2000	HI06 PZM002 Shallow Fall 2000	HI06 PZM058 Lower Fall 2000	HI07 PZM005 Shallow Fall 2000	HI07 PZM005 Shallow Fall 2001	HI07 PZM005 Shallow Summer 2004	HI07 PZM032 Intermediate Fall 2001	HI07 PZM094 Lower Summer 2004
Antimony, total	4.1 U	4.1 U	--	--	--	--	4.1 U	2 U	4.1 U	2 U
Arsenic, total	43.8	40.8	--	--	--	--	2 U	5 U	2 U	18
Barium, total	195 J	178 J	--	--	--	--	137 J	110	102 J	91
Beryllium, total	2.3 U	1.6 U	--	--	--	--	2.9 U	1 U	2.6 U	1 U
Cadmium, total	0.63 U	0.63 U	--	--	--	--	0.63 U	1 U	0.63 U	1 U
Chromium, total	8.6	3.1 J	--	--	--	--	5.3	13 U	1.1 U	4.5 U
Cobalt, total	5.5 U	3.9 U	--	--	--	--	0.86 U	0.7 J	0.86 U	31
Copper, total	5.4 U	4.3 U	--	--	--	--	7.5 U	2 J	6.2 U	16
Iron, total	--	--	63000	4300	99000	300	--	100 U	829	42000
Lead, total	3.3 U	2.1 U	--	--	--	--	4.8	1 U	1.8 U	1 J
Mercury, total	0.054 U	0.074 J	--	--	--	--	0.054 U	0.2 U	0.16 U	0.2 U
Nickel, total	5.3 J	3.6 J	--	--	--	--	5.1 J	13	10.5 J	32
Selenium, total	3.2 U	3.2 U	--	--	--	--	3.2 U	5 J	3.2 U	32
Silver, total	0.75 U	0.83 J	--	--	--	--	0.75 U	5 U	0.75 U	5 U
Thallium, total	6.1 J	5.7 U	--	--	--	--	5.7 U	2.6	5.7 U	1.1
Tin, total	28.8 U	28.8 U	--	--	--	--	28.8 U	730	28.8 U	540
Vanadium, total	6.9 J	2.7 J	--	--	--	--	36.7 J	20	60.2	5 U
Zinc, total	96.1	63.3	--	--	--	--	14.2 J	10 U	1.5 U	36
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	--	--	3500000	71000	1400000	68000	--	--	225000	--
Cyanide, amenable	3	5	--	--	--	--	450 J	--	1500 J	--
Cyanide, available	--	--	--	--	--	--	--	2 U	--	2 U
Cyanide, total	--	--	--	--	--	--	--	20	--	1.8
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	610000	400000	150000	110000	--	--	37400	--
Sulfide	1000 U	1000 U	--	--	--	--	1000 U	1000 UL	1000 U	1000 U

Table D-7
Total Metals and Miscellaneous Analytes in Groundwater, 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment/Tin Mill Canal/Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	HI08 PZM003 Shallow Fall 2000	HI08 PZM003 Shallow Summer 2004	HI08 PZM060 Lower Summer 2004	TM02 PZM009 Shallow Fall 2000	TM02 PZM009 Shallow Fall 2001	TM02 PZM028 Intermediate Fall 2000	TM02 PZM028 Intermediate Fall 2001	TM02 PZM028 DUP Intermediate Fall 2001	TM02 PZM062 Lower Fall 2001	TM03 PZM004 Shallow Fall 2001
Antimony, total	--	2.3 U	2 U	--	4.1 U	--	4.1 U	4.1 U	4.1 U	4.2 U
Arsenic, total	--	5.7	6.5	--	3.6 J	--	3.2 J	2 U	15.4	7.4 J
Barium, total	--	35	180	--	92.4 J	--	117 J	116 J	125 J	30.5 U
Beryllium, total	--	1 U	1 U	--	1.8 U	--	2.2 U	3 U	3.4 U	1.6 U
Cadmium, total	--	1 U	1 U	--	0.63 U	--	0.63 U	0.63 U	0.63 U	4.1 J
Chromium, total	--	11 U	3.1 U	--	2.1 U	--	1.1 U	1.7 J	2.4 J	30.5
Cobalt, total	--	0.6 J	1.3	--	0.86 U	--	0.86 U	1.9 J	0.86 U	1.6 J
Copper, total	--	6	3.7	--	0.77 U	--	7 U	7.3 U	6.8 U	28
Iron, total	200	70 J	59000	100 U	52.4 L	100 U	--	--	7500	13400
Lead, total	--	1 U	1 U	--	2.2 U	--	1.8 U	1.8 U	1.8 U	232
Mercury, total	--	0.2 U	0.2 U	--	0.054 UL	--	0.054 U	0.054 U	0.054 U	0.23 U
Nickel, total	--	6 U	6.8 U	--	13.5 J	--	14.6 J	15.9 J	3.8 J	5.4 J
Selenium, total	--	8.6	6.6	--	5.5	--	3.2 U	3.2 U	3.2 U	3.2 U
Silver, total	--	5 U	5 U	--	0.75 U	--	0.75 U	0.75 U	0.75 U	0.75 J
Thallium, total	--	1 U	1 U	--	5.7 U	--	5.7 U	5.7 U	5.7 U	5.7 U
Tin, total	--	310	440	--	28.8 U	--	28.8 U	28.8 U	28.8 U	28.8 U
Vanadium, total	--	170	5 U	--	75.4	--	24.9 J	29.6 J	19.5 J	63.4
Zinc, total	--	10 U	10 U	--	1.5 U	--	6.2 U	3.3 U	4 U	293
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	2600000	--	--	280000	278000	350000	--	--	867000	83400
Cyanide, amenable	--	--	--	--	3700 J	--	7600 J	6300 J	430 J	2300 J
Cyanide, available	--	2 U	2 U	--	--	--	--	--	--	--
Cyanide, total	--	21	4.1	--	--	--	--	--	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	410000	--	--	740000	575000	340000	--	--	60200	138000
Sulfide	--	1000 UL	1000 UL	--	2800	--	1000 U	1000 U	1000 U	1000 U

Table D-7

Total Metals and Miscellaneous Analytes in Groundwater, 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment/Tin Mill Canal/Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM03 PZM037 Intermediate Fall 2001	TM04 PZM006 Shallow Fall 2000	TM04 PZM006 Shallow Fall 2001	TM04 PZM006 Shallow Summer 2004	TM04 PZM028 Intermediate Fall 2000	TM04 PZM028 Intermediate Fall 2001	TM04 PZM056 Lower Fall 2001	TM04 PZM082 Intermediate Summer 2004	TM05 PZM005 Shallow Fall 2000	TM05 PZM005 Shallow Fall 2001
Antimony, total	4.1 U	--	4.1 U	2 U	--	4.1 U	4.1 U	2.1	--	4.7 J
Arsenic, total	30.5	--	2.1 J	5 U	--	2.2 J	2 U	5 U	--	4.1 J
Barium, total	158 J	--	41 J	32	--	28.9 J	601	110	--	18.3 J
Beryllium, total	2.3 U	--	1.3 U	1 U	--	1.2 U	1.5 U	1 U	--	3.7 U
Cadmium, total	0.63 U	--	0.63 U	2.3	--	0.63 U	0.74 J	1 U	--	0.63 U
Chromium, total	5.1	--	2.9 U	9.2 U	--	1.2 U	6.4	6.2 U	--	1.2 J
Cobalt, total	0.86 U	--	0.86 U	0.8 J	--	0.86 U	0.86 U	1.3	--	0.86 U
Copper, total	0.77 U	--	0.77 U	2 U	--	0.77 U	0.77 U	4.4	--	0.77 U
Iron, total	75700	300	--	210	100 U	--	119000 L	6900	200	--
Lead, total	1.8 U	--	1.8 U	1 U	--	1.8 U	1.8 U	1.1	--	2.3 J
Mercury, total	0.054 U	--	0.054 UL	0.2 U	--	0.054 UL	0.06 L	0.2 U	--	0.054 U
Nickel, total	2.4 U	--	8.5 J	12	--	6 J	2.9 U	8.1 U	--	2.4 U
Selenium, total	3.2 U	--	3.2 U	5 U	--	3.2 U	3.2 U	7	--	3.2 U
Silver, total	1.1 J	--	1.3 U	5 U	--	0.75 U	0.75 U	5 U	--	0.75 U
Thallium, total	5.7 U	--	5.7 U	1 U	--	5.7 U	13.2	1 U	--	5.7 U
Tin, total	39.4 J	--	28.8 U	360	--	28.8 U	28.8 U	460	--	28.9 J
Vanadium, total	2.9 J	--	15.8 J	5 U	--	5.5 J	23.7 J	5 U	--	1110
Zinc, total	4.3 U	--	2.5 J	10 U	--	3.6 J	3.3 J	10 U	--	1.5 U
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	1130000	240000	--	--	240000	--	1900000	--	50000	--
Cyanide, amenable	14 K	--	1900 J	--	--	2600 J	130 J	--	--	9 K
Cyanide, available	--	--	--	2 U	--	--	--	2 U	--	--
Cyanide, total	--	--	--	95	--	--	--	46	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	186000	600000	--	--	640000	--	38600	--	110000	--
Sulfide	1000 U	--	1000	1400 L	--	1000	1000	1000 UL	--	2000

Table D-7
Total Metals and Miscellaneous Analytes in Groundwater, 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment/Tin Mill Canal/Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM05 PZM040 Intermediate Fall 2000	TM05 PZM040 Intermediate Fall 2001	TM05 PZM069 Lower Fall 2000	TM06 PZM008 Shallow Fall 2000	TM06 PZM008 Shallow Fall 2001	TM06 PZM034 Intermediate Fall 2001	TM07 PZM005 Shallow Fall 2000	TM07 PZM005 Shallow Fall 2001	TM07 PZM005 DUP Shallow Fall 2001	TM07 PZM045 Intermediate Fall 2000
Antimony, total	--	4.2 U	--	--	4.1 U	4.1 U	--	4.1	4.1 U	--
Arsenic, total	--	3.6 J	--	--	2.9 J	16.7	--	3.1 J	3 J	--
Barium, total	--	240	--	--	38.4 J	55.2 J	--	55.3 J	55.5 J	--
Beryllium, total	--	2.6 U	--	--	1.3 U	1.4 U	--	1.8 U	2.2 U	--
Cadmium, total	--	0.63 U	--	--	0.63 U	1.1 J	--	0.63 U	0.63 U	--
Chromium, total	--	2.7 J	--	--	3.9 U	1.1 U	--	2.8 U	3.1 U	--
Cobalt, total	--	0.86 U	--	--	0.88 J	8.8 J	--	0.86 U	0.86 U	--
Copper, total	--	0.77 U	--	--	0.77 U	0.77 U	--	0.77 U	0.77 U	--
Iron, total	22000	--	130000	100 U	--	216000 L	100 U	--	--	4900
Lead, total	--	1.8 U	--	--	2.4 U	1.8 U	--	2 U	1.8 U	--
Mercury, total	--	0.061 U	--	--	0.054 UL	0.054 UL	--	0.72 L	0.054 UL	--
Nickel, total	--	2.4 U	--	--	3.7 J	7.3 J	--	2.4 U	2.4 U	--
Selenium, total	--	3.8 J	--	--	4.6 J	3.2 U	--	6.7	3.2 U	--
Silver, total	--	0.75 U	--	--	2.1 U	0.75 U	--	1.2 U	0.95 U	--
Thallium, total	--	5.7 U	--	--	5.7 U	36.5	--	5.7 U	5.7 U	--
Tin, total	--	28.8 U	--	--	28.8 U	28.8 U	--	28.8 U	28.8 U	--
Vanadium, total	--	8.7 J	--	--	12.3 J	31.4 J	--	133	131	--
Zinc, total	--	2.6 U	--	--	1.5 U	8.1 J	--	1.5 U	1.9 J	--
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	2200000	--	1200000	200000	--	2160000	100000	--	--	200000
Cyanide, amenable	--	43 K	--	--	2600 J	29 J	--	910 J	890 J	--
Cyanide, available	--	--	--	--	--	--	--	--	--	--
Cyanide, total	--	--	--	--	--	--	--	--	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	2600	--	33000	25000	--	701000	160000	--	--	170000
Sulfide	--	1000 U	--	--	1000	1000	--	1000	1000	--

Table D-7
Total Metals and Miscellaneous Analytes in Groundwater, 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment/Tin Mill Canal/Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM07 PZM045 Intermediate Fall 2001	TM08 PZM007 Shallow Fall 2001	TM08 PZM038 Intermediate Fall 2001	TM08 PZM038 DUP Intermediate Fall 2001	TM09 PZM007 Shallow Fall 2001	TM09 PZM007 Shallow Summer 2004	TM09 PZM047 Lower Fall 2001	TM09 PZM047 Lower Summer 2004	TM09 PZM067 Lower Summer 2004	TM10 PZM007 Shallow Fall 2001
Antimony, total	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	2 U	4.1 U	2 U	2 U	4.1 U
Arsenic, total	7.8 J	6.8 J	8.4 J	7 J	8.3 J	5 U	2 U	4 J	3 J	2 U
Barium, total	90.4 J	79.2 J	611	603	69.6 J	65	315	640	140	90.9 J
Beryllium, total	1.2 U	2.4 U	2.7 U	3 U	4 U	1 U	1 U	1 U	1 U	3 U
Cadmium, total	0.63 U	0.72	0.63 U	0.63 U	0.63 U	1 U	0.63 U	1 U	1 U	0.63 U
Chromium, total	1.1 U	161	1.4 J	4.6 J	55.2	8.7 U	1.1 U	4.4 U	4.9	12.7
Cobalt, total	8.2 J	2.1 J	1.3 J	1.4 J	4 J	1 U	0.87 J	1 J	1.1	0.86 U
Copper, total	0.77 U	30	3.4 U	4.2 U	19.2 J	2.8	2.5 U	5.8	2 U	9.2 U
Iron, total	--	--	37500 J	37500 J	6620 J	100 J	87000 J	77000	--	1570
Lead, total	1.8 U	27	1.8 U	1.8 U	42.1	1 U	1.8 U	0.5 J	1 U	11
Mercury, total	0.054 UL	0.09 L	0.054 R	0.054 R	0.076 L	0.2 U	0.054 R	0.2 U	0.2 U	0.054 U
Nickel, total	6.7 J	13 J	2.4 U	2.8 J	5.2 J	6.4	2.4 U	9.3	3.2	2.6 J
Selenium, total	3.2 U	5.6	3.2 U	3.2 U	5.4	5 U	3.3 J	13	5 U	3.2 U
Silver, total	0.75 U	1.1 U	0.75 U	0.75 U	0.89 U	5 U	0.86 U	5 U	5 U	0.75 U
Thallium, total	16.6	5.7 U	5.7 U	5.7 U	5.7 U	1.5 U	5.7 U	1 U	7	5.7 U
Tin, total	28.8 U	363	28.8 U	28.8 U	28.8 U	380	28.8 U	550	62	28.8 U
Vanadium, total	24.4 J	26.4 J	10.6 J	9.3 J	107	120	11.6 U	5 U	6 U	802
Zinc, total	3.5 J	246	4.3 J	7.3 J	188	14 U	2.4 U	10 U	12 U	34.2
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	--	--	1740000	1710000	194000	--	1770000	--	--	127000
Cyanide, amenable	6 J	200	4700	2600	6500 J	--	55 J	--	--	860
Cyanide, available	--	--	--	--	--	2 U	--	2 U	2 U	--
Cyanide, total	--	--	--	--	--	96	--	5.2 U	1.8	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	171000	188000	146000	--	202000	--	--	288000
Sulfide	1000	3300	1000 U	2600	1000 U	4400 L	1000 U	8100 L	2700 L	1000 U

Table D-7
Total Metals and Miscellaneous Analytes in Groundwater, 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment/Tin Mill Canal/Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM11 PZM007 Shallow Fall 2001	TM11 PZM034 Intermediate Fall 2001	TM12 PZM006 Shallow Fall 2001	TM13 PZM007 Shallow Fall 2001	TM13 PZM046 Lower Fall 2001	TM14 PZM005 Shallow Fall 2000	TM14 PZM005 Shallow Fall 2001	TM15 PZM007 Shallow Fall 2000	TM15 PZM007 Shallow Fall 2001	TM15 PZM011 Shallow Fall 2000
Antimony, total	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	--	4.1 U	--	5.4 U	--
Arsenic, total	2.6 J	12.7	2.5 J	2 U	12	--	5.5 J	--	6.5 J	--
Barium, total	62.1 J	243	62.3 J	61.8 J	126 J	--	52.6 J	--	43.7 U	--
Beryllium, total	2.4 U	2.8 U	3.5 U	2.9 U	3.9 U	--	1.6 U	--	2.8 U	--
Cadmium, total	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	--	0.63 U	--	0.63 U	--
Chromium, total	2.3 J	1.2 J	2.1 U	1.1 U	1.1 U	--	1.1 U	--	1.4 U	--
Cobalt, total	0.86 U	5.2 U	0.86 U	0.86 U	6.5 J	--	0.86 U	--	0.86 U	--
Copper, total	6.5 U	4.7 U	6.6 U	4 U	2.1 U	--	0.77 U	--	0.77 U	--
Iron, total	--	56100	--	235 J	68000 J	300	--	400	--	100 U
Lead, total	1.8 U	1.8 U	1.8 U	3.8	1.8 U	--	1.9 U	--	1.9 J	--
Mercury, total	0.065 U	0.054 U	0.054 U	0.054 R	0.054 R	--	0.054 U	--	0.054 U	--
Nickel, total	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	--	2.4 U	--	3.8 J	--
Selenium, total	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	--	3.2 U	--	6.4	--
Silver, total	0.75 U	0.75 U	0.75 U	0.75 U	0.82 U	--	0.75 U	--	0.75 U	--
Thallium, total	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	--	5.7 U	--	5.7 U	--
Tin, total	28.8 U	28.8 U	28.8 U	28.8 U	28.8 U	--	28.8 U	--	28.8 U	--
Vanadium, total	25.8 J	1.5 U	401	141	8.1 U	--	65.6	--	318	--
Zinc, total	3.7 U	2.7 U	2.2 U	6 U	4.9 U	--	2.1 U	--	4.1 U	--
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	--	1070000	--	411000	1360000	350000	--	610000	--	1300000
Cyanide, amenable	2400	14	15 J	6600 J	6 U	--	3600 J	--	10400 K	--
Cyanide, available	--	--	--	--	--	--	--	--	--	--
Cyanide, total	--	--	--	--	--	--	--	--	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	--	48200	--	350000	135000	190000	--	360000	--	970000
Sulfide	1000 U	1000 U	1000 U	1000 U	1000 U	--	1000 U	--	1000 U	--

Table D-7
Total Metals and Miscellaneous Analytes in Groundwater, 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment/Tin Mill Canal/Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TM15 PZM011 Shallow Fall 2001	TM15 PZM011 DUP Shallow Fall 2001	TM15 PZM031 Intermediate Fall 2000	TM15 PZM065 Lower Fall 2000	TM16 PZM007 Shallow Fall 2001	TM17 PZM005 Shallow Fall 2001	TM18 PZM005 Shallow Fall 2001	FM01 PZM003 Shallow Fall 2001	FM01 PZM041 Intermediate Fall 2001	FM01 PZM041 DUP Intermediate Fall 2001
Antimony, total	4.6 U	4.1 U	--	--	4.1 U	4.2 J	4.1 U	5.6 U	4.1 U	4.1 U
Arsenic, total	12.1	13	--	--	4.5 J	12	2 U	4.2 J	26.6	26.4
Barium, total	63.9 U	65.9 U	--	--	30.1 J	261	53.5 J	19.8 J	608	608
Beryllium, total	1.9 U	2.4 U	--	--	2.6 U	1.2 U	1.4 U	2.1 U	2.3 U	2.1 U
Cadmium, total	0.63 U	0.63 U	--	--	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U
Chromium, total	1.2 U	1.5 U	--	--	16.8	6.9 U	2.2 J	21.7	1.3 J	1.4 J
Cobalt, total	0.86 U	0.86 U	--	--	0.86 U	1.5 J	9.2 U	1.1 J	0.86 U	0.86 U
Copper, total	0.77 U	0.77 U	--	--	7.3 U	0.77 U	0.77 U	20.6 J	0.77 U	0.77 U
Iron, total	--	--	54000	30000	--	--	--	3880	60100	60000
Lead, total	1.8 U	1.8 U	--	--	3.5	3.5 U	7.2 U	50.5	1.8 U	1.8 U
Mercury, total	0.055 U	0.075 U	--	--	0.084 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
Nickel, total	8 J	9.5 J	--	--	10.6 J	3.1 J	2.8 J	2.5 J	2.4 U	2.4 U
Selenium, total	3.2 U	4.3 J	--	--	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U
Silver, total	0.75 U	0.75 U	--	--	0.75 U	1.6 J	0.75 U	0.75 U	0.75 U	0.75 U
Thallium, total	5.7 U	5.7 U	--	--	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	6.7 J
Tin, total	28.8 U	28.8 U	--	--	28.8 U	35.3 J	28.8 U	28.8 U	33.5 J	28.8 U
Vanadium, total	33.5 J	33.8 J	--	--	85.9	21.5 J	3.2 J	368	1.5 U	1.5 U
Zinc, total	2 U	2 U	--	--	13.6 J	13.4 J	12.2 J	121	1.9 U	1.5 U
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	--	--	2600000	280000	--	--	--	1190000	1180000	1190000
Cyanide, amenable	22800 K	22900 K	--	--	8600 J	120 J	1200 J	4 U	28 J	30 J
Cyanide, available	--	--	--	--	--	--	--	--	--	--
Cyanide, total	--	--	--	--	--	--	--	--	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	3100	3700	--	--	--	1000 U	1000 U	1000 U
Sulfide	1000 U	1000 U	--	--	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U

Table D-7
Total Metals and Miscellaneous Analytes in Groundwater, 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment/Tin Mill Canal/Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	FM02 PZM002 Shallow Fall 2001	FM02 PZM033 Intermediate Fall 2001	FM03 PZM005 Shallow Fall 2001	FM03 PZM005 Shallow Summer 2004	FM03 PZM026 Intermediate Fall 2001	FM03 PZM082 Lower Summer 2004	FM04 PZM009 Shallow Fall 2000	FM04 PZM009 Shallow Fall 2001	FM04 PZM036 Intermediate Fall 2000	FM04 PZM036 Intermediate Fall 2001
Antimony, total	4.8 U	4.1 U	4.1 U	2 U	4.1 U	2 U	--	4.1 U	--	4.1 U
Arsenic, total	4 J	4 J	3 J	5 U	2 U	6.3	--	2 U	--	6.4 J
Barium, total	33.7 U	156 J	23.2 J	9.2	56.2 U	65	--	139 J	--	145 J
Beryllium, total	2.5 U	2 U	7.3	9.3 L	1.8 U	1 U	--	1.1 U	--	1.8 U
Cadmium, total	0.63 U	0.63 U	3.6 J	5.9 U	3.3 J	1.7 U	--	0.63 U	--	0.63 U
Chromium, total	6	1.5 U	14.3	40 U	1.1 U	13 U	--	2 U	--	1.4 J
Cobalt, total	112	0.86 U	58	57	305	1.4	--	0.86 U	--	0.86 U
Copper, total	1.1 U	0.77 U	54.5	210 K	0.77 U	3.5 K	--	0.77 U	--	0.77 U
Iron, total	--	69600	--	--	316000 L	--	70000	--	34000	--
Lead, total	4.6	2.7 U	7.5	1	1.8 U	3.3	--	1.8 U	--	2 J
Mercury, total	0.063 U	0.054 U	0.054 U	0.2 U	0.054 UL	0.2 U	--	0.054 U	--	0.063 U
Nickel, total	193	2.4 U	277	270	111	2.2	--	2.4 U	--	2.4 U
Selenium, total	3.2 U	3.2 U	16 U	5 U	6.4 U	5 U	--	3.4 U	--	3.2 U
Silver, total	0.75 U	0.95 J	1.5 J	5 U	0.75 U	5 U	--	0.87 J	--	0.75 U
Thallium, total	5.7 U	5.7 U	28.7 U	1.6 U	11.5 U	2.2 U	--	5.7 U	--	5.7 U
Tin, total	30 J	28.8 U	28.8 U	1400 J	28.8 U	53 J	--	28.8 U	--	28.8 U
Vanadium, total	11.5 J	1.5 U	14.3 J	58	48.9 J	13 U	--	4 J	--	10.3 J
Zinc, total	392	1.5 U	1920	1400 K	3610	22 K	--	9.7 U	--	3.3 U
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	--	83400	--	--	287000	--	76000	--	230000	--
Cyanide, amenable	16 K	25 K	5.2 J	--	27 J	--	--	24 J	--	13 J
Cyanide, available	--	--	--	2 U	--	2 U	--	--	--	--
Cyanide, total	--	--	--	1.5	--	4.1	--	--	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	--	118000	--	--	1250000	--	120000	--	17000	--
Sulfide	1000 U	1000 U	1000 U	1000 UL	1000	1000 UL	--	1000 U	--	4300

Table D-7
Total Metals and Miscellaneous Analytes in Groundwater, 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment/Tin Mill Canal/Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	FM04 PZM054 Lower Fall 2000	FM05 PZM004 Shallow Fall 2001	FM05 PZM024 Intermediate Fall 2001	SW10 PZM012 Shallow Fall 2000	SW10 PZM012 Shallow Summer 2004	SW10 PZM085 Shallow Fall 2000	TS03 PDP002 Shallow Fall 2000	TS10 PDM008 Shallow Fall 2000	TS10 PDM008 Shallow Summer 2004	TS10 PPM005 Shallow Fall 2000
Antimony, total	--	4.1 U	4.1 U	--	2 U	--	--	--	2 U	--
Arsenic, total	--	12.1	3.2 J	--	5 U	--	--	--	5 U	--
Barium, total	--	24.8 J	95.4 J	--	30	--	--	--	36	--
Beryllium, total	--	3 U	0.86 U	--	0.9 L	--	--	--	1 UL	--
Cadmium, total	--	0.63 U	0.63 U	--	2 U	--	--	--	1.7 U	--
Chromium, total	--	3.1 J	1.9 J	--	7.6 U	--	--	--	12 U	--
Cobalt, total	--	0.86 U	1.7 J	--	37	--	--	--	1 U	--
Copper, total	--	8.9 U	0.77 U	--	2 U	--	--	--	2 U	--
Iron, total	88000	1780	39600	600	--	28000	9200 J	100 U	--	700
Lead, total	--	3 U	1.9 J	--	1 U	--	--	--	1 U	--
Mercury, total	--	0.054 U	0.054 U	--	0.2 U	--	--	--	0.2 U	--
Nickel, total	--	3.9 J	2.4 U	--	58	--	--	--	3.6	--
Selenium, total	--	3.2 U	4 J	--	5 U	--	--	--	5 U	--
Silver, total	--	0.75 U	0.75 U	--	5 U	--	--	--	5 U	--
Thallium, total	--	5.7 U	5.7 U	--	1 U	--	--	--	1 U	--
Tin, total	--	28.8 U	28.8 U	--	35 J	--	--	--	200 J	--
Vanadium, total	--	20 J	9.7 J	--	5 U	--	--	--	5.5 U	--
Zinc, total	--	14.8 J	2.6 U	--	100 K	--	--	--	10 U	--
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	820000	674000	135000	85000	--	16000	330000	150000	--	370000
Cyanide, amenable	--	3300 J	190 J	--	--	--	--	--	--	--
Cyanide, available	--	--	--	--	2 U	--	--	--	2 U	--
Cyanide, total	--	--	--	--	1.6	--	--	--	4.1	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	41000	307000	47600	43000	--	48000	67000	140000	--	260000
Sulfide	--	1000 U	1000 U	--	1000 UL	--	--	--	11000 L	--

Table D-8
Dissolved Metals in Groundwater, Summer 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	HI07 PZM005 Shallow Summer 2004	HI07 PZM094 Lower Summer 2004	HI08 PZM003 Shallow Summer 2004	HI08 PZM060 Lower Summer 2004	TM04 PZM006 Shallow Summer 2004	TM04 PZM082 Intermediate Summer 2004	TM09 PZM007 Shallow Summer 2004	TM09 PZM047 Lower Summer 2004	TM09 PZM067 Lower Summer 2004	FM03 PZM005 Shallow Summer 2004
Antimony, dissolved	2 U	2 U	2.2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic, dissolved	5 U	17	6	8.3	5 U	3 J	5 U	3 J	3 J	5 U
Barium, dissolved	110	85	34	180	32	98	67	610	130	9.2
Beryllium, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	9.6 L
Cadmium, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5.7 U
Chromium, dissolved	12 U	3.5 U	11 U	3.1 U	10 U	5.6 U	8.8 U	3.5 U	4.8	39 U
Cobalt, dissolved	0.7 J	31	0.5 J	1	0.8 J	0.7 J	0.5 J	0.8 J	1 U	56
Copper, dissolved	2 U	13	4.8	3.3	2 U	3.3	10	5.4	2 U	210 K
Iron, dissolved	--	--	--	--	--	--	10 U	--	--	--
Lead, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 J
Mercury, dissolved	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel, dissolved	13	32	6.1 U	6.2 U	12	7.3 U	6.8	9.1 U	2 J	270
Selenium, dissolved	5 U	34	6.9	7.4	5 U	6.5	5 U	14	5 U	5 U
Silver, dissolved	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Thallium, dissolved	1.6	0.8 J	1 U	1 U	1 U	1 U	1 U	1 U	2.1	9.7 U
Tin, dissolved	770	590	300	460	380	400	370	500	60	1400 J
Vanadium, dissolved	29	5 U	170	5 U	5 U	5 U	130	5 U	5 U	54 K
Zinc, dissolved	10 U	31	12 U	10 U	10 U	10 U	13 U	10 U	10 U	1400 K

Table D-8
Dissolved Metals in Groundwater, Summer 2004
Release Site Characterization and Nature & Extent Investigation
Humphrey Impoundment / Tin Mill Canal / Finishing Mills SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	FM03 PZM082 Lower Summer 2004	SW10 PZM012 Shallow Summer 2004	TS10 PDM008 Shallow Summer 2004
Antimony, dissolved	2 U	2 U	4.3
Arsenic, dissolved	6.1	5 U	5 U
Barium, dissolved	51	30	36
Beryllium, dissolved	1 UL	0.8 L	1 UL
Cadmium, dissolved	1.6 U	1.8 U	1.7 U
Chromium, dissolved	9.1 U	11 U	12 U
Cobalt, dissolved	0.5 J	34	1 U
Copper, dissolved	28 K	2 K	2 U
Iron, dissolved	--	--	--
Lead, dissolved	3.1	1 U	1 U
Mercury, dissolved	0.2 U	0.2 U	0.2 U
Nickel, dissolved	1 J	54	3.5
Selenium, dissolved	5 U	5 U	5 U
Silver, dissolved	5 U	5 U	5 U
Thallium, dissolved	1.6 U	1 U	2.5 U
Tin, dissolved	53 J	39 J	220 J
Vanadium, dissolved	5 U	5.8 U	10 U
Zinc, dissolved	30 U	94 K	10 U

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO02 PZM006 Shallow Fall 2001	CO02 PZM006 Shallow Summer 2004	CO02 PZM041 Intermediate Fall 2001	CO02 PZM041 CO02 Summer 2004	CO03 PZM005 Shallow Fall 2001	CO04 PZM004 Shallow Fall 2001	CO04 PZM048 Intermediate Fall 2001	CO05 PZM006 Shallow Fall 2001	CO06 PZM008 Shallow Fall 2001	CO06 PZM008 DUP Shallow Fall 2001
1,1,1,2-Tetrachloroethane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,1,1-Trichloroethane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,1,2,2-Tetrachloroethane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,1,2-Trichloroethane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,1-Dichloroethane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,1-Dichloroethene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,2-Dichloroethane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,2-Dichloropropane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
2-Butanone	380000 U	500 U	1000 U	250 U	5 U	120 U	5 U	500 U	5 U	5 U
2-Hexanone	380000 U	500 U	1000 U	250 U	5 U	120 U	5 U	500 U	5 U	5 U
4-Methyl-2-pentanone	380000 U	500 U	1000 U	250 U	5 U	120 U	5 U	500 U	5 U	5 U
Acetone	750000 U	560 U	2000 U	250 U	10 U	250 U	10 U	1000 U	10 U	10 U
Benzene	1600000	790000 D	3900	32000 D	1 U	660	1 U	2100	1 U	1 U
Bromoform	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Carbon disulfide	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Carbon tetrachloride	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Chlorobenzene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Chloroethane	150000 U	100 U	400 U	50 U	2 U	50 U	2 U	200 U	2 U	2 U
Chloroform	75000 U	100 U	200 U	50 U	1 U	25 U	0.35 J	100 U	14	25
cis-1,3-Dichloropropene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Ethylbenzene	75000 U	750	200 U	30 J	1 U	24 J	1 U	100 U	1 U	1 U
Methylene chloride	150000 U	600 U	400 U	270 U	2 U	13 J	2 U	200 U	2 U	2 U
Tetrachloroethene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Toluene	230000	48000 D	560	30 J	1 U	190	0.33 J	1700	1 U	1 U
trans-1,2-Dichloroethene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
trans-1,3-Dichloropropene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Trichloroethene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Vinyl chloride	150000 U	100 U	400 U	50 U	2 U	50 U	2 U	200 U	2 U	2 U
Xylene, total	220000 U	6400	600 U	100 U	3 U	240	1.7 J	1200	3 U	3 U

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO06 PZM039 Intermediate Fall 2001	CO07 PZM008 Shallow Fall 2001	CO07 PZM008 DUP Shallow Fall 2001	CO07 PZM050 Intermediate Fall 2001	CO08 PZM005 Shallow Fall 2001	CO08 PZM036 Intermediate Fall 2001	CO08 PZM036 Intermediate Summer 2004	CO08 PZM098 Lower Fall 2002	CO09 PZM007 Shallow Fall 2001	CO09 PZM007 DUP Shallow Fall 2001
1,1,1,2-Tetrachloroethane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
1,1,1-Trichloroethane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
1,1,2,2-Tetrachloroethane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
1,1,2-Trichloroethane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
1,1-Dichloroethane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
1,1-Dichloroethene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
1,2-Dichloroethane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
1,2-Dichloropropane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
2-Butanone	500 U	10000 U	10000 U	200 U	1000 U	1000 U	500 U	--	50 U	50 U
2-Hexanone	500 U	10000 U	10000 U	200 U	1000 U	1000 U	500 U	--	50 U	50 U
4-Methyl-2-pentanone	500 U	10000 U	10000 U	200 U	1000 U	1000 U	500 U	--	50 U	50 U
Acetone	6900	13000 J	20000 U	400 U	2000 U	2000 U	500 U	--	100 U	100 U
Benzene	100 U	42000	40000	810	5500	5900	12000	1 U	190	180
Bromoform	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
Carbon disulfide	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
Carbon tetrachloride	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
Chlorobenzene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
Chloroethane	200 U	4000 U	4000 U	80 U	400 U	400 U	100 U	--	20 U	20 U
Chloroform	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
cis-1,3-Dichloropropene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
Ethylbenzene	100 U	2000 U	2000 U	40 U	130 J	150 J	950	1 U	10 U	10 U
Methylene chloride	200 U	4000 U	4000 U	80 U	400 U	400 U	600 U	1 U	20 U	20 U
Tetrachloroethene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
Toluene	100 U	4900	5100	100	4500	4600	10000	1 U	190	170
trans-1,2-Dichloroethene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
trans-1,3-Dichloropropene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
Trichloroethene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
Vinyl chloride	200 U	4000 U	4000 U	80 U	400 U	400 U	100 U	1 U	20 U	20 U
Xylene, total	300 U	6000 U	6000 U	120 U	2200	2300	10000	1 UJ	290	250

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO10 PZM006 Shallow Fall 2001	CO10 PZM006 Shallow Summer 2004	CO10 PZM029 Intermediate Fall 2001	CO10 PZM029 Intermediate Summer 2004	CO10 PZM090 Lower Fall 2002	CO10 PZM090 Lower Summer 2004	CO11 PZM007 Shallow Fall 2001	CO12 PZM008 Shallow Fall 2001	CO13 PZM008 Shallow Fall 2001	CO13 PZM030 Intermediate Fall 2001
1,1,1,2-Tetrachloroethane	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
1,1,1-Trichloroethane	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
1,1,2,2-Tetrachloroethane	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
1,1,2-Trichloroethane	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
1,1-Dichloroethane	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
1,1-Dichloroethene	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
1,2-Dichloroethane	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
1,2-Dichloropropane	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
2-Butanone	15 U	5.2 U	5 U	5.1 U	--	5 U	5 U	120 U	200 U	50 U
2-Hexanone	15 U	5 U	5 U	5 U	--	5 U	5 U	120 U	200 U	50 U
4-Methyl-2-pentanone	15 U	5 U	5 U	5 U	--	5 U	5 U	120 U	200 U	50 U
Acetone	30 U	20 U	10 U	21 U	--	8.2 U	10 U	250 U	400 U	100 U
Benzene	100	520	1 U	33	1 U	1.3	4.4	590	960	180
Bromoform	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
Carbon disulfide	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
Carbon tetrachloride	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
Chlorobenzene	3 U	0.9 J	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
Chloroethane	6 U	1 U	2 U	1 U	--	1 U	2 U	50 U	80 U	20 U
Chloroform	1.5 J	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
cis-1,3-Dichloropropene	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
Ethylbenzene	1.6 J	8.2	1 U	1 U	1 U	1 U	1 U	15 J	22 J	10 U
Methylene chloride	6 U	4.7 U	2 U	2.8 U	1 U	3 U	2 U	50 U	21 J	20 U
Tetrachloroethene	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
Toluene	5.2	65	1 U	2	1 U	1.2	0.67 J	200	880	160
trans-1,2-Dichloroethene	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
trans-1,3-Dichloropropene	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
Trichloroethene	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
Vinyl chloride	6 U	1 U	2 U	1 U	1 U	1 U	2 U	50 U	80 U	20 U
Xylene, total	16	86	3 U	3.7	1 UJ	2 U	3 U	280	580	140

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO15 PZM005 Shallow Fall 2001	CO15 PZM005 DUP Shallow Fall 2001	CO16 PZM006 Shallow Fall 2001	CO17 PZM005 Shallow Fall 2001	CO17 PZM005 Shallow Summer 2004	CO18 PZM006 Shallow Fall 2001	CO18 PZM006 Shallow Summer 2004	CO19 PZM004 Shallow Fall 2001	CO20 PZM004 Shallow Fall 2001	CO21 PZM005 Shallow Fall 2001
1,1,1,2-Tetrachloroethane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,1,1-Trichloroethane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,1,2,2-Tetrachloroethane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,1,2-Trichloroethane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,1-Dichloroethane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,1-Dichloroethene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,2-Dichloroethane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,2-Dichloropropane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
2-Butanone	25000 U	10000 U	25000 U	50000 U	500 U	250000 U	5000 U	2000 U	50 U	5 U
2-Hexanone	25000 U	10000 U	25000 U	50000 U	500 U	250000 U	5000 U	2000 U	50 U	5 U
4-Methyl-2-pentanone	25000 U	10000 U	25000 U	50000 U	500 U	250000 U	5000 U	2000 U	50 U	5 U
Acetone	50000 U	20000 U	50000 U	100000 U	500 U	500000 U	5000 U	4000 U	100 U	10 U
Benzene	98000	110000	200000	200000	28000 D	1300000	1100000 D	12000	220	0.46 J
Bromoform	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Carbon disulfide	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Carbon tetrachloride	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Chlorobenzene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Chloroethane	10000 U	4000 U	10000 U	20000 U	100 U	100000 U	1000 U	800 U	20 U	2 U
Chloroform	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
cis-1,3-Dichloropropene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Ethylbenzene	5000 U	2000 U	1200 J	10000 U	460	50000 U	1000 U	720	4.6 J	1 U
Methylene chloride	10000 U	4000 U	10000 U	20000 U	640 U	100000 U	6300 U	800 U	20 U	2 U
Tetrachloroethene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Toluene	14000	10000	15000	15000	840	92000	71000	400 U	56	1 U
trans-1,2-Dichloroethene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	--	400 U	10 U	1 U
trans-1,3-Dichloropropene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Trichloroethene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Vinyl chloride	10000 U	4000 U	10000 U	20000 U	100 U	100000 U	1000 U	800 U	20 U	2 U
Xylene, total	15000 U	6000 U	4700 J	30000 U	870	150000 U	4600	660 J	42	3 U

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO22 PZM005 Shallow Fall 2001	CO23 PZM008 Shallow Fall 2001	CO24 PZM007 Shallow Fall 2001	CO25 PZM008 Shallow Fall 2001	CO26 PZM007 Shallow Fall 2001	CO26 PZM007 Shallow Summer 2004	CO26 PZM007 DUP Shallow Summer 2004	CO26 PZM032 Intermediate Summer 2004	CO27 PZM012 Shallow Summer 2004	CO27 PZM046 Intermediate Summer 2004
1,1,1,2-Tetrachloroethane	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
1,1,1-Trichloroethane	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
1,1,2,2-Tetrachloroethane	2 U	25 U	5 U	50 U	25 UJ	5 U	5 U	1 U	5 U	330 U
1,1,2-Trichloroethane	2 U	25 U	5 U	60	25 U	5 U	5 U	1 U	5 U	330 U
1,1-Dichloroethane	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
1,1-Dichloroethene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
1,2-Dichloroethane	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
1,2-Dichloropropane	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
2-Butanone	10 U	120 U	25 U	250 U	120 U	19 U	18 U	5 U	25 U	1700 U
2-Hexanone	10 U	120 U	25 U	250 U	120 U	25 U	25 U	5 U	25 U	1700 U
4-Methyl-2-pentanone	10 U	120 U	25 U	250 U	120 U	25 U	25 U	5 U	25 U	1700 U
Acetone	9.7 J	250 U	23 J	500 U	250 U	50 U	38 U	5 U	130 U	1700 U
Benzene	560	610	110	3000	500	540	480	2.5	42000 D	390000 D
Bromoform	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Carbon disulfide	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Carbon tetrachloride	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Chlorobenzene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Chloroethane	4 U	50 U	10 U	100 U	50 U	5 U	5 U	1 U	5 U	330 U
Chloroform	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
cis-1,3-Dichloropropene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Ethylbenzene	21	8.5 J	15	690	15 J	18	16	1 U	110	600
Methylene chloride	1.3 J	50 U	10 U	100 U	50 U	17 U	14 U	4.5 U	5 U	1100 U
Tetrachloroethene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Toluene	11	32	46	1900	220	260	230	2	5800 D	49000
trans-1,2-Dichloroethene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
trans-1,3-Dichloropropene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Trichloroethene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Vinyl chloride	4 U	50 U	10 U	100 U	50 U	5 U	5 U	1 U	5 U	330 U
Xylene, total	40	76	44	980	400	430	390	2.5	1000	9200

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO27 PZM122 Lower Fall 2002	CO27 PZM122-2 Lower Fall 2002(2)	CO27 PZM122 Lower Summer 2004	CO28 PZM010 Shallow Summer 2004	CO28 PZM048 Intermediate Summer 2004	CO28 PZM125 Lower Summer 2004	CO29 PZM010 Shallow Summer 2004	CO29 PZM051 Lower Summer 2004	CO30 PZM015 Shallow Summer 2004	CO30 PZM060 Lower Fall 2002
1,1,1,2-Tetrachloroethane	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
1,1,1-Trichloroethane	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
1,1,2,2-Tetrachloroethane	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
1,1,2-Trichloroethane	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
1,1-Dichloroethane	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
1,1-Dichloroethene	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
1,2-Dichloroethane	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
1,2-Dichloropropane	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
2-Butanone	--	--	6.6	5 U	500 U	5.2 U	5 U	5 U	500 U	--
2-Hexanone	--	--	5 U	5 U	500 U	5 U	5 U	5 U	500 U	--
4-Methyl-2-pentanone	--	--	5 U	5 U	500 U	5 U	5 U	5 U	500 U	--
Acetone	--	--	110 U	5 U	500 U	8.2 U	23 U	6.7 U	500 U	--
Benzene	5.4	15	3.2	2000 D	350000 D	4.9	25	5.7	54000 D	17
Bromoform	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
Carbon disulfide	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
Carbon tetrachloride	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
Chlorobenzene	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
Chloroethane	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
Chloroform	--	--	1 U	1	100 U	1 U	1 U	1 U	100 U	--
cis-1,3-Dichloropropene	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
Ethylbenzene	1.0 U	1.0 U	1 U	7.8	250	1 U	3	1 U	80 J	1.0 U
Methylene chloride	1.0 U	1.0 U	11 U	4.5 U	430 U	7.6 U	4.3 U	4.9 U	510 U	1.0 U
Tetrachloroethene	1.0 U	1.0 U	1 U	1 U	100 U	1 U	0.5 J	1 U	100 U	1.0 U
Toluene	0.9 J	0.6 J	1 U	130	28000 D	1.7	8.4	1.3	6300	2.7
trans-1,2-Dichloroethene	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
trans-1,3-Dichloropropene	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
Trichloroethene	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
Vinyl chloride	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
Xylene, total	2.0 U	2.0 U	1 U	99	4600	2 U	24	2 U	1700	2.0 U

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO30 PZM060-2 Lower Fall 2002(2)	CO30 PZM060 Lower Summer 2004	CO32 PZM004 Shallow Summer 2004	CO32 PZM041 Intermediate Summer 2004	CO33 PZM141 Lower Summer 2004	CO35 PZM013 Shallow Summer 2004	CO35 PZM056 Lower Summer 2004	SW13 PZM003 Shallow Summer 2004	SW13 PZM025 Intermediate Fall 2002	SW13 PZM025 Intermediate Summer 2004
1,1,1,2-Tetrachloroethane	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
1,1,1-Trichloroethane	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
1,1,2-Trichloroethane	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
1,1-Dichloroethane	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
2-Butanone	--	5 U	5 U	5 U	5 U	25 U	5 U	5 U	--	5 U
2-Hexanone	--	5 U	5 U	5 U	5 U	25 U	5 U	5 U	--	5 U
4-Methyl-2-pentanone	--	5 U	5 U	5 U	5 U	25 U	5 U	5 U	--	5 U
Acetone	--	7.1 U	9.1 U	5 U	5.3 U	25 U	140	8.3 U	--	5 U
Benzene	27	4.1	16	1 U	53	180	3.3	1 U	1 U	1 U
Bromoform	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
Carbon disulfide	--	1 U	1 U	1 U	1 U	5 U	2.3	1 U	--	1 U
Carbon tetrachloride	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
Chlorobenzene	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
Chloroethane	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
Chloroform	--	1 U	1 U	1 U	1 U	5 U	1 U	1.5	--	1 U
cis-1,3-Dichloropropene	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
Ethylbenzene	1.0 U	1 U	1 U	1 U	1 U	5 J	1 U	1 U	1 U	1 U
Methylene chloride	4.3	6.3 U	3 U	1.9 U	4.6 U	15 U	4.3 U	10 U	1 U	3.1 U
Tetrachloroethene	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
Toluene	6.5	1.5	1.8	1	1.1	44	1.5 J	0.9 J	1 U	1 U
trans-1,2-Dichloroethene	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
Trichloroethene	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
Vinyl chloride	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
Xylene, total	2.0 U	2 U	2 J	1 U	2 U	85	2 J	2 U	1 UJ	1 U

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	SW13 PZM111 Lower Fall 2002	SW13 PZM111 Lower Summer 2004	SW14 PZM004 Shallow Summer 2004	SW14 PZM004 DUP Shallow Summer 2004	SW14 PZM099 Lower Fall 2002	SW14 PZM099 Lower Summer 2004	SW17 PZM007 Shallow Fall 2001	SW17 PZM007 Shallow Summer 2004	SW17 PZM038 Intermediate Fall 2001	SW17 PZM038 Intermediate Summer 2004
1,1,1,2-Tetrachloroethane	--	1 U	1 U	1 U	--	1 U	2500 U	100 U	2500 U	330 U
1,1,1-Trichloroethane	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
1,1,2,2-Tetrachloroethane	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
1,1,2-Trichloroethane	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
1,1-Dichloroethane	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
1,1-Dichloroethene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
1,2-Dichloroethane	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
1,2-Dichloropropane	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
2-Butanone	100 U	5 U	5 U	5.1 U	100 U	5 U	12000 U	500 U	12000 U	1700 U
2-Hexanone	50 U	5 U	5 U	5 U	50 U	5 U	12000 U	500 U	12000 U	1700 U
4-Methyl-2-pentanone	50 U	5 U	5 U	5 U	50 U	5 U	12000 U	500 U	12000 U	1700 U
Acetone	100 U	10 U	5 U	6.8 U	100 U	7.7 U	25000 U	500 U	25000 U	1700 U
Benzene	5 U	1 U	1 U	1 U	5 U	1 U	49000	20000	64000	54000
Bromoform	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Carbon disulfide	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Carbon tetrachloride	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Chlorobenzene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Chloroethane	10 U	1 U	1 U	1 U	10 U	1 U	5000 U	100 U	5000 U	330 U
Chloroform	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
cis-1,3-Dichloropropene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Ethylbenzene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Methylene chloride	5 U	19 U	3.6 U	3.2 U	5 U	5.6 U	5000 U	680 U	5000 U	1300 U
Tetrachloroethene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Toluene	5 U	0.8 J	1 U	1 U	5 U	1 U	8700	2500	8600	330 U
trans-1,2-Dichloroethene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
trans-1,3-Dichloropropene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Trichloroethene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Vinyl chloride	10 U	1 U	1 U	1 U	10 U	1 U	5000 U	100 U	5000 U	330 U
Xylene, total	5 U	1 U	2 U	2 U	5 U	2 U	7500 U	590	7500 U	330 U

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	SW17 PZM113 Lower Fall 2002	SW17 PZM113 Lower Summer 2004	SW18 PZM008 Shallow Fall 2001	SW18 PZM008 Shallow Summer 2004	SW18 PZM008 DUP Shallow Summer 2004	SW18 PZM053 Lower Fall 2001	SW18 PZM114 Lower Fall 2002	SW18 PZM114 Lower Summer 2004	TS05 PPM007 Shallow Summer 2004
1,1,1,2-Tetrachloroethane	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
1,1,1-Trichloroethane	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	100 U
1,1,2,2-Tetrachloroethane	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
1,1,2-Trichloroethane	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
1,1-Dichloroethane	1 U	1 U	10 U	0.9 J	0.9 J	1 U	0.8 J	1 U	100 U
1,1-Dichloroethene	1 U	1 U	66	1 U	1 U	1 U	1 U	1 U	100 U
1,2-Dichloroethane	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	100 U
1,2-Dichloropropane	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
2-Butanone	--	5 U	50 U	5 U	5 U	5 U	--	5 U	500 U
2-Hexanone	--	5 U	50 U	5 U	5 U	5 U	--	5 U	500 U
4-Methyl-2-pentanone	--	5 U	50 U	5 U	5 U	5 U	--	5 U	500 U
Acetone	--	7.3 U	100 U	9.1	10 U	10 U	--	22 U	700 U
Benzene	1 U	2.6	240	110	110	20	180	4.9	360
Bromoform	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
Carbon disulfide	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
Carbon tetrachloride	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	100 U
Chlorobenzene	1 U	1 U	69	1 UL	1 U	1 U	1 U	1 U	100 U
Chloroethane	--	1 U	20 U	1 U	1 U	2 U	--	1 U	100 U
Chloroform	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
cis-1,3-Dichloropropene	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
Ethylbenzene	1 U	1 U	2.8 J	3.8	4.1	1 U	2.9	1.1	100 U
Methylene chloride	1.8 U	7.7 U	20 U	1.3 U	1 U	2 U	1 U	5.2 U	470 U
Tetrachloroethene	1 U	1 U	10 U	1 UL	1 U	1 U	1 U	1 U	100 U
Toluene	1 U	0.6 J	120	17	18	1.4	38	3.1	80 J
trans-1,2-Dichloroethene	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	100 U
trans-1,3-Dichloropropene	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
Trichloroethene	1 U	1 U	64	1 UL	1 U	1 U	1 U	1 U	100 U
Vinyl chloride	1 U	1 U	20 U	1 U	1 U	2 U	1 U	1 U	100 U
Xylene, total	1 UJ	2 U	62	60	64	3 U	41	15	200 U

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO02 PZM006 Shallow Fall 2001	CO02 PZM006 Shallow Summer 2004	CO02 PZM041 Intermediate Fall 2001	CO02 PZM041 CO02 Summer 2004	CO03 PZM005 Shallow Fall 2001	CO04 PZM004 Shallow Fall 2001	CO04 PZM048 Intermediate Fall 2001	CO05 PZM006 Shallow Fall 2001	CO06 PZM008 Shallow Fall 2001	CO06 PZM008 DUP Shallow Fall 2001
1,1,1,2-Tetrachloroethane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,1,1-Trichloroethane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,1,2,2-Tetrachloroethane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,1,2-Trichloroethane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,1-Dichloroethane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,1-Dichloroethene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,2-Dichloroethane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
1,2-Dichloropropane	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
2-Butanone	380000 U	500 U	1000 U	250 U	5 U	120 U	5 U	500 U	5 U	5 U
2-Hexanone	380000 U	500 U	1000 U	250 U	5 U	120 U	5 U	500 U	5 U	5 U
4-Methyl-2-pentanone	380000 U	500 U	1000 U	250 U	5 U	120 U	5 U	500 U	5 U	5 U
Acetone	750000 U	560 U	2000 U	250 U	10 U	250 U	10 U	1000 U	10 U	10 U
Benzene	1600000	790000 D	3900	32000 D	1 U	660	1 U	2100	1 U	1 U
Bromoform	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Carbon disulfide	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Carbon tetrachloride	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Chlorobenzene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Chloroethane	150000 U	100 U	400 U	50 U	2 U	50 U	2 U	200 U	2 U	2 U
Chloroform	75000 U	100 U	200 U	50 U	1 U	25 U	0.35 J	100 U	14	25
cis-1,3-Dichloropropene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Ethylbenzene	75000 U	750	200 U	30 J	1 U	24 J	1 U	100 U	1 U	1 U
Methylene chloride	150000 U	600 U	400 U	270 U	2 U	13 J	2 U	200 U	2 U	2 U
Tetrachloroethene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Toluene	230000	48000 D	560	30 J	1 U	190	0.33 J	1700	1 U	1 U
trans-1,2-Dichloroethene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
trans-1,3-Dichloropropene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Trichloroethene	75000 U	100 U	200 U	50 U	1 U	25 U	1 U	100 U	1 U	1 U
Vinyl chloride	150000 U	100 U	400 U	50 U	2 U	50 U	2 U	200 U	2 U	2 U
Xylene, total	220000 U	6400	600 U	100 U	3 U	240	1.7 J	1200	3 U	3 U

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO06 PZM039 Intermediate Fall 2001	CO07 PZM008 Shallow Fall 2001	CO07 PZM008 DUP Shallow Fall 2001	CO07 PZM050 Intermediate Fall 2001	CO08 PZM005 Shallow Fall 2001	CO08 PZM036 Intermediate Fall 2001	CO08 PZM036 Intermediate Summer 2004	CO08 PZM098 Lower Fall 2002	CO09 PZM007 Shallow Fall 2001	CO09 PZM007 DUP Shallow Fall 2001
1,1,1,2-Tetrachloroethane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
1,1,1-Trichloroethane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
1,1,2,2-Tetrachloroethane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
1,1,2-Trichloroethane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
1,1-Dichloroethane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
1,1-Dichloroethene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
1,2-Dichloroethane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
1,2-Dichloropropane	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
2-Butanone	500 U	10000 U	10000 U	200 U	1000 U	1000 U	500 U	--	50 U	50 U
2-Hexanone	500 U	10000 U	10000 U	200 U	1000 U	1000 U	500 U	--	50 U	50 U
4-Methyl-2-pentanone	500 U	10000 U	10000 U	200 U	1000 U	1000 U	500 U	--	50 U	50 U
Acetone	6900	13000 J	20000 U	400 U	2000 U	2000 U	500 U	--	100 U	100 U
Benzene	100 U	42000	40000	810	5500	5900	12000	1 U	190	180
Bromoform	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
Carbon disulfide	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
Carbon tetrachloride	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
Chlorobenzene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
Chloroethane	200 U	4000 U	4000 U	80 U	400 U	400 U	100 U	--	20 U	20 U
Chloroform	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
cis-1,3-Dichloropropene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
Ethylbenzene	100 U	2000 U	2000 U	40 U	130 J	150 J	950	1 U	10 U	10 U
Methylene chloride	200 U	4000 U	4000 U	80 U	400 U	400 U	600 U	1 U	20 U	20 U
Tetrachloroethene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
Toluene	100 U	4900	5100	100	4500	4600	10000	1 U	190	170
trans-1,2-Dichloroethene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
trans-1,3-Dichloropropene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	--	10 U	10 U
Trichloroethene	100 U	2000 U	2000 U	40 U	200 U	200 U	100 U	1 U	10 U	10 U
Vinyl chloride	200 U	4000 U	4000 U	80 U	400 U	400 U	100 U	1 U	20 U	20 U
Xylene, total	300 U	6000 U	6000 U	120 U	2200	2300	10000	1 UJ	290	250

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO10 PZM006 Shallow Fall 2001	CO10 PZM006 Shallow Summer 2004	CO10 PZM029 Intermediate Fall 2001	CO10 PZM029 Intermediate Summer 2004	CO10 PZM090 Lower Fall 2002	CO10 PZM090 Lower Summer 2004	CO11 PZM007 Shallow Fall 2001	CO12 PZM008 Shallow Fall 2001	CO13 PZM008 Shallow Fall 2001	CO13 PZM030 Intermediate Fall 2001
1,1,1,2-Tetrachloroethane	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
1,1,1-Trichloroethane	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
1,1,2,2-Tetrachloroethane	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
1,1,2-Trichloroethane	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
1,1-Dichloroethane	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
1,1-Dichloroethene	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
1,2-Dichloroethane	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
1,2-Dichloropropane	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
2-Butanone	15 U	5.2 U	5 U	5.1 U	--	5 U	5 U	120 U	200 U	50 U
2-Hexanone	15 U	5 U	5 U	5 U	--	5 U	5 U	120 U	200 U	50 U
4-Methyl-2-pentanone	15 U	5 U	5 U	5 U	--	5 U	5 U	120 U	200 U	50 U
Acetone	30 U	20 U	10 U	21 U	--	8.2 U	10 U	250 U	400 U	100 U
Benzene	100	520	1 U	33	1 U	1.3	4.4	590	960	180
Bromoform	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
Carbon disulfide	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
Carbon tetrachloride	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
Chlorobenzene	3 U	0.9 J	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
Chloroethane	6 U	1 U	2 U	1 U	--	1 U	2 U	50 U	80 U	20 U
Chloroform	1.5 J	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
cis-1,3-Dichloropropene	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
Ethylbenzene	1.6 J	8.2	1 U	1 U	1 U	1 U	1 U	15 J	22 J	10 U
Methylene chloride	6 U	4.7 U	2 U	2.8 U	1 U	3 U	2 U	50 U	21 J	20 U
Tetrachloroethene	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
Toluene	5.2	65	1 U	2	1 U	1.2	0.67 J	200	880	160
trans-1,2-Dichloroethene	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
trans-1,3-Dichloropropene	3 U	1 U	1 U	1 U	--	1 U	1 U	25 U	40 U	10 U
Trichloroethene	3 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	40 U	10 U
Vinyl chloride	6 U	1 U	2 U	1 U	1 U	1 U	2 U	50 U	80 U	20 U
Xylene, total	16	86	3 U	3.7	1 UJ	2 U	3 U	280	580	140

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO15 PZM005 Shallow Fall 2001	CO15 PZM005 DUP Shallow Fall 2001	CO16 PZM006 Shallow Fall 2001	CO17 PZM005 Shallow Fall 2001	CO17 PZM005 Shallow Summer 2004	CO18 PZM006 Shallow Fall 2001	CO18 PZM006 Shallow Summer 2004	CO19 PZM004 Shallow Fall 2001	CO20 PZM004 Shallow Fall 2001	CO21 PZM005 Shallow Fall 2001
1,1,1,2-Tetrachloroethane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,1,1-Trichloroethane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,1,2,2-Tetrachloroethane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,1,2-Trichloroethane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,1-Dichloroethane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,1-Dichloroethene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,2-Dichloroethane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
1,2-Dichloropropane	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
2-Butanone	25000 U	10000 U	25000 U	50000 U	500 U	250000 U	5000 U	2000 U	50 U	5 U
2-Hexanone	25000 U	10000 U	25000 U	50000 U	500 U	250000 U	5000 U	2000 U	50 U	5 U
4-Methyl-2-pentanone	25000 U	10000 U	25000 U	50000 U	500 U	250000 U	5000 U	2000 U	50 U	5 U
Acetone	50000 U	20000 U	50000 U	100000 U	500 U	500000 U	5000 U	4000 U	100 U	10 U
Benzene	98000	110000	200000	200000	28000 D	1300000	1100000 D	12000	220	0.46 J
Bromoform	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Carbon disulfide	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Carbon tetrachloride	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Chlorobenzene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Chloroethane	10000 U	4000 U	10000 U	20000 U	100 U	100000 U	1000 U	800 U	20 U	2 U
Chloroform	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
cis-1,3-Dichloropropene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Ethylbenzene	5000 U	2000 U	1200 J	10000 U	460	50000 U	1000 U	720	4.6 J	1 U
Methylene chloride	10000 U	4000 U	10000 U	20000 U	640 U	100000 U	6300 U	800 U	20 U	2 U
Tetrachloroethene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Toluene	14000	10000	15000	15000	840	92000	71000	400 U	56	1 U
trans-1,2-Dichloroethene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	--	400 U	10 U	1 U
trans-1,3-Dichloropropene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Trichloroethene	5000 U	2000 U	5000 U	10000 U	100 U	50000 U	1000 U	400 U	10 U	1 U
Vinyl chloride	10000 U	4000 U	10000 U	20000 U	100 U	100000 U	1000 U	800 U	20 U	2 U
Xylene, total	15000 U	6000 U	4700 J	30000 U	870	150000 U	4600	660 J	42	3 U

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO22 PZM005 Shallow Fall 2001	CO23 PZM008 Shallow Fall 2001	CO24 PZM007 Shallow Fall 2001	CO25 PZM008 Shallow Fall 2001	CO26 PZM007 Shallow Fall 2001	CO26 PZM007 Shallow Summer 2004	CO26 PZM007 DUP Shallow Summer 2004	CO26 PZM032 Intermediate Summer 2004	CO27 PZM012 Shallow Summer 2004	CO27 PZM046 Intermediate Summer 2004
1,1,1,2-Tetrachloroethane	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
1,1,1-Trichloroethane	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
1,1,2,2-Tetrachloroethane	2 U	25 U	5 U	50 U	25 UJ	5 U	5 U	1 U	5 U	330 U
1,1,2-Trichloroethane	2 U	25 U	5 U	60	25 U	5 U	5 U	1 U	5 U	330 U
1,1-Dichloroethane	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
1,1-Dichloroethene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
1,2-Dichloroethane	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
1,2-Dichloropropane	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
2-Butanone	10 U	120 U	25 U	250 U	120 U	19 U	18 U	5 U	25 U	1700 U
2-Hexanone	10 U	120 U	25 U	250 U	120 U	25 U	25 U	5 U	25 U	1700 U
4-Methyl-2-pentanone	10 U	120 U	25 U	250 U	120 U	25 U	25 U	5 U	25 U	1700 U
Acetone	9.7 J	250 U	23 J	500 U	250 U	50 U	38 U	5 U	130 U	1700 U
Benzene	560	610	110	3000	500	540	480	2.5	42000 D	390000 D
Bromoform	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Carbon disulfide	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Carbon tetrachloride	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Chlorobenzene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Chloroethane	4 U	50 U	10 U	100 U	50 U	5 U	5 U	1 U	5 U	330 U
Chloroform	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
cis-1,3-Dichloropropene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Ethylbenzene	21	8.5 J	15	690	15 J	18	16	1 U	110	600
Methylene chloride	1.3 J	50 U	10 U	100 U	50 U	17 U	14 U	4.5 U	5 U	1100 U
Tetrachloroethene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Toluene	11	32	46	1900	220	260	230	2	5800 D	49000
trans-1,2-Dichloroethene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
trans-1,3-Dichloropropene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Trichloroethene	2 U	25 U	5 U	50 U	25 U	5 U	5 U	1 U	5 U	330 U
Vinyl chloride	4 U	50 U	10 U	100 U	50 U	5 U	5 U	1 U	5 U	330 U
Xylene, total	40	76	44	980	400	430	390	2.5	1000	9200

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO27 PZM122 Lower Fall 2002	CO27 PZM122-2 Lower Fall 2002(2)	CO27 PZM122 Lower Summer 2004	CO28 PZM010 Shallow Summer 2004	CO28 PZM048 Intermediate Summer 2004	CO28 PZM125 Lower Summer 2004	CO29 PZM010 Shallow Summer 2004	CO29 PZM051 Lower Summer 2004	CO30 PZM015 Shallow Summer 2004	CO30 PZM060 Lower Fall 2002
1,1,1,2-Tetrachloroethane	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
1,1,1-Trichloroethane	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
1,1,2,2-Tetrachloroethane	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
1,1,2-Trichloroethane	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
1,1-Dichloroethane	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
1,1-Dichloroethene	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
1,2-Dichloroethane	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
1,2-Dichloropropane	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
2-Butanone	--	--	6.6	5 U	500 U	5.2 U	5 U	5 U	500 U	--
2-Hexanone	--	--	5 U	5 U	500 U	5 U	5 U	5 U	500 U	--
4-Methyl-2-pentanone	--	--	5 U	5 U	500 U	5 U	5 U	5 U	500 U	--
Acetone	--	--	110 U	5 U	500 U	8.2 U	23 U	6.7 U	500 U	--
Benzene	5.4	15	3.2	2000 D	350000 D	4.9	25	5.7	54000 D	17
Bromoform	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
Carbon disulfide	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
Carbon tetrachloride	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
Chlorobenzene	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
Chloroethane	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
Chloroform	--	--	1 U	1	100 U	1 U	1 U	1 U	100 U	--
cis-1,3-Dichloropropene	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
Ethylbenzene	1.0 U	1.0 U	1 U	7.8	250	1 U	3	1 U	80 J	1.0 U
Methylene chloride	1.0 U	1.0 U	11 U	4.5 U	430 U	7.6 U	4.3 U	4.9 U	510 U	1.0 U
Tetrachloroethene	1.0 U	1.0 U	1 U	1 U	100 U	1 U	0.5 J	1 U	100 U	1.0 U
Toluene	0.9 J	0.6 J	1 U	130	28000 D	1.7	8.4	1.3	6300	2.7
trans-1,2-Dichloroethene	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
trans-1,3-Dichloropropene	--	--	1 U	1 U	100 U	1 U	1 U	1 U	100 U	--
Trichloroethene	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
Vinyl chloride	1.0 U	1.0 U	1 U	1 U	100 U	1 U	1 U	1 U	100 U	1.0 U
Xylene, total	2.0 U	2.0 U	1 U	99	4600	2 U	24	2 U	1700	2.0 U

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO30 PZM060-2 Lower Fall 2002(2)	CO30 PZM060 Lower Summer 2004	CO32 PZM004 Shallow Summer 2004	CO32 PZM041 Intermediate Summer 2004	CO33 PZM141 Lower Summer 2004	CO35 PZM013 Shallow Summer 2004	CO35 PZM056 Lower Summer 2004	SW13 PZM003 Shallow Summer 2004	SW13 PZM025 Intermediate Fall 2002	SW13 PZM025 Intermediate Summer 2004
1,1,1,2-Tetrachloroethane	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
1,1,1-Trichloroethane	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
1,1,2-Trichloroethane	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
1,1-Dichloroethane	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
2-Butanone	--	5 U	5 U	5 U	5 U	25 U	5 U	5 U	--	5 U
2-Hexanone	--	5 U	5 U	5 U	5 U	25 U	5 U	5 U	--	5 U
4-Methyl-2-pentanone	--	5 U	5 U	5 U	5 U	25 U	5 U	5 U	--	5 U
Acetone	--	7.1 U	9.1 U	5 U	5.3 U	25 U	140	8.3 U	--	5 U
Benzene	27	4.1	16	1 U	53	180	3.3	1 U	1 U	1 U
Bromoform	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
Carbon disulfide	--	1 U	1 U	1 U	1 U	5 U	2.3	1 U	--	1 U
Carbon tetrachloride	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
Chlorobenzene	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
Chloroethane	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
Chloroform	--	1 U	1 U	1 U	1 U	5 U	1 U	1.5	--	1 U
cis-1,3-Dichloropropene	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
Ethylbenzene	1.0 U	1 U	1 U	1 U	1 U	5 J	1 U	1 U	1 U	1 U
Methylene chloride	4.3	6.3 U	3 U	1.9 U	4.6 U	15 U	4.3 U	10 U	1 U	3.1 U
Tetrachloroethene	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
Toluene	6.5	1.5	1.8	1	1.1	44	1.5 J	0.9 J	1 U	1 U
trans-1,2-Dichloroethene	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	1 U	1 U	1 U	1 U	5 U	1 U	1 U	--	1 U
Trichloroethene	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
Vinyl chloride	1.0 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U
Xylene, total	2.0 U	2 U	2 J	1 U	2 U	85	2 J	2 U	1 UJ	1 U

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	SW13 PZM111 Lower Fall 2002	SW13 PZM111 Lower Summer 2004	SW14 PZM004 Shallow Summer 2004	SW14 PZM004 DUP Shallow Summer 2004	SW14 PZM099 Lower Fall 2002	SW14 PZM099 Lower Summer 2004	SW17 PZM007 Shallow Fall 2001	SW17 PZM007 Shallow Summer 2004	SW17 PZM038 Intermediate Fall 2001	SW17 PZM038 Intermediate Summer 2004
1,1,1,2-Tetrachloroethane	--	1 U	1 U	1 U	--	1 U	2500 U	100 U	2500 U	330 U
1,1,1-Trichloroethane	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
1,1,2,2-Tetrachloroethane	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
1,1,2-Trichloroethane	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
1,1-Dichloroethane	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
1,1-Dichloroethene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
1,2-Dichloroethane	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
1,2-Dichloropropane	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
2-Butanone	100 U	5 U	5 U	5.1 U	100 U	5 U	12000 U	500 U	12000 U	1700 U
2-Hexanone	50 U	5 U	5 U	5 U	50 U	5 U	12000 U	500 U	12000 U	1700 U
4-Methyl-2-pentanone	50 U	5 U	5 U	5 U	50 U	5 U	12000 U	500 U	12000 U	1700 U
Acetone	100 U	10 U	5 U	6.8 U	100 U	7.7 U	25000 U	500 U	25000 U	1700 U
Benzene	5 U	1 U	1 U	1 U	5 U	1 U	49000	20000	64000	54000
Bromoform	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Carbon disulfide	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Carbon tetrachloride	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Chlorobenzene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Chloroethane	10 U	1 U	1 U	1 U	10 U	1 U	5000 U	100 U	5000 U	330 U
Chloroform	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
cis-1,3-Dichloropropene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Ethylbenzene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Methylene chloride	5 U	19 U	3.6 U	3.2 U	5 U	5.6 U	5000 U	680 U	5000 U	1300 U
Tetrachloroethene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Toluene	5 U	0.8 J	1 U	1 U	5 U	1 U	8700	2500	8600	330 U
trans-1,2-Dichloroethene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
trans-1,3-Dichloropropene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Trichloroethene	5 U	1 U	1 U	1 U	5 U	1 U	2500 U	100 U	2500 U	330 U
Vinyl chloride	10 U	1 U	1 U	1 U	10 U	1 U	5000 U	100 U	5000 U	330 U
Xylene, total	5 U	1 U	2 U	2 U	5 U	2 U	7500 U	590	7500 U	330 U

Table D-9
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	SW17 PZM113 Lower Fall 2002	SW17 PZM113 Lower Summer 2004	SW18 PZM008 Shallow Fall 2001	SW18 PZM008 Shallow Summer 2004	SW18 PZM008 DUP Shallow Summer 2004	SW18 PZM053 Lower Fall 2001	SW18 PZM114 Lower Fall 2002	SW18 PZM114 Lower Summer 2004	TS05 PPM007 Shallow Summer 2004
1,1,1,2-Tetrachloroethane	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
1,1,1-Trichloroethane	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	100 U
1,1,2,2-Tetrachloroethane	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
1,1,2-Trichloroethane	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
1,1-Dichloroethane	1 U	1 U	10 U	0.9 J	0.9 J	1 U	0.8 J	1 U	100 U
1,1-Dichloroethene	1 U	1 U	66	1 U	1 U	1 U	1 U	1 U	100 U
1,2-Dichloroethane	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	100 U
1,2-Dichloropropane	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
2-Butanone	--	5 U	50 U	5 U	5 U	5 U	--	5 U	500 U
2-Hexanone	--	5 U	50 U	5 U	5 U	5 U	--	5 U	500 U
4-Methyl-2-pentanone	--	5 U	50 U	5 U	5 U	5 U	--	5 U	500 U
Acetone	--	7.3 U	100 U	9.1	10 U	10 U	--	22 U	700 U
Benzene	1 U	2.6	240	110	110	20	180	4.9	360
Bromoform	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
Carbon disulfide	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
Carbon tetrachloride	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	100 U
Chlorobenzene	1 U	1 U	69	1 UL	1 U	1 U	1 U	1 U	100 U
Chloroethane	--	1 U	20 U	1 U	1 U	2 U	--	1 U	100 U
Chloroform	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
cis-1,3-Dichloropropene	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
Ethylbenzene	1 U	1 U	2.8 J	3.8	4.1	1 U	2.9	1.1	100 U
Methylene chloride	1.8 U	7.7 U	20 U	1.3 U	1 U	2 U	1 U	5.2 U	470 U
Tetrachloroethene	1 U	1 U	10 U	1 UL	1 U	1 U	1 U	1 U	100 U
Toluene	1 U	0.6 J	120	17	18	1.4	38	3.1	80 J
trans-1,2-Dichloroethene	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	100 U
trans-1,3-Dichloropropene	--	1 U	10 U	1 U	1 U	1 U	--	1 U	100 U
Trichloroethene	1 U	1 U	64	1 UL	1 U	1 U	1 U	1 U	100 U
Vinyl chloride	1 U	1 U	20 U	1 U	1 U	2 U	1 U	1 U	100 U
Xylene, total	1 UJ	2 U	62	60	64	3 U	41	15	200 U

Table D-10
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO02 PZM006 Shallow Fall 2001	CO02 PZM006 Shallow Summer 2004	CO02 PZM041 Intermediate Fall 2001	CO02 PZM041 Intermediate Summer 2004	CO03 PZM005 Shallow Fall 2001	CO04 PZM004 Shallow Fall 2001	CO04 PZM048 Intermediate Fall 2001
1,2,4-Trichlorobenzene	100 U	10 U	20 U	10 U	10 U	50 U	100 U
1,2-Dichlorobenzene	100 U	10 U	20 U	10 U	10 U	50 U	100 U
1,3-Dichlorobenzene	100 U	10 U	20 U	10 U	10 U	50 U	100 U
1,4-Dichlorobenzene	100 U	10 U	20 U	10 U	10 U	50 U	100 U
2,4,5-Trichlorophenol	100 U	10 U	20 U	10 U	10 U	50 U	100 U
2,4,6-Trichlorophenol	100 U	10 U	20 U	10 U	10 U	50 U	100 U
2,4-Dichlorophenol	100 U	10 U	20 U	10 U	10 U	50 U	100 U
2,4-Dimethylphenol	120	120	20 U	10 U	10 U	330	100 U
2,4-Dinitrophenol	500 U	50 U	100 U	50 U	50 U	250 U	500 U
2,4-Dinitrotoluene	100 U	10 U	20 U	10 U	10 U	50 U	100 U
2,6-Dinitrotoluene	100 U	10 U	20 U	10 U	10 U	50 U	100 U
2-Chloronaphthalene	100 U	10 U	20 U	10 U	10 U	50 U	100 U
2-Chlorophenol	100 U	10 U	20 U	10 U	10 U	50 U	100 U
2-Methylnaphthalene	11 J	17	5.2 J	14	3 J	390	120
2-Methylphenol	120	120	20 U	10 U	0.74 J	96	100 U
2-Nitrophenol	100 U	10 U	20 U	10 U	10 U	50 U	100 U
3- & 4-Methylphenol	160	120	20 U	10 U	8.2 J	98	100 U
3,3-Dichlorobenzidine	500 U	20 U	100 U	20 U	50 U	250 U	500 U
3,3'-Dimethylbenzidine	500 U	50 U	100 U	50 U	50 U	250 U	500 U
4,6-Dinitro-2-methylphenol	500 U	50 U	100 U	50 U	50 U	250 U	500 U
4-Bromophenyl phenyl ether	100 U	10 U	20 U	10 U	10 U	50 U	100 U
4-Chloro-3-methylphenol	100 U	10 U	20 U	10 U	10 U	50 U	100 U
4-Chlorophenyl phenyl ether	100 U	10 U	20 U	10 U	10 U	50 U	100 U
4-Nitrophenol	500 U	50 U	100 U	50 U	50 U	250 U	500 U
Acenaphthene	100 U	5.4 J	9.3 J	18	4.7 J	56	26 J
Acenaphthylene	100 U	10 U	20 U	10 U	5.7 J	180	66 J
Anthracene	100 U	10 U	1.6 J	10 U	2 J	17 J	100 U
Benzo(a)anthracene	100 U	10 U	20 U	10 U	1.3 J	50 U	100 U
Benzo(a)pyrene	100 U	10 UJ	20 U	10 U	10 U	50 U	100 U
Benzo(b)fluoranthene	100 U	10 UJ	20 U	10 U	0.86 J	50 U	100 U
Benzo(g,h,i)perylene	100 U	10 UJ	20 U	10 U	0.68 J	50 U	100 U
Benzo(k)fluoranthene	100 U	10 UJ	20 U	10 U	1.1 J	50 U	100 U
bis(2-Chloroethoxy)methane	100 U	10 U	20 U	10 U	10 U	50 U	100 U
bis(2-Chloroethyl)ether	100 U	10 U	20 U	10 U	10 U	50 U	100 U
bis(2-Ethylhexyl)phthalate	100 U	15	20 U	8.9 J	10 U	50 U	100 U
Butylbenzylphthalate	100 U	10 U	20 U	10 U	10 U	50 U	100 U
Chrysene	100 U	10 U	20 U	10 U	1.5 J	50 U	100 U
Dibenz(a,h)anthracene	100 U	10 UJ	20 U	10 U	10 U	50 U	100 U
Dibenzofuran	100 U	5.2 J	3.3 J	10 U	3 J	110	62 J
Diethylphthalate	100 U	10 U	20 U	10 U	1.2 J	50 U	100 U
Dimethylphthalate	100 U	10 U	20 U	10 U	10 U	50 U	100 U
Di-n-butylphthalate	100 U	10 U	20 U	10 U	10 U	50 U	100 U
Di-n-octylphthalate	100 U	10 UJ	20 U	10 U	10 U	50 U	100 U
Fluoranthene	100 U	10 U	2.6 J	10 U	5 J	20 J	15 J
Fluorene	7.2 J	7.3 J	4.1 J	10 U	4.6 J	93	62 J
Hexachlorobenzene	100 U	10 U	20 U	10 U	10 U	50 U	100 U
Hexachlorobutadiene	100 U	10 U	20 U	10 U	10 U	50 U	100 U
Hexachlorocyclopentadiene	500 U	10 U	100 U	10 U	50 U	250 U	500 U
Hexachloroethane	100 U	10 U	20 U	10 U	10 U	50 U	100 U
Indeno(1,2,3-cd)pyrene	100 U	10 UJ	20 U	10 U	0.72 J	50 U	100 U
Isophorone	100 U	10 U	20 U	10 U	10 U	50 U	100 U
Naphthalene	450	670	52	12	77	6700	1100
Nitrobenzene	100 U	10 U	20 U	10 U	10 U	50 U	100 U
Pentachloroethane	500 U	50 U	100 U	50 U	50 U	250 U	500 U
Pentachlorophenol	500 U	50 U	100 U	50 U	50 U	250 U	500 U
Phenanthrene	11 J	13	8.1 J	10 U	9.9 J	96	96 J
Phenol	250	91	120	70	2.6 J	66	100 U
Pyrene	100 U	10 U	20 U	10 U	3.5 J	11 J	100 U
Pyridine	180 J	250	40 U	20 U	20 U	13 J	200 U

Table D-10
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

	CO05	CO06	CO06	CO06	CO07	CO07	CO07
	PZM006	PZM008	PZM008 DUP	PZM039	PZM008	PZM008 DUP	PZM050
	Shallow	Shallow	Shallow	Intermediate	Shallow	Shallow	Intermediate
Analyte, ug/L	Fall 2001	Fall 2001	Fall 2001	Fall 2001	Fall 2001	Fall 2001	Fall 2001
1,2,4-Trichlorobenzene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
1,2-Dichlorobenzene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
1,3-Dichlorobenzene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
1,4-Dichlorobenzene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
2,4,5-Trichlorophenol	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
2,4,6-Trichlorophenol	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
2,4-Dichlorophenol	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
2,4-Dimethylphenol	550 J	10 U	10 U	10 U	18 J	100 U	10 U
2,4-Dinitrophenol	5000 U	50 U	50 U	50 U	400 U	500 U	50 U
2,4-Dinitrotoluene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
2,6-Dinitrotoluene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
2-Chloronaphthalene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
2-Chlorophenol	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
2-Methylnaphthalene	270 J	10 U	10 U	10 U	20 J	17 J	2.6 J
2-Methylphenol	340 J	10 U	10 U	10 U	45 J	40 J	1.3 J
2-Nitrophenol	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
3- & 4-Methylphenol	640 J	10 U	10 U	10 U	27 J	24 J	1.5 J
3,3-Dichlorobenzidine	5000 U	50 U	50 U	50 U	400 U	500 U	50 U
3,3'-Dimethylbenzidine	5000 U	50 U	50 U	50 U	400 U	500 U	50 U
4,6-Dinitro-2-methylphenol	5000 U	50 U	50 U	50 U	400 U	500 U	50 U
4-Bromophenyl phenyl ether	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
4-Chloro-3-methylphenol	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
4-Chlorophenyl phenyl ether	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
4-Nitrophenol	5000 U	50 U	50 U	50 U	400 U	500 U	50 U
Acenaphthene	1000 U	10 U	10 U	10 U	11 J	9.8 J	4.1 J
Acenaphthylene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Anthracene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Benzo(a)anthracene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Benzo(a)pyrene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Benzo(b)fluoranthene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Benzo(g,h,i)perylene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Benzo(k)fluoranthene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
bis(2-Chloroethoxy)methane	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
bis(2-Chloroethyl)ether	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
bis(2-Ethylhexyl)phthalate	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Butylbenzylphthalate	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Chrysene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Dibenz(a,h)anthracene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Dibenzofuran	100 J	10 U	10 U	10 U	6.4 J	5.8 J	1.5 J
Diethylphthalate	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Dimethylphthalate	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Di-n-butylphthalate	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Di-n-octylphthalate	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Fluoranthene	1000 U	10 U	10 U	10 U	80 U	100 U	1.9 J
Fluorene	95 J	10 U	10 U	10 U	9.3 J	8.4 J	3.4 J
Hexachlorobenzene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Hexachlorobutadiene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Hexachlorocyclopentadiene	5000 U	50 U	50 U	50 U	400 U	500 U	50 U
Hexachloroethane	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Indeno(1,2,3-cd)pyrene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Isophorone	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Naphthalene	8100	10 U	10 U	1.7 J	420	360	27
Nitrobenzene	1000 U	10 U	10 U	10 U	80 U	100 U	10 U
Pentachloroethane	5000 U	50 U	50 U	50 U	400 U	500 U	50 U
Pentachlorophenol	5000 U	50 U	50 U	50 U	400 U	500 U	50 U
Phenanthrene	120 J	10 U	10 U	1.1 J	15 J	13 J	5.5 J
Phenol	370 J	10 U	10 U	10 U	47 J	39 J	5.2 J
Pyrene	1000 U	10 U	10 U	10 U	80 U	100 U	1 J
Pyridine	2000 U	20 U	20 U	20 U	160 U	200 U	20 U

Table D-10
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO08 PZM005 Shallow Fall 2001	CO08 PZM036 Intermediate Fall 2001	CO08 PZM036 Intermediate Summer 2004	CO08 PZM098 Lower Fall 2002	CO09 PZM007 Shallow Fall 2001	CO09 PZM007 DUP Shallow Fall 2001	CO10 PZM006 Shallow Fall 2001
1,2,4-Trichlorobenzene	50 U	50 U	10 U	--	20 U	20 U	10 U
1,2-Dichlorobenzene	50 U	50 U	10 U	--	20 U	20 U	10 U
1,3-Dichlorobenzene	50 U	50 U	10 U	--	20 U	20 U	10 U
1,4-Dichlorobenzene	50 U	50 U	10 U	--	20 U	20 U	10 U
2,4,5-Trichlorophenol	50 U	50 U	10 U	--	20 U	20 U	50 R
2,4,6-Trichlorophenol	50 U	50 U	10 U	--	20 U	20 U	50 R
2,4-Dichlorophenol	50 U	50 U	10 U	--	20 U	20 U	50 R
2,4-Dimethylphenol	21 J	17 J	10 U	--	120	120	50 R
2,4-Dinitrophenol	250 U	250 U	50 U	--	100 U	100 U	8.3 L
2,4-Dinitrotoluene	50 U	50 U	10 U	--	20 U	20 U	10 U
2,6-Dinitrotoluene	50 U	50 U	10 U	--	20 U	20 U	10 U
2-Chloronaphthalene	50 U	50 U	10 U	--	20 U	20 U	10 U
2-Chlorophenol	50 U	50 U	10 U	--	20 U	20 U	50 R
2-Methylnaphthalene	63	35 J	99	--	100	100	18
2-Methylphenol	30 J	49 J	10 U	--	120	120	50 R
2-Nitrophenol	50 U	50 U	10 U	--	20 U	20 U	9.6 L
3- & 4-Methylphenol	64	55	42	--	200 J	220 J	50 R
3,3-Dichlorobenzidine	250 U	250 U	20 U	--	100 U	100 U	50 U
3,3'-Dimethylbenzidine	250 U	250 U	50 U	--	100 U	100 U	50 U
4,6-Dinitro-2-methylphenol	250 U	250 U	50 U	--	100 U	100 U	38 L
4-Bromophenyl phenyl ether	50 U	50 U	10 U	--	20 U	20 U	10 U
4-Chloro-3-methylphenol	50 U	50 U	10 U	--	20 U	20 U	50 R
4-Chlorophenyl phenyl ether	50 U	50 U	10 U	--	20 U	20 U	10 U
4-Nitrophenol	250 U	250 U	50 U	--	100 U	100 U	250 R
Acenaphthene	50 U	50 U	10 U	--	4.9 J	4.9 J	1.3 J
Acenaphthylene	9.5 J	50 U	7.3 J	--	22	23	10 U
Anthracene	50 U	50 U	10 U	--	4.2 J	4.6 J	10 U
Benzo(a)anthracene	50 U	50 U	10 U	--	20 U	20 U	10 U
Benzo(a)pyrene	50 U	50 U	10 U	--	20 U	20 U	10 U
Benzo(b)fluoranthene	50 U	50 U	10 U	--	20 U	20 U	10 U
Benzo(g,h,i)perylene	50 U	50 U	10 U	--	20 U	20 U	10 U
Benzo(k)fluoranthene	50 U	50 U	10 U	--	20 U	20 U	10 U
bis(2-Chloroethoxy)methane	50 U	50 U	10 U	--	20 U	20 U	10 U
bis(2-Chloroethyl)ether	50 U	50 U	10 U	--	20 U	20 U	10 U
bis(2-Ethylhexyl)phthalate	50 U	50 U	6.1 J	--	20 U	20 U	10 U
Butylbenzylphthalate	50 U	50 U	10 U	--	20 U	20 U	10 U
Chrysene	50 U	50 U	10 U	--	20 U	20 U	10 U
Dibenz(a,h)anthracene	50 U	50 U	10 U	--	20 U	20 U	10 U
Dibenzofuran	5.3 J	50 U	5.4 J	--	22	23	13
Diethylphthalate	50 U	50 U	10 U	--	20 U	20 U	10 U
Dimethylphthalate	50 U	50 U	10 U	--	20 U	20 U	10 U
Di-n-butylphthalate	50 U	50 U	10 U	--	20 U	20 U	10 U
Di-n-octylphthalate	50 U	50 U	10 U	--	20 U	20 U	10 U
Fluoranthene	50 U	50 U	10 U	--	5.1 J	5.3 J	4.8 J
Fluorene	50 U	4.3 J	8.6 J	--	23	24	13
Hexachlorobenzene	50 U	50 U	10 U	--	20 U	20 U	10 U
Hexachlorobutadiene	50 U	50 U	10 U	--	20 U	20 U	10 U
Hexachlorocyclopentadiene	250 U	250 U	10 U	--	100 U	100 U	50 U
Hexachloroethane	50 U	50 U	10 U	--	20 U	20 U	10 U
Indeno(1,2,3-cd)pyrene	50 U	50 U	10 U	--	20 U	20 U	10 U
Isophorone	50 U	50 U	10 U	--	20 U	20 U	10 U
Naphthalene	1400	1400	3500	1 U*	2000	1800	340
Nitrobenzene	50 U	50 U	10 U	--	20 U	20 U	10 U
Pentachloroethane	250 U	250 U	50 U	--	100 U	100 U	50 U
Pentachlorophenol	250 U	250 U	50 U	--	100 U	100 U	250 R
Phenanthrene	5.9 J	50 U	10 U	--	29	31	27
Phenol	120	100	50	--	250 J	340 J	50 R
Pyrene	50 U	50 U	10 U	--	3.2 J	3.3 J	10 U
Pyridine	100 U	100 U	20 U	--	31 J	29 J	20 U

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Table D-10
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO10 PZM006 Shallow Summer 2004	CO10 PZM029 Intermediate Fall 2001	CO10 PZM029 Intermediate Summer 2004	CO10 PZM090 Lower Fall 2002	CO10 PZM090 Lower Summer 2004	CO11 PZM007 Shallow Fall 2001	CO12 PZM008 Shallow Fall 2001
1,2,4-Trichlorobenzene	10 U	10 U	10 U	--	11 U	10 U	500 U
1,2-Dichlorobenzene	10 U	10 U	10 U	--	11 U	10 U	500 U
1,3-Dichlorobenzene	10 U	10 U	10 U	--	11 U	10 U	500 U
1,4-Dichlorobenzene	10 U	10 U	10 U	--	11 U	10 U	500 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	--	11 U	10 U	500 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	--	11 U	10 U	500 U
2,4-Dichlorophenol	10 U	10 U	10 U	--	11 U	10 U	500 U
2,4-Dimethylphenol	6.2 J	10 U	16	--	11 U	10 U	500 U
2,4-Dinitrophenol	52 U	50 U	52 U	--	53 U	50 U	2500 U
2,4-Dinitrotoluene	10 U	10 U	10 U	--	11 U	10 U	500 U
2,6-Dinitrotoluene	10 U	10 U	10 U	--	11 U	10 U	500 U
2-Chloronaphthalene	10 U	10 U	10 U	--	11 U	10 U	500 U
2-Chlorophenol	10 U	10 U	10 U	--	11 U	10 U	500 U
2-Methylnaphthalene	22	0.59 J	10 U	--	11 U	10 U	110 J
2-Methylphenol	23	3 J	76	--	11 U	10 U	89 J
2-Nitrophenol	10 U	10 U	10 U	--	11 U	10 U	500 U
3- & 4-Methylphenol	35	10 U	120	--	11 U	10 U	160 J
3,3-Dichlorobenzidine	21 U	50 U	21 U	--	21 U	50 U	2500 U
3,3'-Dimethylbenzidine	52 U	50 U	52 U	--	53 U	50 U	2500 U
4,6-Dinitro-2-methylphenol	52 U	50 U	52 U	--	53 U	50 U	2500 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	--	11 U	10 U	500 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	--	11 U	10 U	500 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	--	11 U	10 U	500 U
4-Nitrophenol	52 U	50 U	52 U	--	53 U	50 U	2500 U
Acenaphthene	10 U	0.77 J	10 U	--	11 U	0.56 J	500 U
Acenaphthylene	8.6 J	10 U	10 U	--	11 U	10 U	500 U
Anthracene	10 U	10 U	10 U	--	11 U	10 U	500 U
Benzo(a)anthracene	10 U	10 U	10 U	--	11 U	10 U	500 U
Benzo(a)pyrene	10 U	10 U	10 U	--	11 U	10 U	500 U
Benzo(b)fluoranthene	10 U	10 U	10 U	--	11 U	10 U	500 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	--	11 U	10 U	500 U
Benzo(k)fluoranthene	10 U	10 U	10 U	--	11 U	10 U	500 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	--	11 U	10 U	500 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	--	11 U	10 U	500 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	--	11 U	10 U	500 U
Butylbenzylphthalate	10 U	10 U	10 U	--	11 U	10 U	500 U
Chrysene	10 U	10 U	10 U	--	11 U	10 U	500 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	--	11 U	10 U	500 U
Dibenzofuran	6.3 J	10 U	10 U	--	11 U	10 U	500 U
Diethylphthalate	10 U	10 U	10 U	--	11 U	10 U	500 U
Dimethylphthalate	10 U	10 U	10 U	--	11 U	10 U	500 U
Di-n-butylphthalate	10 U	10 U	10 U	--	11 U	10 U	500 U
Di-n-octylphthalate	10 U	10 U	10 U	--	11 U	10 U	500 U
Fluoranthene	10 U	10 U	10 U	--	11 U	0.61 J	500 U
Fluorene	5.8 J	10 U	10 U	--	11 U	10 U	26 J
Hexachlorobenzene	10 U	10 U	10 U	--	11 U	10 U	500 U
Hexachlorobutadiene	10 U	10 U	10 U	--	11 U	10 U	500 U
Hexachlorocyclopentadiene	10 U	50 U	10 U	--	11 U	50 U	2500 U
Hexachloroethane	10 U	10 U	10 U	--	11 U	10 U	500 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	--	11 U	10 U	500 U
Isophorone	10 U	10 U	10 U	--	11 U	10 U	500 U
Naphthalene	1100 D	38	280 D	1 U*	11 U	2.1 J	2300
Nitrobenzene	10 U	10 U	10 U	--	11 U	10 U	500 U
Pentachloroethane	52 U	50 U	52 U	--	53 U	50 U	2500 U
Pentachlorophenol	52 U	50 U	52 U	--	53 U	50 U	2500 U
Phenanthrene	16	0.67 J	10 U	--	11 U	0.62 J	500 U
Phenol	7.4 J	10 U	320 D	--	11 U	1.6 J	220 J
Pyrene	10 U	10 U	10 U	--	11 U	10 U	500 U
Pyridine	43	20 U	13	--	21 U	20 U	1000 U

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Table D-10
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO13 PZM008 Shallow Fall 2001	CO13 PZM030 Intermediate Fall 2001	CO15 PZM005 Shallow Fall 2001	CO15 PZM005 DUP Shallow Fall 2001	CO16 PZM006 Shallow Fall 2001	CO17 PZM005 Shallow Fall 2001	CO17 PZM005 Shallow Summer 2004
1,2,4-Trichlorobenzene	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
1,2-Dichlorobenzene	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
1,3-Dichlorobenzene	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
1,4-Dichlorobenzene	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
2,4,5-Trichlorophenol	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
2,4,6-Trichlorophenol	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
2,4-Dichlorophenol	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
2,4-Dimethylphenol	4000 U	500 U	15	21 J	32 J	27 J	10 U
2,4-Dinitrophenol	20000 U	2500 U	50 U	250 U	250 U	500 U	50 U
2,4-Dinitrotoluene	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
2,6-Dinitrotoluene	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
2-Chloronaphthalene	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
2-Chlorophenol	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
2-Methylnaphthalene	2500 J	230 J	24	38 J	23 J	49 J	23
2-Methylphenol	4000 U	500 U	84 J	93 J	64	53 J	10 U
2-Nitrophenol	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
3- & 4-Methylphenol	4000 U	500 U	97 J	110 J	51	110	10 U
3,3-Dichlorobenzidine	20000 U	2500 U	50 U	250 U	250 U	500 U	20 U
3,3'-Dimethylbenzidine	20000 U	2500 U	50 U	250 U	250 U	500 U	50 U
4,6-Dinitro-2-methylphenol	20000 U	2500 U	50 U	250 U	250 U	500 U	50 U
4-Bromophenyl phenyl ether	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
4-Chloro-3-methylphenol	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
4-Chlorophenyl phenyl ether	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
4-Nitrophenol	20000 U	2500 U	50 U	250 U	250 U	500 U	50 U
Acenaphthene	4000 U	500 U	7 J	8 J	11 J	9 J	9.1 J
Acenaphthylene	1900 J	150 J	32	35 J	50 U	100 U	5.6 J
Anthracene	660 J	500 U	7.4 J	9.1 J	50 U	100 U	10 U
Benzo(a)anthracene	700 J	500 U	7.3 J	8.3 J	50 U	100 U	10 U
Benzo(a)pyrene	440 J	500 U	3.6 J	50 U	50 U	100 U	10 U
Benzo(b)fluoranthene	4000 U	500 U	6.1 J	7.6 J	50 U	100 U	10 U
Benzo(g,h,i)perylene	4000 U	500 U	3.9 J	4.3 J	50 U	100 U	10 U
Benzo(k)fluoranthene	460 J	500 U	8.4 J	3.7 J	50 U	100 U	10 U
bis(2-Chloroethoxy)methane	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
bis(2-Chloroethyl)ether	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
bis(2-Ethylhexyl)phthalate	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
Butylbenzylphthalate	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
Chrysene	590 J	500 U	8.5 J	8.2 J	50 U	100 U	10 U
Dibenz(a,h)anthracene	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
Dibenzofuran	900 J	45 J	16	17 J	5.5 J	9.3 J	6.3 J
Diethylphthalate	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
Dimethylphthalate	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
Di-n-butylphthalate	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
Di-n-octylphthalate	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
Fluoranthene	1500 J	500 U	29	29 J	3.4 J	100 U	10 U
Fluorene	1100 J	44 J	19	20 J	8.3 J	18 J	9.3 J
Hexachlorobenzene	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
Hexachlorobutadiene	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
Hexachlorocyclopentadiene	20000 U	2500 U	50 U	250 U	250 U	500 U	10 U
Hexachloroethane	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
Indeno(1,2,3-cd)pyrene	4000 U	500 U	4.6 J	4.2 J	50 U	100 U	10 U
Isophorone	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
Naphthalene	22000	3100	1200	1400	230	1600	640
Nitrobenzene	4000 U	500 U	10 U	50 U	50 U	100 U	10 U
Pentachloroethane	20000 U	2500 U	50 U	250 U	250 U	500 U	50 U
Pentachlorophenol	20000 U	2500 U	50 U	250 U	250 U	500 U	50 U
Phenanthrene	2600 J	46 J	46	48 J	10 J	21 J	16
Phenol	4000 U	500 U	290	370	280	200	11
Pyrene	1100 J	500 U	16	19 J	50 U	100 U	10 U
Pyridine	8000 U	230 J	62	180 J	22 J	200 U	20 U

Table D-10
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO18 PZM006 Shallow Fall 2001	CO18 PZM006 Shallow Summer 2004	CO19 PZM004 Shallow Fall 2001	CO20 PZM004 Shallow Fall 2001	CO21 PZM005 Shallow Fall 2001	CO22 PZM005 Shallow Fall 2001	CO23 PZM008 Shallow Fall 2001
1,2,4-Trichlorobenzene	500 U	10 U	500 U	10 U	10 U	500 U	40 U
1,2-Dichlorobenzene	500 U	10 U	500 U	10 U	10 U	500 U	40 U
1,3-Dichlorobenzene	500 U	10 U	500 U	10 U	10 U	500 U	40 U
1,4-Dichlorobenzene	500 U	10 U	500 U	10 U	10 U	500 U	40 U
2,4,5-Trichlorophenol	500 U	10 U	500 U	10 U	10 U	500 U	40 U
2,4,6-Trichlorophenol	500 U	10 U	500 U	10 U	10 U	500 U	40 U
2,4-Dichlorophenol	500 U	10 U	500 U	10 U	10 U	500 U	40 U
2,4-Dimethylphenol	230 J	180	500 U	27	10 U	500 U	40 U
2,4-Dinitrophenol	2500 U	50 U	2500 U	50 U	50 U	2500 U	200 U
2,4-Dinitrotoluene	500 U	10 U	500 U	10 U	10 U	500 U	40 U
2,6-Dinitrotoluene	500 U	10 U	500 U	10 U	10 U	500 U	40 U
2-Chloronaphthalene	500 U	10 U	500 U	10 U	10 U	500 U	40 U
2-Chlorophenol	500 U	10 U	500 U	10 U	10 U	500 U	40 U
2-Methylnaphthalene	500 U	10 U	81 J	150 J	0.74 J	120 J	30 J
2-Methylphenol	550	460	500 U	19	10 U	500 U	8.9 J
2-Nitrophenol	500 U	10 U	500 U	10 U	10 U	500 U	40 U
3- & 4-Methylphenol	600	370	500 U	24	10 U	500 U	10 J
3,3-Dichlorobenzidine	2500 U	20 U	2500 U	50 U	50 U	2500 U	200 U
3,3'-Dimethylbenzidine	2500 U	50 U	2500 U	50 U	50 U	2500 U	200 U
4,6-Dinitro-2-methylphenol	2500 U	50 U	2500 U	50 U	50 U	2500 U	200 U
4-Bromophenyl phenyl ether	500 U	10 U	500 U	10 U	10 U	500 U	40 U
4-Chloro-3-methylphenol	500 U	10 U	500 U	10 U	10 U	500 U	40 U
4-Chlorophenyl phenyl ether	500 U	10 U	500 U	10 U	10 U	500 U	40 U
4-Nitrophenol	2500 U	50 U	2500 U	50 U	50 U	2500 U	200 U
Acenaphthene	500 U	10 U	500 U	51	10 U	42 J	44
Acenaphthylene	500 U	10 U	500 U	74	10 U	500 U	43
Anthracene	500 U	10 U	500 U	16	1.1 J	500 U	7.9 J
Benzo(a)anthracene	500 U	10 U	500 U	0.87 J	2.9 J	500 U	40 U
Benzo(a)pyrene	500 U	10 UJ	500 U	10 U	1.9 J	500 U	40 U
Benzo(b)fluoranthene	500 U	10 UJ	500 U	10 U	1.9 J	500 U	40 U
Benzo(g,h,i)perylene	500 U	10 UJ	500 U	10 U	1.9 J	500 U	40 U
Benzo(k)fluoranthene	500 U	10 UJ	500 U	10 U	2.2 J	500 U	40 U
bis(2-Chloroethoxy)methane	500 U	10 U	500 U	10 U	10 U	500 U	40 U
bis(2-Chloroethyl)ether	500 U	10 U	500 U	10 U	10 U	500 U	40 U
bis(2-Ethylhexyl)phthalate	500 U	74	500 U	10 U	10 U	500 U	40 U
Butylbenzylphthalate	500 U	10 U	500 U	10 U	10 U	500 U	40 U
Chrysene	500 U	10 U	500 U	10 U	3.2 J	500 U	40 U
Dibenz(a,h)anthracene	500 U	10 UJ	500 U	10 U	10 U	500 U	40 U
Dibenzofuran	500 U	10 U	500 U	84 J	10 U	80 J	52
Diethylphthalate	500 U	10 U	500 U	10 U	10 U	500 U	40 U
Dimethylphthalate	500 U	10 U	500 U	10 U	10 U	500 U	40 U
Di-n-butylphthalate	500 U	10 U	500 U	10 U	10 U	500 U	40 U
Di-n-octylphthalate	500 U	10 UJ	500 U	10 U	10 U	500 U	40 U
Fluoranthene	500 U	10 U	500 U	18	6 J	500 U	12 J
Fluorene	500 U	10 U	500 U	98 J	10 U	84 J	63
Hexachlorobenzene	500 U	10 U	500 U	10 U	10 U	500 U	40 U
Hexachlorobutadiene	500 U	10 U	500 U	10 U	10 U	500 U	40 U
Hexachlorocyclopentadiene	2500 U	10 U	2500 U	50 U	50 U	2500 U	200 U
Hexachloroethane	500 U	10 U	500 U	10 U	10 U	500 U	40 U
Indeno(1,2,3-cd)pyrene	500 U	10 U	500 U	10 U	1.7 J	500 U	40 U
Isophorone	500 U	10 U	500 U	10 U	10 U	500 U	40 U
Naphthalene	190 J	150	4400	1700	2.2 J	2600	1300
Nitrobenzene	500 U	10 U	500 U	10 U	10 U	500 U	40 U
Pentachloroethane	2500 U	50 U	2500 U	50 U	50 U	2500 U	200 U
Pentachlorophenol	2500 U	50 U	2500 U	50 U	50 U	2500 U	200 U
Phenanthrene	500 U	10 U	500 U	140 J	4 J	95 J	89
Phenol	900	390	250 J	22	10 U	500 U	14 J
Pyrene	500 U	10 U	500 U	9.4 J	4.3 J	500 U	6.2 J
Pyridine	1400	1100	1000 U	20 U	20 U	1000 U	80 U

Table D-10
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO24 PZM007 Shallow Fall 2001	CO25 PZM008 Shallow Fall 2001	CO26 PZM007 Shallow Fall 2001	CO26 PZM007 Shallow Summer 2004	CO26 PZM007 DUP Shallow Summer 2004	CO26 PZM032 Intermediate Summer 2004	CO27 PZM012 Shallow Summer 2004
1,2,4-Trichlorobenzene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	2000 U	2500 U	10 U	57	57	10 U	21
2,4-Dinitrophenol	10000 U	12000 U	50 U	52 U	52 U	52 U	50 U
2,4-Dinitrotoluene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	180 J	580 J	10 U	230 D	87 J	10 U	14
2-Methylphenol	2000 U	300 J	10 U	76	75	10 U	31
2-Nitrophenol	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
3- & 4-Methylphenol	2000 U	500 J	10 U	75	75	10 U	29
3,3-Dichlorobenzidine	10000 U	12000 U	50 U	21 U	21 U	21 U	20 U
3,3'-Dimethylbenzidine	10000 U	12000 U	50 U	52 U	52 U	52 U	50 U
4,6-Dinitro-2-methylphenol	10000 U	12000 U	50 U	52 U	52 U	52 U	50 U
4-Bromophenyl phenyl ether	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	10000 U	12000 U	50 U	52 U	52 U	52 U	50 U
Acenaphthene	2000 U	2500 U	10 U	9.3 J	9.9 J	10 U	10 U
Acenaphthylene	2000 U	380 J	10 U	150	160	10 U	10 U
Anthracene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	2000 U	2500 U	0.93 J	10 U	10 U	10 U	10 U
Benzo(a)pyrene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	2000 U	2500 U	10 U	10 U	10 U	9 J	10 U
Butylbenzylphthalate	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Chrysene	2000 U	2500 U	0.88 J	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	2000 U	2500 U	10 U	43	46	10 U	10 U
Diethylphthalate	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	2000 U	2500 U	2.4 J	10 U	10 U	10 U	10 U
Fluorene	2000 U	2500 U	10 U	39	42	10 U	10 U
Hexachlorobenzene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10000 U	12000 U	50 U	10 U	10 U	10 U	10 U
Hexachloroethane	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Isophorone	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	2500	12000	0.86 J	4800 D	5100 D	31	710 D
Nitrobenzene	2000 U	2500 U	10 U	10 U	10 U	10 U	10 U
Pentachloroethane	10000 U	12000 U	50 U	52 U	52 U	52 U	50 U
Pentachlorophenol	10000 U	12000 U	50 U	52 U	52 U	52 U	50 U
Phenanthrene	160 J	2500 U	2.7 J	35	38	10 U	10 U
Phenol	500 J	260 J	10 U	52	51	10 U	11
Pyrene	2000 U	2500 U	1.9 J	10 U	10 U	10 U	10 U
Pyridine	7700	5000 U	20 U	66	57	21 U	20 U

Table D-10
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO27 PZM046 Intermediate Summer 2004	CO27 PZM122 Lower Fall 2002	CO27 PZM122-2 Lower Fall 2002(2)	CO27 PZM122 Lower Summer 2004	CO28 PZM010 Shallow Summer 2004	CO28 PZM048 Intermediate Summer 2004	CO28 PZM125 Lower Summer 2004
1,2,4-Trichlorobenzene	10 U	--	--	10 U	11 U	11 U	11 U
1,2-Dichlorobenzene	10 U	--	--	10 U	11 U	11 U	11 U
1,3-Dichlorobenzene	10 U	--	--	10 U	11 U	11 U	11 U
1,4-Dichlorobenzene	10 U	--	--	10 U	11 U	11 U	11 U
2,4,5-Trichlorophenol	10 U	--	--	10 U	11 U	11 U	11 U
2,4,6-Trichlorophenol	10 U	--	--	10 U	11 U	11 U	11 U
2,4-Dichlorophenol	10 U	--	--	10 U	11 U	11 U	11 U
2,4-Dimethylphenol	69	--	--	10 U	11 U	94	11 U
2,4-Dinitrophenol	50 U	--	--	50 U	54 UJ	54 UJ	53 UJ
2,4-Dinitrotoluene	10 U	--	--	10 U	11 U	11 U	11 U
2,6-Dinitrotoluene	10 U	--	--	10 U	11 U	11 U	11 U
2-Chloronaphthalene	10 U	--	--	10 U	11 U	11 U	11 U
2-Chlorophenol	10 U	--	--	10 U	11 U	11 U	11 U
2-Methylnaphthalene	17	--	--	10 U	11 U	23	11 U
2-Methylphenol	140	--	--	10 U	11 U	420 D	11 U
2-Nitrophenol	10 U	--	--	10 U	11 U	11 U	11 U
3- & 4-Methylphenol	290 D	--	--	10 U	11 U	390 D	11 U
3,3-Dichlorobenzidine	20 U	--	--	20 U	22 UJ	22 UJ	21 UJ
3,3'-Dimethylbenzidine	50 U	--	--	50 U	54 U	54 U	53 U
4,6-Dinitro-2-methylphenol	50 U	--	--	50 U	54 U	54 U	53 U
4-Bromophenyl phenyl ether	10 U	--	--	10 U	11 U	11 U	11 U
4-Chloro-3-methylphenol	10 U	--	--	10 U	11 U	11 U	11 U
4-Chlorophenyl phenyl ether	10 U	--	--	10 U	11 U	11 U	11 U
4-Nitrophenol	50 U	--	--	50 U	54 UJ	54 UJ	53 UJ
Acenaphthene	10 U	--	--	10 U	11 U	11 U	11 U
Acenaphthylene	10 U	--	--	10 U	11 U	20	11 U
Anthracene	10 U	--	--	10 U	11 U	11 U	11 U
Benzo(a)anthracene	10 U	--	--	10 U	11 U	11 U	11 U
Benzo(a)pyrene	10 U	--	--	10 U	11 U	11 U	11 U
Benzo(b)fluoranthene	10 U	--	--	10 U	11 U	11 U	11 U
Benzo(g,h,i)perylene	10 U	--	--	10 U	11 U	11 U	11 U
Benzo(k)fluoranthene	10 U	--	--	10 U	11 U	11 U	11 U
bis(2-Chloroethoxy)methane	10 U	--	--	10 U	11 U	11 U	11 U
bis(2-Chloroethyl)ether	10 U	--	--	10 U	11 U	11 U	11 U
bis(2-Ethylhexyl)phthalate	10 U	--	--	10 U	47	72	10 J
Butylbenzylphthalate	10 U	--	--	10 U	11 U	11 U	11 U
Chrysene	10 U	--	--	10 U	11 U	11 U	11 U
Dibenz(a,h)anthracene	10 U	--	--	10 U	11 U	11 U	11 U
Dibenzofuran	10 U	--	--	10 U	11 U	11 U	11 U
Diethylphthalate	10 U	--	--	10 U	11 U	11 U	11 U
Dimethylphthalate	10 U	--	--	10 U	11 U	11 U	11 U
Di-n-butylphthalate	10 U	--	--	10 U	11 U	11 U	11 U
Di-n-octylphthalate	10 U	--	--	10 U	11 U	11 U	11 U
Fluoranthene	10 U	--	--	10 U	11 U	11 U	11 U
Fluorene	10 U	--	--	10 U	11 U	11 U	11 U
Hexachlorobenzene	10 U	--	--	10 U	11 U	11 U	11 U
Hexachlorobutadiene	10 U	--	--	10 U	11 U	11 U	11 U
Hexachlorocyclopentadiene	10 U	--	--	10 U	11 U	11 U	11 U
Hexachloroethane	10 U	--	--	10 U	11 U	11 U	11 U
Indeno(1,2,3-cd)pyrene	10 U	--	--	10 U	11 U	11 U	11 U
Isophorone	10 U	--	--	10 U	11 U	11 U	11 U
Naphthalene	860 D	1.0 U*	1.0 U*	10 U	150	1900 D	11 U
Nitrobenzene	10 U	--	--	10 U	11 U	11 U	11 U
Pentachloroethane	50 U	--	--	50 U	54 U	54 U	53 U
Pentachlorophenol	50 U	--	--	50 U	54 UJ	54 UJ	53 UJ
Phenanthrene	10 U	--	--	10 U	11 U	11 U	11 U
Phenol	420 D	--	--	10 U	11 U	930 D	11 U
Pyrene	10 U	--	--	10 U	11 U	11 U	11 U
Pyridine	130	--	--	20 U	22 U	160	21 U

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Table D-10
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO29 PZM010 Shallow Summer 2004	CO29 PZM051 Lower Summer 2004	CO30 PZM015 Shallow Summer 2004	CO30 PZM060 Lower Fall 2002	CO30 PZM060-2 Lower Fall 2002(2)	CO30 PZM060 Lower Summer 2004	CO32 PZM004 Shallow Summer 2004
1,2,4-Trichlorobenzene	11 U	11 U	11 U	--	--	11 U	11 U
1,2-Dichlorobenzene	11 U	11 U	11 U	--	--	11 U	11 U
1,3-Dichlorobenzene	11 U	11 U	11 U	--	--	11 U	11 U
1,4-Dichlorobenzene	11 U	11 U	11 U	--	--	11 U	11 U
2,4,5-Trichlorophenol	11 U	11 U	11 U	--	--	11 U	11 U
2,4,6-Trichlorophenol	11 U	11 U	11 U	--	--	11 U	11 U
2,4-Dichlorophenol	11 U	11 U	11 U	--	--	11 U	11 U
2,4-Dimethylphenol	11 U	11 U	30	--	--	11 U	11 U
2,4-Dinitrophenol	54 U	53 U	54 U	--	--	53 U	54 U
2,4-Dinitrotoluene	11 U	11 U	11 U	--	--	11 U	11 U
2,6-Dinitrotoluene	11 U	11 U	11 U	--	--	11 U	11 U
2-Chloronaphthalene	11 U	11 U	11 U	--	--	11 U	11 U
2-Chlorophenol	11 U	11 U	11 U	--	--	11 U	11 U
2-Methylnaphthalene	26	11 U	43	--	--	11 U	11 U
2-Methylphenol	11 U	11 U	42	--	--	11 U	11 U
2-Nitrophenol	11 U	11 U	11 U	--	--	11 U	11 U
3- & 4-Methylphenol	11 U	11 U	36	--	--	11 U	11 U
3,3-Dichlorobenzidine	22 U	21 U	22 U	--	--	21 U	22 U
3,3'-Dimethylbenzidine	54 U	53 U	54 U	--	--	53 U	54 U
4,6-Dinitro-2-methylphenol	54 U	53 U	54 U	--	--	53 U	54 U
4-Bromophenyl phenyl ether	11 U	11 U	11 U	--	--	11 U	11 U
4-Chloro-3-methylphenol	11 U	11 U	11 U	--	--	11 U	11 U
4-Chlorophenyl phenyl ether	11 U	11 U	11 U	--	--	11 U	11 U
4-Nitrophenol	54 U	53 U	54 U	--	--	53 U	54 U
Acenaphthene	11 U	11 U	11 U	--	--	11 U	11 U
Acenaphthylene	10.6 J	11 U	35	--	--	11 U	11 U
Anthracene	11 U	11 U	11 U	--	--	11 U	11 U
Benzo(a)anthracene	11 U	11 U	11 U	--	--	11 U	11 U
Benzo(a)pyrene	11 U	11 U	11 U	--	--	11 U	11 U
Benzo(b)fluoranthene	11 U	11 U	11 U	--	--	11 U	11 U
Benzo(g,h,i)perylene	11 U	11 U	11 U	--	--	11 U	11 U
Benzo(k)fluoranthene	11 U	11 U	11 U	--	--	11 U	11 U
bis(2-Chloroethoxy)methane	11 U	11 U	11 U	--	--	11 U	11 U
bis(2-Chloroethyl)ether	11 U	11 U	11 U	--	--	11 U	11 U
bis(2-Ethylhexyl)phthalate	11 U	21	11 U	--	--	11 U	11 U
Butylbenzylphthalate	11 U	11 U	11 U	--	--	11 U	11 U
Chrysene	11 U	11 U	11 U	--	--	11 U	11 U
Dibenz(a,h)anthracene	11 U	11 U	11 U	--	--	11 U	11 U
Dibenzofuran	11 U	11 U	7.9 J	--	--	11 U	11 U
Diethylphthalate	11 U	11 U	11 U	--	--	11 U	11 U
Dimethylphthalate	11 U	11 U	11 U	--	--	11 U	11 U
Di-n-butylphthalate	11 U	11 U	11 U	--	--	11 U	11 U
Di-n-octylphthalate	11 U	11 U	11 U	--	--	11 U	11 U
Fluoranthene	11 U	11 U	11 U	--	--	11 U	11 U
Fluorene	11 U	11 U	8.7 J	--	--	11 U	11 U
Hexachlorobenzene	11 U	11 U	11 U	--	--	11 U	11 U
Hexachlorobutadiene	11 U	11 U	11 U	--	--	11 U	11 U
Hexachlorocyclopentadiene	11 U	11 U	11 U	--	--	11 U	11 U
Hexachloroethane	11 U	11 U	11 U	--	--	11 U	11 U
Indeno(1,2,3-cd)pyrene	11 U	11 U	11 U	--	--	11 U	11 U
Isophorone	11 U	11 U	11 U	--	--	11 U	11 U
Naphthalene	580 D	11 U	2100 D	1.0 U*	1.0 U*	11 U	140
Nitrobenzene	11 U	11 U	11 U	--	--	11 U	11 U
Pentachloroethane	54 U	53 U	54 U	--	--	53 U	54 U
Pentachlorophenol	54 U	53 U	54 U	--	--	53 U	54 U
Phenanthrene	11 U	11 U	8.7 J	--	--	11 U	11 U
Phenol	11 U	11 U	26	--	--	11 U	11 U
Pyrene	11 U	11 U	11 U	--	--	11 U	11 U
Pyridine	22 U	21 U	21 J	--	--	21 U	22 U

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Table D-10
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

	CO32	CO33	CO35	CO35	SW13	SW13	SW13
	PZM041	PZM141	PZM013	PZM056	PZM003	PZM025	PZM025
	Intermediate	Lower	Shallow	Lower	Shallow	Intermediate	Intermediate
Analyte, ug/L	Summer 2004	Summer 2004	Summer 2004	Summer 2004	Summer 2004	Fall 2002	Summer 2004
1,2,4-Trichlorobenzene	11 U	11 U	10 U	11 U	10 U	--	10 U
1,2-Dichlorobenzene	11 U	11 U	10 U	11 U	10 U	--	10 U
1,3-Dichlorobenzene	11 U	11 U	10 U	11 U	10 U	--	10 U
1,4-Dichlorobenzene	11 U	11 U	10 U	11 U	10 U	--	10 U
2,4,5-Trichlorophenol	11 U	11 U	10 U	11 U	10 U	--	10 U
2,4,6-Trichlorophenol	11 U	11 U	10 U	11 U	10 U	--	10 U
2,4-Dichlorophenol	11 U	11 U	10 U	11 U	10 U	--	10 U
2,4-Dimethylphenol	11 U	11 U	8.5 J	11 U	10 U	--	10 U
2,4-Dinitrophenol	54 U	54 U	51 U	56 U	50 U	--	50 U
2,4-Dinitrotoluene	11 U	11 U	10 U	11 U	10 U	--	10 U
2,6-Dinitrotoluene	11 U	11 U	10 U	11 U	10 U	--	10 U
2-Chloronaphthalene	11 U	11 U	10 U	11 U	10 U	--	10 U
2-Chlorophenol	11 U	11 U	10 U	11 U	10 U	--	10 U
2-Methylnaphthalene	11 U	11 U	21	11 U	10 U	--	10 U
2-Methylphenol	11 U	11 U	18	11 U	10 U	--	10 U
2-Nitrophenol	11 U	11 U	10 U	11 U	10 U	--	10 U
3- & 4-Methylphenol	11 U	11 U	20	11 U	10 U	--	10 U
3,3-Dichlorobenzidine	22 U	22 U	20 U	22 U	20 U	--	20 U
3,3'-Dimethylbenzidine	54 U	54 U	51 U	56 U	50 U	--	50 U
4,6-Dinitro-2-methylphenol	54 U	54 U	51 U	56 U	50 U	--	50 U
4-Bromophenyl phenyl ether	11 U	11 U	10 U	11 U	10 U	--	10 U
4-Chloro-3-methylphenol	11 U	11 U	10 U	11 U	10 U	--	10 U
4-Chlorophenyl phenyl ether	11 U	11 U	10 U	11 U	10 U	--	10 U
4-Nitrophenol	54 U	54 U	51 U	56 U	50 U	--	50 U
Acenaphthene	11 U	11 U	10 U	11 U	10 U	--	10 U
Acenaphthylene	11 U	11 U	9.3 J	11 U	10 U	--	10 U
Anthracene	11 U	11 U	10 U	11 U	10 U	--	10 U
Benzo(a)anthracene	11 U	11 U	10 U	11 U	10 U	--	10 U
Benzo(a)pyrene	11 U	11 U	10 U	11 U	10 U	--	10 U
Benzo(b)fluoranthene	11 U	11 U	10 U	11 U	10 U	--	10 U
Benzo(g,h,i)perylene	11 U	11 U	10 U	11 U	10 U	--	10 U
Benzo(k)fluoranthene	11 U	11 U	10 U	11 U	10 U	--	10 U
bis(2-Chloroethoxy)methane	11 U	11 U	10 U	11 U	10 U	--	10 U
bis(2-Chloroethyl)ether	11 U	11 U	10 U	11 U	10 U	--	10 U
bis(2-Ethylhexyl)phthalate	41	11 U	10 U	11 U	13	--	5.9 J
Butylbenzylphthalate	11 U	11 U	10 U	11 U	10 U	--	10 U
Chrysene	11 U	11 U	10 U	11 U	10 U	--	10 U
Dibenz(a,h)anthracene	11 U	11 U	10 U	11 U	10 U	--	10 U
Dibenzofuran	11 U	11 U	10 U	11 U	10 U	--	10 U
Diethylphthalate	11 U	11 U	10 U	11 U	10 U	--	10 U
Dimethylphthalate	11 U	11 U	10 U	11 U	10 U	--	10 U
Di-n-butylphthalate	11 U	11 U	10 U	11 U	10 U	--	10 U
Di-n-octylphthalate	11 U	11 U	10 U	11 U	10 U	--	10 U
Fluoranthene	11 U	11 U	10 U	11 U	10 U	--	10 U
Fluorene	11 U	11 U	10 U	11 U	10 U	--	10 U
Hexachlorobenzene	11 U	11 U	10 U	11 U	10 U	--	10 U
Hexachlorobutadiene	11 U	11 U	10 U	11 U	10 U	--	10 U
Hexachlorocyclopentadiene	11 U	11 U	10 U	11 U	10 U	--	10 U
Hexachloroethane	11 U	11 U	10 U	11 U	10 U	--	10 U
Indeno(1,2,3-cd)pyrene	11 U	11 U	10 U	11 U	10 U	--	10 U
Isophorone	11 U	11 U	10 U	11 U	10 U	--	10 U
Naphthalene	11 U	11 U	940 D	7.3 J	10 U	1 U*	10 U
Nitrobenzene	11 U	11 U	10 U	11 U	10 U	--	10 U
Pentachloroethane	54 U	54 U	51 U	56 U	50 U	--	50 U
Pentachlorophenol	54 U	54 U	51 U	56 U	50 U	--	50 U
Phenanthrene	11 U	11 U	10 U	11 U	10 U	--	10 U
Phenol	11 U	11 U	19	11 U	10 U	--	10 U
Pyrene	11 U	11 U	10 U	11 U	10 U	--	10 U
Pyridine	22 U	22 U	28	22 U	20 U	--	20 U

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Table D-10
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	SW13 PZM111 Lower Fall 2002	SW13 PZM111 Lower Summer 2004	SW14 PZM004 Shallow Summer 2004	SW14 PZM004 DUP Shallow Summer 2004	SW14 PZM099 Lower Fall 2002	SW14 PZM099 Lower Summer 2004	SW17 PZM007 Shallow Fall 2001
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
1,2-Dichlorobenzene	--	10 U	10 U	10 U	--	10 U	50 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
1,4-Dichlorobenzene	--	10 U	10 U	10 U	--	10 U	50 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	50 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	50 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	50 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U	10 U	45 J
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	250 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	50 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	63
2-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	75
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	50 U
3- & 4-Methylphenol	--	10 U	10 U	10 U	--	10 U	75
3,3-Dichlorobenzidine	20 U	20 U	20 U	20 U	20 U	20 U	250 U
3,3'-Dimethylbenzidine	--	50 U	50 U	50 U	--	50 U	250 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	50 U	50 U	250 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	50 U
4-Chloro-3-methylphenol	20 U	10 U	10 U	10 U	20 U	10 U	50 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	50 U
4-Nitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	250 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U	10 U	4.9 J
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	10 U	37 J
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	50 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	50 U
bis(2-Ethylhexyl)phthalate	10 U	8 J	10 U	10 U	10 U	29 U	50 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U	10 U	8.5 J
Diethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Fluorene	10 U	10 U	10 U	10 U	10 U	10 U	9.7 J
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U	10 U	250 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Naphthalene	10 U	10 U	10 U	10 U	10 U	10 U	2000
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Pentachloroethane	--	50 U	50 U	50 U	--	50 U	250 U
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U	50 U	250 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U	10 U	9 J
Phenol	10 U	10 U	10 U	10 U	10 U	10 U	76
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	50 U
Pyridine	--	20 U	20 U	20 U	--	20 U	42 J

Table D-10
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	SW17 PZM007 Shallow Summer 2004	SW17 PZM038 Intermediate Fall 2001	SW17 PZM038 Intermediate Summer 2004	SW17 PZM113 Lower Fall 2002	SW17 PZM113 Lower Summer 2004	SW18 PZM008 Shallow Fall 2001	SW18 PZM008 Shallow Summer 2004
1,2,4-Trichlorobenzene	10 U	10 U	10 U	--	10 U	100 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	--	10 U	100 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	--	10 U	100 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	--	10 U	100 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	--	10 U	100 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	--	10 U	100 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	--	10 U	100 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	--	10 U	100 U	5.2 J
2,4-Dinitrophenol	50 U	50 U	50 U	--	50 U	500 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	--	10 U	100 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	--	10 U	100 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	--	10 U	100 U	10 U
2-Chlorophenol	10 U	10 U	10 U	--	10 U	100 U	10 U
2-Methylnaphthalene	26	10 U	77	--	10 U	21 J	25
2-Methylphenol	21	10 U	10 U	--	10 U	15 J	10
2-Nitrophenol	10 U	10 U	10 U	--	10 U	100 U	10 U
3- & 4-Methylphenol	12	10 U	10 U	--	10 U	25 J	17
3,3-Dichlorobenzidine	20 U	50 U	20 U	--	20 U	500 U	20 U
3,3'-Dimethylbenzidine	50 U	50 U	50 U	--	50 U	500 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	--	50 U	500 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	--	10 U	100 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	--	10 U	100 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	--	10 U	100 U	10 U
4-Nitrophenol	50 U	50 U	50 U	--	50 U	500 U	50 U
Acenaphthene	10 U	9.3 J	19	--	10 U	100 U	10 U
Acenaphthylene	16	17	74	--	10 U	100 U	10 U
Anthracene	10 U	10 U	10 U	--	10 U	100 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	--	10 U	100 U	10 U
Benzo(a)pyrene	10 UJ	10 U	10 U	--	10 U	100 U	10 UJ
Benzo(b)fluoranthene	10 UJ	10 U	10 U	--	10 U	100 U	10 UJ
Benzo(g,h,i)perylene	10 UJ	10 U	10 U	--	10 U	100 U	10 UJ
Benzo(k)fluoranthene	10 UJ	10 U	10 U	--	10 U	100 U	10 UJ
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	--	10 U	100 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	--	10 U	100 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	6 J	--	10 U	100 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	--	10 U	100 U	10 U
Chrysene	10 U	10 U	10 U	--	10 U	100 U	10 U
Dibenz(a,h)anthracene	10 UJ	10 U	10 U	--	10 U	100 U	10 UJ
Dibenzofuran	10 U	11	27	--	10 U	100 U	10 U
Diethylphthalate	10 U	10 U	10 U	--	10 U	100 U	10 U
Dimethylphthalate	10 U	10 U	10 U	--	10 U	100 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	--	10 U	100 U	10 U
Di-n-octylphthalate	10 UJ	10 U	10 U	--	10 U	100 U	10 UJ
Fluoranthene	10 U	10 U	10 U	--	10 U	100 U	10 U
Fluorene	10 U	1.5 J	6.6 J	--	10 U	100 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	--	10 U	100 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	--	10 U	100 U	10 U
Hexachlorocyclopentadiene	10 U	50 U	10 U	--	10 U	500 U	10 U
Hexachloroethane	10 U	10 U	10 U	--	10 U	100 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	--	10 U	100 U	10 UJ
Isophorone	10 U	10 U	10 U	--	10 U	100 U	10 U
Naphthalene	1200	28	30	1 U*	10 U	750	890 D
Nitrobenzene	10 U	10 U	10 U	--	10 U	100 U	10 U
Pentachloroethane	50 U	50 U	50 U	--	50 U	500 U	50 U
Pentachlorophenol	50 U	50 U	50 U	--	50 U	500 U	50 U
Phenanthrene	10 U	6.4 J	20	--	10 U	100 U	10 U
Phenol	18	36	9.4 J	--	10 U	22 J	10 U
Pyrene	10 U	10 U	10 U	--	10 U	100 U	10 U
Pyridine	20 U	20 U	20 U	--	20 U	200 U	20 U

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Table D-10
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	SW18 PZM008 DUP Shallow Summer 2004	SW18 PZM053 Lower Fall 2001	SW18 PZM114 Lower Fall 2002	SW18 PZM114 Lower Summer 2004	TS05 PPM007 Shallow Summer 2004
1,2,4-Trichlorobenzene	10 U	20 U	--	10 U	10 U
1,2-Dichlorobenzene	10 U	20 U	--	10 U	10 U
1,3-Dichlorobenzene	10 U	20 U	--	10 U	10 U
1,4-Dichlorobenzene	10 U	20 U	--	10 U	10 U
2,4,5-Trichlorophenol	10 U	20 U	--	10 U	10 U
2,4,6-Trichlorophenol	10 U	20 U	--	10 U	10 U
2,4-Dichlorophenol	10 U	20 U	--	10 U	10 U
2,4-Dimethylphenol	10 U	14 J	--	5.9 J	10 U
2,4-Dinitrophenol	50 U	100 U	--	50 U	50 U
2,4-Dinitrotoluene	10 U	20 U	--	10 U	10 U
2,6-Dinitrotoluene	10 U	20 U	--	10 U	10 U
2-Chloronaphthalene	10 U	20 U	--	10 U	10 U
2-Chlorophenol	10 U	20 U	--	10 U	10 U
2-Methylnaphthalene	23	20 U	--	10 U	10 U
2-Methylphenol	9.6 J	56	--	10 U	10 U
2-Nitrophenol	10 U	20 U	--	10 U	10 U
3- & 4-Methylphenol	16	59	--	10 U	10 U
3,3-Dichlorobenzidine	20 U	100 U	--	20 U	20 U
3,3'-Dimethylbenzidine	50 U	100 U	--	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	100 U	--	50 U	50 U
4-Bromophenyl phenyl ether	10 U	20 U	--	10 U	10 U
4-Chloro-3-methylphenol	10 U	20 U	--	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	20 U	--	10 U	10 U
4-Nitrophenol	50 U	100 U	--	50 U	50 U
Acenaphthene	10 U	3.3 J	--	10 U	10 U
Acenaphthylene	10 U	4 J	--	10 U	10 U
Anthracene	10 U	20 U	--	10 U	10 U
Benzo(a)anthracene	10 U	20 U	--	10 U	10 U
Benzo(a)pyrene	10 U	20 U	--	10 U	10 U
Benzo(b)fluoranthene	10 U	20 U	--	10 U	10 U
Benzo(g,h,i)perylene	10 U	20 U	--	10 U	10 U
Benzo(k)fluoranthene	10 U	20 U	--	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	20 U	--	10 U	10 U
bis(2-Chloroethyl)ether	10 U	20 U	--	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	20 U	--	69	10 U
Butylbenzylphthalate	10 U	20 U	--	10 U	10 U
Chrysene	10 U	20 U	--	10 U	10 U
Dibenz(a,h)anthracene	10 U	20 U	--	10 U	10 U
Dibenzofuran	10 U	20 U	--	10 U	10 U
Diethylphthalate	10 U	20 U	--	10 U	10 U
Dimethylphthalate	10 U	20 U	--	10 U	10 U
Di-n-butylphthalate	10 U	20 U	--	10 U	10 U
Di-n-octylphthalate	10 U	20 U	--	10 U	10 U
Fluoranthene	10 U	2 J	--	10 U	10 U
Fluorene	10 U	2.2 J	--	10 U	10 U
Hexachlorobenzene	10 U	20 U	--	10 U	10 U
Hexachlorobutadiene	10 U	20 U	--	10 U	10 U
Hexachlorocyclopentadiene	10 U	100 U	--	10 U	10 U
Hexachloroethane	10 U	20 U	--	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	20 U	--	10 U	10 U
Isophorone	10 U	1.6 J	--	10 U	10 U
Naphthalene	870 D	18 J	940*	14	10 U
Nitrobenzene	10 U	20 U	--	10 U	10 U
Pentachloroethane	50 U	100 U	--	50 U	50 U
Pentachlorophenol	50 U	100 U	--	50 U	50 U
Phenanthrene	10 U	3.2 J	--	10 U	10 U
Phenol	10 U	70	--	10 U	10 U
Pyrene	10 U	20 U	--	10 U	10 U
Pyridine	20 U	13 J	--	15 J	20 U

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Table D-11
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO02 PZM006 Shallow Fall 2001	CO02 PZM006 Shallow Summer 2004	CO02 PZM041 Intermediate Fall 2001	CO02 PZM041 Intermediate Summer 2004	CO03 PZM005 Shallow Fall 2001	CO04 PZM004 Shallow Fall 2001	CO04 PZM048 Intermediate Fall 2001	CO05 PZM006 Shallow Fall 2001	CO06 PZM008 Shallow Fall 2001	CO06 PZM008 DUP Shallow Fall 2001
Antimony, total	4.1 U	2.2 U	4.1 U	2 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
Arsenic, total	9.6 J	5.1 U	8.8 J	5.3	6.7 J	2 U	17.9	62.4	2 U	2 U
Barium, total	34.6 J	50	137 J	45	56.1 J	37.9 J	128 J	40.1 J	18.5 J	17.8 J
Beryllium, total	3.2 J	1 U	3.4 U	1 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Cadmium, total	0.63 U	1 U	0.63 U	1 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U
Chromium, total	1.2 J	9.7 U	5.1	7 U	1.2 J	1.1 U	4 J	1.1 U	1.1 U	1.1 U
Cobalt, total	0.86 U	1 U	2.5 J	1.6 U	0.86 U	0.86 U	8.6 J	2.2 J	0.86 U	0.86 U
Copper, total	0.77 U	2 U	0.77 U	64 U	3.7 J	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U
Iron, total	--	210 U	28400 J	26000	1530	112	72000	--	45 U	77.4 J
Lead, total	1.8 U	0.8 J	146	4.5 U	11.7	1.8 U	1.8 U	1.8 U	1.8 U	2.2 J
Mercury, total	0.054 U	0.2 U	0.054 U	0.2 U	0.054 U	0.054 U	0.072 U	0.054 U	0.074 J	0.054 U
Nickel, total	4.7 J	6.2 U	3.7 J	6.3 U	2.5 J	2.4 U	2.8 J	2.4 U	2.4 U	2.4 U
Selenium, total	3.2 U	5 U	3.2 U	10	3.2 U	5.9	3.2 U	3.2 U	3.2 U	3.2 U
Silver, total	0.83 J	5 U	0.75 U	5 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
Thallium, total	5.7 U	1 U	6.6 J	1 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U
Tin, total	28.8 U	450	28.8 U	310	28.8 U	28.8 U	28.8 U	28.8 U	28.8 U	28.8 U
Vanadium, total	17.4 J	3 J	17.7 J	5 U	5.3 J	1.5 U	8.3 J	78.8	1.5 U	1.5 U
Zinc, total	6.2 J	10 U	325	10 U	33.9	1.5 U	10.5 J	2 U	3.2 U	16.6 J
Alkalinity	--	140000	--	550000	--	--	--	--	--	--
Chloride	--	77000	1060000	980000	60900	182000	2580000	--	66000	63400
Cyanide, amenable	2300 J	--	13 J	--	130 J	1500 J	5 J	4500 J	21 J	16 J
Cyanide, available	--	6.7 L	--	2 UL	--	--	--	--	--	--
Cyanide, total	--	430	--	32	--	--	--	--	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	50 U	--	50 U	--	--	--	--	--	--
Nitrite, as N	--	3 J	--	5 U	--	--	--	--	--	--
Sulfate	--	530000	16300	3300	23200	476000	1000000	--	49900	46400
Sulfide	1000 U	3700 L	1000 U	1000 UL	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U

Table D-11
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO06 PZM039 Intermediate Fall 2001	CO07 PZM008 Shallow Fall 2001	CO07 PZM008 DUP Shallow Fall 2001	CO07 PZM050 Intermediate Fall 2001	CO08 PZM005 Shallow Fall 2000	CO08 PZM005 Shallow Fall 2001	CO08 PZM036 Intermediate Fall 2000	CO08 PZM036 Intermediate Fall 2001	CO08 PZM036 Intermediate Summer 2004	CO08 PZM098 Lower Fall 2000
Antimony, total	4.1 U	4.1 U	4.1 U	4.1	--	4.1 U	--	4.1 U	2.3 U	--
Arsenic, total	21.8	5.4 J	6.2 J	4.4 J	--	3.3 U	--	10.6 U	5 U	--
Barium, total	222	32.7 J	32 J	493	--	209	--	82.6 J	71	--
Beryllium, total	0.4 U	1 U	0.73 J	0.4 U	--	0.4 U	--	0.4 U	1 U	--
Cadmium, total	0.63 U	0.63 U	0.63 U	0.63 U	--	0.63 U	--	0.63 U	1 U	--
Chromium, total	1.1 U	2.4 J	1.1 U	1.9 J	--	1.1 U	--	2.4 J	14 U	--
Cobalt, total	0.86 U	0.86 U	0.86 U	1.6 J	--	0.86 U	--	0.86 U	1 U	--
Copper, total	0.77 U	2.1 J	0.88 U	0.96 U	--	0.77 U	--	0.77 U	4 U	--
Iron, total	61800	1140	318	191000	100 U	--	27000	--	--	90000
Lead, total	1.8 U	24.9	5.9	19.1	--	1.8 U	--	2 J	4.1 U	--
Mercury, total	0.054 U	0.054 U	0.054 U	0.054 U	--	0.054 U	--	0.054 U	0.2 U	--
Nickel, total	2.4 U	2.4 U	4 J	5.5 J	--	2.4 U	--	2.4 U	8.6 U	--
Selenium, total	3.2 U	3.2 U	3.5 J	3.2 U	--	8	--	3.2 U	3 J	--
Silver, total	0.75 U	0.75 U	0.75 U	0.75 U	--	0.75 U	--	0.75 U	5 U	--
Thallium, total	5.7 U	5.7 U	5.7 U	5.7 U	--	5.7 U	--	9.2 J	1 U	--
Tin, total	28.8 U	28.8 U	28.8 U	46.4 J	--	28.8 U	--	28.8 U	770	--
Vanadium, total	14.5 J	461	427	35.2 J	--	1.5 U	--	34.7 J	26	--
Zinc, total	3.9 U	53.4	17.9 J	67.1	--	1.8 J	--	16 J	19 U	--
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	880000	140000	139000	2380000	120000	--	2000000	--	--	360000
Cyanide, amenable	29 J	3600	5100	24	--	62 J	--	6600 J	--	--
Cyanide, available	--	--	--	--	--	--	--	--	1800 K	--
Cyanide, total	--	--	--	--	--	--	--	--	190	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	12600	140000	143000	171000	160000	--	1000000	--	--	150000
Sulfide	1000 U	1000 U	1000 U	1000 U	--	1000 U	--	1000 U	57000 L	--

Table D-11
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO09 PZM007 Shallow Fall 2001	CO09 PZM007 DUP Shallow Fall 2001	CO10 PZM006 Shallow Fall 2000	CO10 PZM006 Shallow Fall 2001	CO10 PZM006 Shallow Summer 2004	CO10 PZM029 Intermediate Fall 2000	CO10 PZM029 Intermediate Fall 2001	CO10 PZM029 Intermediate Summer 2004	CO10 PZM090 Lower Fall 2000	CO10 PZM090 Lower Summer 2004
Antimony, total	4.1 U	4.1 U	--	4.5 J	2.5 U	--	4.1 U	2.2 U	--	2 U
Arsenic, total	3.8 U	2.7 J	--	2.6 U	5 U	--	8 U	10	--	3 J
Barium, total	45.2 J	40.7 J	--	55.1 J	46	--	446	220	--	490
Beryllium, total	1.3 U	1.1 U	--	6	1 U	--	0.4 U	1 U	--	1 U
Cadmium, total	0.63 U	0.63 U	--	0.63 U	0.5 U	--	0.63 U	0.5 U	--	0.5 U
Chromium, total	5	1.2 J	--	4.3 J	9.2 U	--	3.9 J	64	--	9.6 U
Cobalt, total	0.86 U	0.86 U	--	1.8 J	2	--	1.6 J	3.6	--	1
Copper, total	1.3 U	0.77 U	--	0.77 U	2 U	--	1 U	17	--	3.1
Iron, total	1210	389	700	--	--	1600	--	--	35000	--
Lead, total	6	1.9 J	--	1.8 U	1 U	--	1.8 U	16	--	1.6
Mercury, total	0.22	0.19 U	--	0.054 U	0.2 U	--	0.073 U	0.2 U	--	0.2 U
Nickel, total	2.4 U	2.4 U	--	2.4 U	9.5	--	2.4 U	15	--	5.2
Selenium, total	3.8 J	6.6	--	15.3	8.8	--	3.2 U	23	--	7.5
Silver, total	0.75 U	0.75 U	--	0.75 U	5 U	--	0.75 U	5 U	--	5 U
Thallium, total	6.3 J	5.7 U	--	5.7 U	1 U	--	7.3 J	1 U	--	1 U
Tin, total	28.8 U	28.8 U	--	28.8 U	1100	--	28.8 U	970	--	410
Vanadium, total	601 J	558 J	--	2410 J	2300	--	53.4 J	280	--	8.4
Zinc, total	19.5 J	5.4 J	--	1.5 U	5 J	--	36.7	190	--	60
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	185000	192000	50000	--	--	2200000	--	--	760000	--
Cyanide, amenable	11900 J	11800 J	--	45 J	--	--	8 J	--	--	--
Cyanide, available	--	--	--	--	2.6	--	--	8.1	--	9.1 U
Cyanide, total	--	--	--	--	890	--	--	1800	--	10 U
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	333000	332000	310000	--	--	75000	--	--	110000	--
Sulfide	1000 U	1000 U	--	1000 U	1000 UL	--	1000 U	1200 L	--	1000 UL

Table D-11
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO11 PZM007 Shallow Fall 2001	CO12 PZM008 Shallow Fall 2001	CO13 PZM008 Shallow Fall 2001	CO13 PZM030 Intermediate Fall 2001	CO15 PZM005 Shallow Fall 2001	CO15 PZM005 Shallow Summer 2004	CO15 PZM005 DUP Shallow Fall 2001	CO16 PZM006 Shallow Fall 2001	CO17 PZM005 Shallow Fall 2001	CO17 PZM005 Shallow Summer 2004
Antimony, total	4.1 U	4.1 U	4.1 U	4.6 J	6.1 J	2.7 U	4.1 U	4.1 U	4.1 U	2.6 U
Arsenic, total	8.8 J	3.9 J	7.4 J	15.5	22.9 U	5 U	6.7 U	5.9 J	14.7	5 U
Barium, total	19.1 J	29.1 J	43.3 J	54.6 J	107	48	47.8 J	84.7 J	34.6 J	55
Beryllium, total	0.4 U	0.6 U	2.7 U	0.5 U	0.65 U	1 U	0.4 U	1.1 U	0.4 U	1 U
Cadmium, total	0.63 U	0.63 U	0.63 U	0.63 U	12.1	1 U	0.97 J	0.77 J	0.83 J	1 U
Chromium, total	4 J	1.1 U	1.1 U	2.2 U	43	8.1 U	4.1 J	41.5	16.5	9.9 U
Cobalt, total	7.2 J	0.86 U	1.2 J	7.4 J	12.1 U	1 U	0.93 J	1.2 J	0.86 U	1 U
Copper, total	40.6	0.77 U	0.77 U	0.77 U	114	2.3 U	9.9 J	14.3 J	9.5 J	2 U
Iron, total	--	425	1010	75400	--	--	--	--	--	--
Lead, total	1.8 U	1.8 U	1.8 U	2.6 J	3810	4.1 U	331	137	453	16
Mercury, total	0.054 U	0.054 U	0.071 J	0.054 U	0.24 U	0.2 U	0.075 U	0.063 J	0.054 U	0.2 U
Nickel, total	2.5 J	2.5 J	2.4 U	15.7 J	18.3 J	3.8 U	3.1 J	6.2 J	6.7 J	3 U
Selenium, total	3.2 U	3.2 U	7.6	3.8 J	3.2 U	5 U	3.5 J	3.2 U	3.2 U	5 U
Silver, total	0.75 U	0.75 U	0.75 U	0.75 U	2.5 J	5 U	0.75 U	0.75 U	0.95 J	5 U
Thallium, total	5.7 U	5.7 U	5.7 U	8 J	8.3 J	1 U	6.3 J	5.7 U	5.7 U	1 U
Tin, total	28.8 U	28.8 U	28.8 U	28.9 J	28.8 U	220	28.8 U	28.8 U	70.5 J	83
Vanadium, total	45.1 J	340	1330	17.5 J	92.2 J	3 J	8.8 J	538	43 J	5 U
Zinc, total	26.4	1.5 U	2.7 U	19 J	4260	10 U	394	309	233	10 U
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	--	172000	118000	2290000	--	--	--	--	--	--
Cyanide, amenable	2500	1100	130 J	35 J	47 J	--	54 J	330	270	--
Cyanide, available	--	--	--	--	--	--	--	--	--	2 UL
Cyanide, total	--	--	--	--	--	--	--	--	--	58
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	--	460000	1590000	549000	--	--	--	--	--	--
Sulfide	1000 U	1000 U	1000 U	1000 U	1000 U	--	1000 U	1000 U	1000 U	2600 L

Table D-11
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO18 PZM006 Shallow Fall 2001	CO18 PZM006 Shallow Summer 2004	CO19 PZM004 Shallow Fall 2001	CO20 PZM004 Shallow Fall 2001	CO21 PZM005 Shallow Fall 2001	CO22 PZM005 Shallow Fall 2001	CO23 PZM008 Shallow Fall 2001	CO24 PZM007 Shallow Fall 2001	CO25 PZM008 Shallow Fall 2001	CO26 PZM007 Shallow Fall 2001
Antimony, total	4.1 U	2 U	7 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
Arsenic, total	8.7 J	5 U	8.4 J	19.3	5.9 J	5.7 J	5.7 J	5.7 J	5.7 J	5.2 J
Barium, total	56.2 J	25	129 J	22.5 J	51.5 J	69.4 J	29.5 J	54 J	51.9 J	151 J
Beryllium, total	0.43 U	1 U	0.71 U	0.4 U	0.4 U	0.4 U	1.6 U	1.3 U	6.6	0.4 U
Cadmium, total	1.8 J	1 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U
Chromium, total	18.3	9.2 U	2 U	1.1 U	1.4 J	1.1 J	1.1 U	7.5	1.3 J	6.7
Cobalt, total	1.9 J	1.7	0.86 U	0.86 U	0.86 U	2.5 J	0.86 U	32.4 J	0.98 J	0.86 U
Copper, total	26.4	2.4	0.77 U	0.77 U	1.9 U	0.77 U	1 J	3.3 J	0.77 U	0.77 U
Iron, total	--	8300	491	--	326	1060	--	--	--	974
Lead, total	522	18	1.8 U	1.8 U	13.7	1.8 U	3.4	39.2	1.8 U	4.5
Mercury, total	0.29	0.2 U	0.054 U	0.054 U	0.076 U	0.071 J	0.054 U	0.086 J	0.054 U	0.054 U
Nickel, total	12.5 J	15 U	5.6 J	5.2 J	5.2 J	2.9 J	2.8 J	3 J	2.4 U	2.4 U
Selenium, total	3.2 U	5 U	3.2 U	4.7 J	3.2 U	3.2 U	3.2 U	4.8 U	7.9	3.2 U
Silver, total	0.75 U	5 U	0.75 U	0.75 U	0.75 U	0.83 J	0.75 U	0.75 U	0.75 U	0.75 U
Thallium, total	5.7 U	1 U	7.4 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U	5.7 U
Tin, total	28.8 U	1500	28.8 U	28.8 U	28.8 U	28.8 U	28.8 U	28.8 U	33.1 J	28.8 U
Vanadium, total	31 J	5 U	17.2 J	11.7 J	5.4 J	4.2 J	805	659	3370	252
Zinc, total	1410	47 J	4.6 J	2.5 U	12.5 J	4.4 U	7.8 U	37.8	14.6 J	6 U
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	--	--	65700	--	142000	309000	--	--	--	183000
Cyanide, amenable	35	--	10800	360 J	21 J	4300 J	3400 J	91	520 J	150 J
Cyanide, available	--	2 UL	--	--	--	--	--	--	--	--
Cyanide, total	--	350	--	--	--	--	--	--	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	119000	--	776000	61300	--	--	--	683000
Sulfide	1000 U	3200 L	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U

Table D-11
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO26 PZM007 Shallow Summer 2004	CO26 PZM007 DUP Shallow Summer 2004	CO26 PZM032 Intermediate Summer 2004	CO27 PZM012 Shallow Summer 2004	CO27 PZM046 Intermediate Summer 2004	CO27 PZM122 Lower Summer 2004	CO28 PZM010 Shallow Summer 2004	CO28 PZM048 Intermediate Summer 2004	CO28 PZM125 Lower Summer 2004	CO29 PZM010 Shallow Summer 2004
Antimony, total	2 U	2 U	5.5	2 U	2 U	2 U	8.4 U	8.8 U	4.7 U	4.2 U
Arsenic, total	5 U	5 U	14	5 U	87	5 U	5 U	190	7.6	5 U
Barium, total	69	68	93	48	7.7	230	15	60	150	280
Beryllium, total	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.3	1 U
Cadmium, total	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Chromium, total	9.3 U	10 U	5.8 U	9.5 U	8.4 U	6.6 U	7.3 U	7.8 U	50	9.5 U
Cobalt, total	1.9	1.9	3	0.7 U	1 U	1 U	0.6 J	0.7 J	25	1 J
Copper, total	2 U	2 U	14	2.4	2 U	8.4	2 U	2.9	25	5.1
Iron, total	--	--	--	140	170	72000	100 U	90 J	21000	--
Lead, total	1 U	1 U	1 U	2.2 U	1 U	1.2 U	1 U	0.7 J	12	1 U
Mercury, total	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel, total	16	16	20	8.7 U	4.2 U	2.9 U	3.9	5.4	33	14
Selenium, total	5 U	5 U	48	5 U	5 U	5 U	5 U	5.7	5 U	5 U
Silver, total	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Thallium, total	1 U	1 U	1 U	1 U	1 U	1 U	0.6 J	1 U	1 U	0.6 J
Tin, total	1500	1500	1300	550	260	110	110 K	390 K	170 K	1300 J
Vanadium, total	330	320	5 U	5 U	5 U	5 U	19	18	69	14
Zinc, total	10 U	10 U	10 U	10	10 U	20	10 U	10 U	140	10 U
Alkalinity	--	--	--	92000	82000	45000	--	--	--	--
Chloride	--	--	--	380000	360000	310000	--	--	--	--
Cyanide, amenable	--	--	--	--	--	--	--	--	--	--
Cyanide, available	2 U	1 J	2 U	350	2 U	2 U	2 U	2 U	2 U	2 U
Cyanide, total	550	560	47	450	550	2.8	1 U	1000	5.1	50
Methane	--	--	--	2000 J	4800	6600 J	--	--	--	--
Nitrate, as N	--	--	--	50 U	40 J	50 U	--	--	--	--
Nitrite, as N	--	--	--	5 U	5 U	4 J	--	--	--	--
Sulfate	--	--	--	570000	270000	4300	--	--	--	--
Sulfide	2200 L	--	1000 UL	24000 J	16000 J	1000 UJ	1000 UL	2300 L	3200 L	1400 L

Table D-11
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO29 PZM051 Lower Summer 2004	CO30 PZM015 Shallow Summer 2004	CO30 PZM060 Lower Summer 2004	CO32 PZM004 Shallow Fall 2000	CO32 PZM004 Shallow Summer 2004	CO32 PZM041 Intermediate Summer 2004	CO33 PZM141 Lower Summer 2004	CO35 PZM013 Shallow Summer 2004	CO35 PZM056 Lower Summer 2004	SW13 PZM003 Shallow Fall 2000
Antimony, total	4.1 U	2.6 U	2.9 U	--	3.3 U	2.4 U	2.3 U	2.1	2.3	--
Arsenic, total	10	5 U	7.9	--	5 U	7.1	5 U	5 U	9	--
Barium, total	210	130	280	--	67	400	150	65	210	--
Beryllium, total	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	--
Cadmium, total	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--
Chromium, total	7.4 U	8.4 U	6.2 U	--	13 U	5.2 U	5.6 U	8.6 U	34 U	--
Cobalt, total	1	0.7 J	1.1	--	0.8 J	0.9 J	1 U	0.8 J	1.9	--
Copper, total	11	2 U	7.4	--	3	7.5	2.8	2.3	14	--
Iron, total	--	--	--	2900	--	--	--	--	--	1600
Lead, total	1 U	1 U	1 U	--	0.7 J	0.5 J	1 U	1	50	--
Mercury, total	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--
Nickel, total	17	11	9.9	--	9.2	7.5	2.9	13	14	--
Selenium, total	30	3 J	20	--	4 J	21	6.4	5 J	22	--
Silver, total	5 U	5 U	5 U	--	5 U	5 U	5 U	5 U	5 U	--
Thallium, total	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	--
Tin, total	1200	800	520	--	700	180	90	740	1100	--
Vanadium, total	5 U	18	5 U	--	220	5 U	5 U	5 U	69	--
Zinc, total	10 U	10 U	10 U	--	10 U	10 U	10 U	10 U	44	--
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	780000	--	--	--	--	--	43000
Cyanide, amenable	--	--	--	--	--	--	--	--	--	--
Cyanide, available	2 U	2 U	2 U	--	2 U	2.3 U	2 U	2 U	2 U	--
Cyanide, total	10	140	11	--	95	5.1 U	8.7	670	15	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	400000	--	--	--	--	--	320000
Sulfide	1200 L	1700 L	1000 UL	--	1100 L	1000 UL	1800 L	5200 L	1400 L	--

Table D-11
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	SW13 PZM003 Shallow Summer 2004	SW13 PZM025 Intermediate Fall 2000	SW13 PZM025 Intermediate Summer 2004	SW13 PZM111 Lower Fall 2000	SW13 PZM111 Lower Summer 2004	SW14 PZM004 Shallow Fall 2000	SW14 PZM004 Shallow Summer 2004	SW14 PZM004 DUP Shallow Summer 2004	SW14 PZM099 Lower Fall 2000	SW14 PZM099 Lower Summer 2004
Antimony, total	2 U	--	3.1 U	--	2 U	--	2.9 U	2	--	2 U
Arsenic, total	5 J	--	8.5	--	4 J	--	5 U	5 U	--	5 U
Barium, total	80	--	110	--	65	--	51	52	--	150 J
Beryllium, total	1 U	--	1 U	--	1 U	--	0.7 U	0.7 U	--	1 U
Cadmium, total	1 U	--	1 U	--	1 U	--	1 U	1 U	--	1 U
Chromium, total	23 U	--	5.4 U	--	18 U	--	6.3 U	7.7 U	--	7.9 U
Cobalt, total	1 U	--	5.7	--	0.6 J	--	30	30	--	0.6 J
Copper, total	6.8	--	4.2 J	--	7.7	--	2.6	2.8	--	2 U
Iron, total	2200	54000	45000	100000	1600	6500	4000	4400	27000	26000
Lead, total	7.2 U	--	1 UJ	--	8.7	--	1 U	1 U	--	1 J
Mercury, total	0.2 U	--	0.2 U	--	0.2 U	--	0.2 U	0.2 U	--	0.2 U
Nickel, total	3.2 U	--	12 U	--	8.1 U	--	40	40	--	2.8 U
Selenium, total	5 U	--	9	--	5 J	--	5 U	5 U	--	5 U
Silver, total	5 U	--	5 U	--	5 U	--	5 U	5 U	--	5 U
Thallium, total	1 U	--	1 U	--	1 U	--	1 U	1 U	--	0.7 J
Tin, total	220	--	530	--	450	--	210	240	--	140 K
Vanadium, total	30	--	5 U	--	17	--	5 U	5 U	--	5 U
Zinc, total	50	--	10 UJ	--	54	--	130	140	--	10 U
Alkalinity	120000	--	160000	--	210000	--	--	--	--	--
Chloride	20000	840000	980000	580000	280000	520000	--	--	200000	--
Cyanide, amenable	--	--	--	--	--	--	--	--	--	--
Cyanide, available	2 U	--	2 UL	--	2 UL	--	2 U	2 U	--	2 U
Cyanide, total	120	--	4.1	--	75	--	30	29	--	1 U
Methane	3.9 U	--	--	--	--	--	--	--	--	--
Nitrate, as N	1000	--	50 U	--	50 U	--	--	--	--	--
Nitrite, as N	20	--	5 U	--	5 U	--	--	--	--	--
Sulfate	99000	110000	94000	110000	18000	610000	--	--	31000	--
Sulfide	1000 UJ	--	1000 UL	--	1000 UL	--	1000 UJ	1000 UJ	--	1000 UL

Table D-11
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	SW17 PZM007 Shallow Fall 2000	SW17 PZM007 Shallow Fall 2001	SW17 PZM007 Shallow Summer 2004	SW17 PZM038 Intermediate Fall 2000	SW17 PZM038 Intermediate Fall 2001	SW17 PZM038 Intermediate Summer 2004	SW17 PZM113 Lower Fall 2000	SW17 PZM113 Lower Summer 2004	SW18 PZM008 Shallow Fall 2000	SW18 PZM008 Shallow Fall 2001
Antimony, total	--	4.1 U	2 U	--	4.1 U	2 U	--	2.3 U	--	4.1 U
Arsenic, total	--	2 U	3 J	--	194	180	--	26	--	4.6 J
Barium, total	--	69.9 J	110	--	136 J	110	--	85	--	74.5 J
Beryllium, total	--	0.4 U	1 U	--	0.4 U	1 U	--	1 U	--	0.4 U
Cadmium, total	--	0.63 U	1 U	--	0.63 U	1 U	--	1 U	--	0.63 U
Chromium, total	--	1.1 U	11 U	--	1.5 J	10 U	--	8.5 U	--	1.1 U
Cobalt, total	--	0.86 U	0.7 J	--	1.1 J	0.8 J	--	1.3	--	0.86 U
Copper, total	--	0.77 U	3.4	--	0.77 U	7.3	--	120	--	0.77 U
Iron, total	200	--	100 U	600	--	3200	3700	9500	500	--
Lead, total	--	1.8 U	1 U	--	1.8 U	1 U	--	1 U	--	1.8 U
Mercury, total	--	0.054 U	0.2 U	--	0.054 U	0.2 U	--	0.2 U	--	0.054 U
Nickel, total	--	6.5 J	14 U	--	2.4 U	8 U	--	1800	--	6.7 J
Selenium, total	--	3.2 U	4 J	--	3.2 U	16	--	41	--	3.3 J
Silver, total	--	0.75 U	5 U	--	0.75 U	5 U	--	5 U	--	0.75 U
Thallium, total	--	5.7 U	1 U	--	8.6 J	1 U	--	1 U	--	5.7 U
Tin, total	--	48.1 J	600	--	28.8 U	150	--	350	--	28.8 U
Vanadium, total	--	39.1 J	19	--	17.3 J	5 U	--	5 U	--	72.6
Zinc, total	--	1.5 U	10 U	--	1.5 U	10 U	--	10 U	--	1.5 U
Alkalinity	--	--	520000	--	--	420000	--	500000	--	--
Chloride	120000	--	66000	3000000	--	3000000	4100000	4500000	130000	--
Cyanide, amenable	--	5400 J	--	--	66 J	--	--	--	--	1700
Cyanide, available	--	--	2 UL	--	--	12 L	--	2 UL	--	--
Cyanide, total	--	--	99	--	--	1000	--	17 U	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	50 U	--	--	50 U	--	50 U	--	--
Nitrite, as N	--	--	5 U	--	--	5 U	--	5 U	--	--
Sulfate	62000	--	120000	42000	--	35000	110000	150000	130000	--
Sulfide	--	1000 U	4400 L	--	1000 U	1000 L	--	1000 UL	--	5600

Table D-11
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	SW18 PZM008 Shallow Summer 2004	SW18 PZM008 DUP Shallow Summer 2004	SW18 PZM053 Lower Fall 2000	SW18 PZM053 Lower Fall 2001	SW18 PZM114 Lower Fall 2000	SW18 PZM114 Lower Summer 2004	TS05 PDM004 Shallow Fall 2000	TS05 PPM007 Shallow Fall 2000	TS05 PPM007 Shallow Summer 2004
Antimony, total	2 U	2 U	--	4.1 U	--	2 U	--	--	5.1 U
Arsenic, total	5 U	5 U	--	40	--	3 J	--	--	5 U
Barium, total	70	67	--	340	--	310	--	--	99
Beryllium, total	1 U	1 U	--	0.4 U	--	1 U	--	--	1 U
Cadmium, total	1 U	1 U	--	0.63 U	--	1 U	--	--	1 U
Chromium, total	7.8 U	8.5 U	--	1.1 U	--	9.6 U	--	--	5.7 U
Cobalt, total	1 J	0.9 J	--	0.86 U	--	1.6 U	--	--	1 U
Copper, total	2 U	2 U	--	1.2 J	--	2 U	--	--	2 U
Iron, total	100 U	100 U	77000	--	97000	--	100 U	100 U	--
Lead, total	0.8 J	0.8 J	--	1.8 U	--	1.2 U	--	--	1 U
Mercury, total	0.2 U	0.2 U	--	0.063 J	--	0.2 U	--	--	0.2 U
Nickel, total	14	14	--	2.6 J	--	23	--	--	8.3 U
Selenium, total	5 U	5 U	--	3.2 U	--	6.3	--	--	5 U
Silver, total	5 U	5 U	--	0.75 U	--	5 U	--	--	5 U
Thallium, total	1 U	1 U	--	5.7 U	--	1 U	--	--	0.7 J
Tin, total	740	710	--	28.8 U	--	1100	--	--	380
Vanadium, total	110	110	--	56.5	--	5 U	--	--	5.2
Zinc, total	10 U	10 U	--	3.1 J	--	10 U	--	--	10 U
Alkalinity	--	--	--	--	--	--	--	--	--
Chloride	--	--	520000	--	1200000	--	110000	64000	--
Cyanide, amenable	--	--	--	440	--	--	--	--	--
Cyanide, available	2 U	2 U	--	--	--	2 UL	--	--	2.2
Cyanide, total	280	290	--	--	--	590	--	--	11
Methane	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--
Sulfate	--	--	380000	--	42000	--	100000	280000	--
Sulfide	2100 L	--	--	1000 U	--	3500 L	--	--	1400 L

Table D-12
Dissolved Metals in Groundwater, Summer 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO02 PZM006 Shallow Summer 2004	CO02 PZM041 Intermediate Summer 2004	CO08 PZM036 Intermediate Summer 2004	CO10 PZM006 Shallow Summer 2004	CO10 PZM029 Intermediate Summer 2004	CO10 PZM090 Lower Summer 2004	CO15 PZM005 Shallow Summer 2004	CO17 PZM005 Shallow Summer 2004	CO18 PZM006 Shallow Summer 2004	CO26 PZM007 Shallow Summer 2004
Antimony, dissolved	2 U	2 U	2 U	2.4 U	2 U	2 U	2.4 U	2.4 U	3 U	2 U
Arsenic, dissolved	3 J	5 J	5 U	5 U	7.5	3 J	5 U	5 U	5 U	5 U
Barium, dissolved	50	46	69	45	180	480	47	55	24	67
Beryllium, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium, dissolved	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	0.5 U
Chromium, dissolved	9.9 U	2 U	9.1 U	11 U	7.6 U	5.7 U	9 U	10 U	1.1 U	10 U
Cobalt, dissolved	1 U	1.6 U	1 U	1.9	2.3	0.9 J	1 U	1 U	1.6	1.8
Copper, dissolved	2.3 U	4.6 U	2 U	2 U	5.3	2.3	2 U	2 U	2.1	2 U
Iron, dissolved	--	--	--	--	--	--	--	--	--	--
Lead, dissolved	0.9 J	1 U	1 U	1 U	1 U	1 U	1 U	3.8 U	1 U	1 U
Mercury, dissolved	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel, dissolved	6.2 U	6.2 U	9 U	11	11	4.5	4 U	2.9 U	14 U	16
Selenium, dissolved	5 U	9.3	3 J	6.4	23	7.5	5 U	5 U	5 U	5 U
Silver, dissolved	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Thallium, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tin, dissolved	420	300	740	1100	770	400	230	99	1500	1500
Vanadium, dissolved	5 U	5 U	16	2200	170	5 U	5 J	5 U	5 U	300
Zinc, dissolved	10 U	10 U	10 U	10 U	10 U	18	10 U	10 U	9 J	10 U

Table D-12
Dissolved Metals in Groundwater, Summer 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO26 PZM007 DUP Shallow Summer 2004	CO26 PZM032 Intermediate Summer 2004	CO27 PZM012 Shallow Summer 2004	CO27 PZM046 Intermediate Summer 2004	CO27 PZM122 Lower Summer 2004	CO28 PZM010 Shallow Summer 2004	CO28 PZM048 Intermediate Summer 2004	CO28 PZM125 Lower Summer 2004	CO29 PZM010 Shallow Summer 2004	CO29 PZM051 Lower Summer 2004
Antimony, dissolved	5.6	3.3 U	2 U	2.1 U	2 U	8.3 U	5.7 U	4.1 U	3.6 U	3.9 U
Arsenic, dissolved	5 U	10	5 U	98	5 U	5 U	230	5 U	5 U	9.8
Barium, dissolved	70	93	33	6.9	240	15	59	38	280	200
Beryllium, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium, dissolved	0.5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U
Chromium, dissolved	9.3 U	5.3 U	9.7 U	9.2 U	6.7 U	6.6 U	7.3 U	8 U	11 U	6.9 U
Cobalt, dissolved	1.8	2.9	0.6 J	1 U	1 U	0.5 J	0.6 J	1 U	1	1 J
Copper, dissolved	2 U	13	2.2	2 U	2 U	2.2	2.4	2 U	2 U	10
Iron, dissolved	--	--	--	--	--	100 U	140	90 J	--	--
Lead, dissolved	1 U	1 U	1.3 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Mercury, dissolved	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel, dissolved	16	19	8.3 U	4.4 U	2 U	3.6	5.4	2.1	15	17
Selenium, dissolved	5 U	47	5 U	5 U	5 U	5 U	6.1	5 U	3 J	32
Silver, dissolved	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Thallium, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tin, dissolved	1600	1200	550	250	110	110 K	370 K	160 K	1500	1200
Vanadium, dissolved	310	5 U	5 U	4 J	5 U	19	13	3 J	13	5 U
Zinc, dissolved	10 U	10 U	10 U	10 U	10 U	10 U	34	10 U	10 U	10 U

Table D-12
Dissolved Metals in Groundwater, Summer 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CO30 PZM015 Shallow Summer 2004	CO30 PZM060 Lower Summer 2004	CO32 PZM004 Shallow Summer 2004	CO32 PZM041 Intermediate Summer 2004	CO33 PZM141 Lower Summer 2004	CO35 PZM013 Shallow Summer 2004	CO35 PZM056 Lower Summer 2004	SW13 PZM003 Shallow Summer 2004	SW13 PZM025 Intermediate Summer 2004	SW13 PZM111 Lower Summer 2004
Antimony, dissolved	2.8 U	2.7 U	2.7 U	2.1 U	4.3 U	2 U	2 U	2 U	2.7 U	2 U
Arsenic, dissolved	5 U	6.6	5 U	7.4	5 U	5 U	9.3	5 U	10	3 J
Barium, dissolved	120	260	64	390	50	51	180	60	100	61
Beryllium, dissolved	1 U	1 U	1 U	1 U	1.1	1 U	1 U	1 U	1 U	1 U
Cadmium, dissolved	0.5 U	0.5 U	0.5 U	0.5 U	0.3 J	0.5 U	0.5 U	1 U	1 U	1 U
Chromium, dissolved	9.2 U	6.2 U	13 U	4.5 U	5.3 U	9.8 U	7.6 U	17 U	5.6 U	11 U
Cobalt, dissolved	1.2	0.8 J	0.7 J	1 U	36	0.7 J	1 J	1 U	5.6	1 U
Copper, dissolved	2 U	7.7	2.8	7.1	2.7	2 U	6.1	2 J	3.5	2 U
Iron, dissolved	--	--	--	--	--	--	--	--	--	--
Lead, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U
Mercury, dissolved	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel, dissolved	10	10	8.1	6.7	47	9.9	12	2.2 U	11 U	7.8 U
Selenium, dissolved	5 U	22	4 J	22	3 J	5 U	24	5 U	8.3	4 J
Silver, dissolved	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Thallium, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tin, dissolved	710	540	690	190	100	770	1000	170	560	430
Vanadium, dissolved	19	5 U	210	5 U	5 U	5 U	5 U	20	5 U	11
Zinc, dissolved	10 U	10 U	10 U	10 U	150	10 U	10 U	10	10 U	10 U

Table D-12
Dissolved Metals in Groundwater, Summer 2004
Release Site Characterization and Nature & Extent Investigation
Coke Oven Area SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	SW14 PZM004 Shallow Summer 2004	SW14 PZM004 DUP Shallow Summer 2004	SW14 PZM099 Lower Summer 2004	SW17 PZM007 Shallow Summer 2004	SW17 PZM038 Intermediate Summer 2004	SW17 PZM113 Lower Summer 2004	SW18 PZM008 Shallow Summer 2004	SW18 PZM008 DUP Shallow Summer 2004	SW18 PZM114 Lower Summer 2004	TS05 PPM007 Shallow Summer 2004
Antimony, dissolved	2 U	2	2.9 U	2 U	2 U	2 U	2 U	2 U	3.5 U	6.9 U
Arsenic, dissolved	5 U	5 U	5 U	5 U	180	25	5 U	5 U	3 J	5 U
Barium, dissolved	51	51	140 J	110	110	81	68	67	320	100
Beryllium, dissolved	0.9 J	1 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium, dissolved	7.3 U	7.5 U	5.6 U	10 U	9.1 U	7.3 U	7.7 U	8.5 U	7.6 U	8 U
Cobalt, dissolved	30	30	1 U	0.7 J	0.7 J	1.1	0.9 J	0.9 J	1 U	1 U
Copper, dissolved	3.1	2.9	2 U	3.5	8	31	2 U	2 U	2 U	2 U
Iron, dissolved	--	--	--	--	--	--	--	--	--	--
Lead, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	0.7 J	1 U	1 U	1 U
Mercury, dissolved	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel, dissolved	40	40	2 U	15 U	7.9 U	12 U	14	14	23	7.7 U
Selenium, dissolved	5 U	5 U	5 U	5 U	18	40	5 U	5 U	6.6	5 U
Silver, dissolved	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Thallium, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tin, dissolved	230	250	140 K	610	150	320	700	710	1100	410
Vanadium, dissolved	5 U	5 U	5 U	20	5 U	5 U	110	110	5 U	3 J
Zinc, dissolved	140	150	5 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table D-13
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CP02 PZM007 Shallow Fall 2001	CP02 PZM026 Intermediate Fall 2001	CP03 PZM008 Shallow Fall 2001	CP03 PZM025 Intermediate Fall 2001	CP05 PZM008 Shallow Fall 2001	CP05 PZM019 Shallow Fall 2001	CP05 PZM028 Intermediate Fall 2001	CP05 PZM028 Intermediate Summer 2004	CP05 PZM128 Lower Summer 2004	CP06 PZM009 Shallow Fall 2001
1,1,1,2-Tetrachloroethane	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
1,1,1-Trichloroethane	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
1,1,2,2-Tetrachloroethane	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
1,1,2-Trichloroethane	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
1,1-Dichloroethane	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
1,1-Dichloroethene	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
1,2-Dichloroethane	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
1,2-Dichloropropane	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
2-Butanone	5 U	5 U	10 UJ	5 U	9.1	7.4	25 U	5.9 U	7.6 U	53
2-Hexanone	5 U	5 U	10 UJ	5 U	5 U	0.61 J	25 U	5 U	5 U	2.4 J
4-Methyl-2-pentanone	5 U	5 U	10 UJ	5 U	5 U	1.2 J	25 U	5 U	5 U	10 U
Acetone	43	100	20 UJ	53	69	58	50 U	31 U	18 U	220
Benzene	4.6	1 U	43 J	0.29 J	18	62	120	150	1 U	20
Bromoform	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	2.6	1 U	2 U
Carbon disulfide	1 U	1 U	2 UJ	1 U	1.9	1.2	5 U	1 U	1 U	2 U
Carbon tetrachloride	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
Chlorobenzene	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
Chloroethane	2 UJ	2 UJ	4 UJ	2 U	2 U	2 U	10 U	1 U	1 U	4 U
Chloroform	1 U	0.36 J	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
cis-1,3-Dichloropropene	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
Ethylbenzene	0.37 J	1 U	2 UJ	1 U	0.53 J	1.3	5 U	2.7	1 U	0.61 J
Methylene chloride	2 U	2 U	4 UJ	2 U	2 U	2 U	10 U	1.9 U	2.9 U	4 U
Tetrachloroethene	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
Toluene	3.4	1 U	33 J	0.72 J	2.4	9.9	6.6	50	0.7 J	11
trans-1,2-Dichloroethene	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
trans-1,3-Dichloropropene	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
Trichloroethene	1 U	1 U	2 UJ	1 U	1 U	1 U	5 U	1 U	1 U	2 U
Vinyl chloride	2 U	2 U	4 UJ	2 U	2 U	2 U	10 U	1 U	1 U	4 U
Xylene, total	3.1	3 U	45 J	3 U	3.3	10	15 U	28	1 U	2.9 J

Table D-13
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CP07 PZM006 Shallow Fall 2001	CP07 PZM026 Intermediate Fall 2001	CP08 PZM008 Shallow Fall 2001	CP08 PZM008 Shallow Summer 2004	CP08 PZM008 DUP Shallow Fall 2001	CP08 PZM034 Intermediate Fall 2001	CP08 PZM034 Intermediate Summer 2004	CP09 PZM010 Shallow Fall 2001	CP09 PZM010 Shallow Summer 2004	CP09 PZM047 Intermediate Fall 2001
1,1,1,2-Tetrachloroethane	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	1 U	1 U
2-Butanone	250 U	5 U	3200 U	250 U	3200 U	500 U	5 U	9	19 U	5 U
2-Hexanone	250 U	5 U	3200 U	250 U	3200 U	500 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	250 U	5 U	3200 U	250 U	3200 U	500 U	5 U	1.1 J	5 U	5 U
Acetone	500 U	10 U	6500 U	250 U	6500 U	5600	4 J	120	230	250
Benzene	1800	4.4	14000	12000 D	14000	100 U	1 U	15	4	0.65 J
Bromoform	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	2.8	1 U
Carbon disulfide	50 U	1 U	650 U	50 U	650 U	100 U	1 U	2.1	1 U	1 U
Carbon tetrachloride	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	1 U	1 U
Chlorobenzene	50 U	1 U	650 U	50 UL	650 U	100 U	1 UL	1 U	1 U	1 U
Chloroethane	100 U	2 U	1300 U	50 U	1300 U	200 U	1 U	2 U	1 U	2 U
Chloroform	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	1 U	1 U
Ethylbenzene	50 U	1 U	650 U	58	650 U	100 U	1 U	0.37 J	1 U	1 U
Methylene chloride	100 U	2 U	1300 U	150 U	1300 U	200 U	2 U	2 U	2 U	2 U
Tetrachloroethene	50 U	1 U	650 U	50 UL	650 U	100 U	1 UL	1 U	1 U	1 U
Toluene	97	0.36 J	3800	3700	3600	100 U	1 U	3.3	1.8	0.5 J
trans-1,2-Dichloroethene	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	50 U	1 U	650 U	50 U	650 U	100 U	1 U	1 U	1 U	1 U
Trichloroethene	50 U	1 U	650 U	50 UL	650 U	100 U	1 UL	1 U	1 U	1 U
Vinyl chloride	100 U	2 U	1300 U	50 U	1300 U	200 U	1 U	2 U	1 U	2 U
Xylene, total	150 U	3 U	2000	2300	2100	300 U	0.6 J	4.2	1.5	3 U

Table D-13
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CP09 PZM047 Intermediate Summer 2004	CP09 PZM047 DUP Intermediate Fall 2001	CP10 PZM008 Shallow Fall 2001	CP11 PZM010 Shallow Fall 2001	CP11 PZM010 Shallow Summer 2004	CP11 PZM040 Intermediate Fall 2001	CP11 PZM040 Intermediate Summer 2004	CP12 PZM012 Shallow Fall 2001	CP12 PZM052 Lower Fall 2001	CP14 PZM009 Shallow Fall 2001
1,1,1,2-Tetrachloroethane	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
1,1,1-Trichloroethane	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
1,1,2,2-Tetrachloroethane	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
1,1,2-Trichloroethane	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
1,1-Dichloroethane	1 U	5 U	2 U	0.68 J	1 U	25 U	1 U	3 U	50 U	2.5 U
1,1-Dichloroethene	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
1,2-Dichloroethane	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
1,2-Dichloropropane	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
2-Butanone	5 U	25 U	8.3 J	18	14 U	120 U	5 U	15 U	250 U	12 U
2-Hexanone	5 U	25 U	10 U	0.83 J	5 U	120 U	5 U	15 U	250 U	12 U
4-Methyl-2-pentanone	5 U	25 U	10 U	5 U	5 U	120 U	5 U	15 U	250 U	12 U
Acetone	5.4 U	990	88 J	110	160	1400	14 U	730	2300	62 J
Benzene	1 J	5 U	3.3 U	62	31	25 U	1.1	100	50 U	46
Bromoform	1 U	5 U	2 U	1 U	3.3	25 U	1 U	3 U	50 U	2.5 U
Carbon disulfide	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
Carbon tetrachloride	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
Chlorobenzene	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
Chloroethane	1 U	10 U	4 U	2 U	1 U	50 U	1 U	6 U	100 U	5 U
Chloroform	1 U	5 U	1.9 J	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
cis-1,3-Dichloropropene	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
Ethylbenzene	1 U	5 U	2 U	0.95 J	0.6 J	25 U	1 U	3 U	50 U	2.5 U
Methylene chloride	1.8 U	10 U	4 U	2 U	3.6 U	50 U	4.2 U	6 U	100 U	5 U
Tetrachloroethene	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
Toluene	0.5 J	5 U	3.2	7.8	4.6	25 U	1 U	19	50 U	4.3
trans-1,2-Dichloroethene	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
trans-1,3-Dichloropropene	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
Trichloroethene	1 U	5 U	2 U	1 U	1 U	25 U	1 U	3 U	50 U	2.5 U
Vinyl chloride	1 U	10 U	4 U	2 U	1 U	50 U	1 U	6 U	100 U	5 U
Xylene, total	1 U	15 U	3.6 J	13	5.5	75 U	1 U	22	150 U	5.4 J

Table D-13
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CP14 PZM009 Shallow Summer 2004	CP14 PZM062 Lower Fall 2001	CP14 PZM062 Lower Summer 2004	CP15 PZM020 Shallow Summer 2004	CP15 PZM042 Intermediate Fall 2002	CP15 PZM042 Intermediate Summer 2004	CP16 PZM018 Shallow Summer 2004	CP16 PZM035 Intermediate Fall 2002	CP16 PZM035 Intermediate Summer 2004	CP17 PZM013 Shallow Summer 2004
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1.0 U	1 U	1 U	1.0 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1.0 U	1 U	1 U	1.0 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1.0 U	1 U	1 U	1.0 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1.0 U	1 U	1 U	1.0 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U
2-Butanone	5 U	5 U	5 U	19 U	--	5 U	5 U	--	9.9 U	5 U
2-Hexanone	5 U	5 U	5 U	5 U	--	5 U	5 U	--	5 U	5 U
4-Methyl-2-pentanone	5 U	5 U	5 U	4 J	--	5 U	5 U	--	5 U	5 U
Acetone	23 U	750	6100 D	260	--	6.4 U	29	--	51	12 U
Benzene	6.4	0.43 J	1 U	15	1.0 U	1 U	100	260	89	7.5
Bromoform	3.1	1 U	1 U	3.7	--	1 U	2.8	--	2.8	1 U
Carbon disulfide	1 U	1 U	1 U	1.6	--	1 U	1 U	--	1 U	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U	1.0 U	1 U	1 U	1.0 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1.0 U	1 U	1 U	1.0 U	1 U	1 U
Chloroethane	1 U	2 UJ	1 U	1 U	--	1 U	1 U	--	1 U	1 U
Chloroform	1 U	0.35 J	1 U	1 U	--	1 U	1 U	--	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	0.8 J	1.0 U	1 U	0.5 J	1.0 U	1 U	1 U
Methylene chloride	1.7 U	2 U	2.1 U	3.6 U	2.1	2.9 U	2.8 U	1.0 U	2.7 U	5.1 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1.0 U	1 U	1 U	1.0 U	1 U	1 U
Toluene	1.1	0.42 J	0.8 J	3.1	1.0 U	0.8 J	7.8	13	4.6	3.8
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1.0 U	1 U	1 U	1.0 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U	1.0 U	1 U	1 U	1.0 U	1 U	1 U
Vinyl chloride	1 U	2 U	1 U	1 U	1.0 U	1 U	1 U	1.0 U	1 U	1 U
Xylene, total	1.4	3 U	1 U	3.4	2.0 U	1 U	4.5	7.7	1.6	7.9

Table D-13
COPI List VOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

	CP17	TS07
	PZM058	PPM005
	Lower	Shallow
Analyte, ug/L	Summer 2004	Fall 2001
1,1,1,2-Tetrachloroethane	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U
1,1-Dichloroethane	1 U	1 U
1,1-Dichloroethene	1 U	1 U
1,2-Dichloroethane	1 U	1 U
1,2-Dichloropropane	1 U	1 U
2-Butanone	5.8 U	3.5 J
2-Hexanone	3 J	5 U
4-Methyl-2-pentanone	5 U	0.74 J
Acetone	7400 D	27
Benzene	0.6 J	180
Bromoform	1 U	1 U
Carbon disulfide	1 U	1 U
Carbon tetrachloride	1 U	1 U
Chlorobenzene	1 U	1 U
Chloroethane	1 U	2 U
Chloroform	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U
Ethylbenzene	1 U	2.1
Methylene chloride	4.9 U	2 U
Tetrachloroethene	1 U	1 U
Toluene	1 U	28
trans-1,2-Dichloroethene	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U
Trichloroethene	1 U	1 U
Vinyl chloride	1 U	2 U
Xylene, total	2 U	53

Table D-14
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

	CP02	CP02	CP03	CP05	CP05	CP05	CP05
	PZM007	PZM026	PZM025	PZM008	PZM019	PZM028	PZM028
	Shallow	Intermediate	Intermediate	Shallow	Shallow	Intermediate	Intermediate
Analyte, ug/L	Fall 2001	Fall 2001	Fall 2001	Fall 2001	Fall 2001	Fall 2001	Summer 2004
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	20 U	100 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	20 U	100 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	20 U	100 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10	14 J	100 U	24
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	100 U	500 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	20 U	100 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	3.7 J	5.9 J	29 J	63
2-Methylphenol	10 U	10 U	10 U	3 J	4.5 J	100 U	5.5 J
2-Nitrophenol	10 U	10 U	10 U	10 U	20 U	100 U	10 U
3- & 4-Methylphenol	10 U	10 U	10 U	27	46	31 J	50
3,3-Dichlorobenzidine	50 U	50 U	50 U	50 U	100 U	500 U	20 U
3,3'-Dimethylbenzidine	50 U	50 U	50 U	50 U	100 U	500 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	100 U	500 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	20 U	100 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	20 U	100 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	20 U	100 U	10 U
4-Nitrophenol	50 U	50 U	50 U	50 U	100 U	500 U	50 U
Acenaphthene	10 U	1 J	10 U	5 J	6.7 J	31 J	58
Acenaphthylene	10 U	10 U	10 U	10 U	2.8 J	100 U	13
Anthracene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	20 U	100 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	20 U	100 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Chrysene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Dibenzofuran	6 J	0.84 J	10 U	1.1 J	1.6 J	11 J	22
Diethylphthalate	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Fluoranthene	2.6 J	1.5 J	0.92 J	10 U	20 U	100 U	10 U
Fluorene	13	10 U	1.3 J	1.2 J	2.2 J	13 J	24
Hexachlorobenzene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Hexachlorocyclopentadiene	50 U	50 U	50 U	50 U	100 U	500 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Isophorone	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Naphthalene	0.85 J	10 U	10 U	31	95	680	1300 D
Nitrobenzene	10 U	10 U	10 U	10 U	20 U	100 U	10 U
Pentachloroethane	50 U	50 U	50 U	50 U	100 U	500 U	50 U
Pentachlorophenol	50 U	50 U	50 U	50 U	100 U	500 U	50 U
Phenanthrene	1 J	10 U	10 U	1.7 J	1.9 J	100 U	11
Phenol	10 U	10 U	10 U	58	120	450	260 D
Pyrene	1.5 J	1.1 J	10 U	10 U	20 U	100 U	10 U
Pyridine	18 J	20 U	20 U	20 U	40 U	200 U	20 U

Table D-14
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

	CP05	CP06	CP07	CP07	CP08	CP08	CP08
	PZM128	PZM009	PZM006	PZM026	PZM008	PZM008	PZM008 DUP
	Lower	Shallow	Shallow	Intermediate	Shallow	Shallow	Shallow
Analyte, ug/L	Summer 2004	Fall 2001	Fall 2001	Fall 2001	Fall 2001	Summer 2004	Fall 2001
1,2,4-Trichlorobenzene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 R	100 U	10 U	50 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 R	100 U	10 U	50 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 R	100 U	10 U	50 U	10 U	10 U
2,4-Dimethylphenol	10 U	2.7 L	600	3.9 J	53	31	77 J
2,4-Dinitrophenol	50 U	50 R	500 U	50 U	250 U	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
2-Chlorophenol	10 U	10 R	100 U	10 U	50 U	10 U	10 U
2-Methylnaphthalene	10 U	3.5 J	100 U	10 U	32 J	24	50
2-Methylphenol	10 U	2.9 L	20 J	10 U	38 J	20	49
2-Nitrophenol	10 U	10 R	100 U	10 U	50 U	10 U	10 U
3- & 4-Methylphenol	5.7 J	10 L	190	2.8 J	51	21	67
3,3-Dichlorobenzidine	20 U	50 U	500 U	50 U	250 U	20 U	50 U
3,3'-Dimethylbenzidine	50 U	50 U	500 U	50 U	250 U	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 R	500 U	50 U	250 U	50 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	100 U	10 U	50 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 R	100 U	10 U	50 U	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	100 U	10 U	50 U	10 U	10 U
4-Nitrophenol	50 U	50 R	500 U	50 U	250 U	50 U	50 U
Acenaphthene	10 U	2.6 J	100 U	10 U	50 U	10 U	5.4 J
Acenaphthylene	10 U	1.4 J	100 U	10 U	14 J	5.6 J	19
Anthracene	10 U	0.87 J	100 U	10 U	4.7 J	10 U	4.8 J
Benzo(a)anthracene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	100 U	10 U	50 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	100 U	10 U	50 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Chrysene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Dibenzofuran	10 U	2.2 J	100 U	10 U	14 J	9.9 J	19
Diethylphthalate	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Dimethylphthalate	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Fluoranthene	10 U	2.1 J	100 U	10 U	4.8 J	5.5 J	5.3 J
Fluorene	10 U	3.6 J	100 U	10 U	20 J	11	24
Hexachlorobenzene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	50 U	500 U	50 U	250 U	10 U	50 U
Hexachloroethane	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Isophorone	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Naphthalene	10 U	35	73 J	22	570	450 D	710
Nitrobenzene	10 U	10 U	100 U	10 U	50 U	10 U	10 U
Pentachloroethane	50 U	50 U	500 U	50 U	250 U	50 U	50 U
Pentachlorophenol	50 U	50 R	500 U	50 U	250 U	50 U	50 U
Phenanthrene	10 U	8.1 J	100 U	0.97 J	27 J	21	32
Phenol	10 U	41 L	12 J	16	20 J	9.8 J	16
Pyrene	10 U	2 J	100 U	10 U	50 U	10 U	3.5 J
Pyridine	20 U	20 U	200 U	20 U	82 J	110	140 J

Table D-14
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

	CP08	CP08	CP09	CP09	CP09	CP09	CP09
	PZM034	PZM034	PZM010	PZM010	PZM047	PZM047	PZM047 DUP
	Intermediate	Intermediate	Shallow	Shallow	Intermediate	Intermediate	Intermediate
Analyte, ug/L	Fall 2001	Summer 2004	Fall 2001	Summer 2004	Fall 2001	Summer 2004	Fall 2001
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	12	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	4.2 J	8.4 J	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	7.3 J	10	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3- & 4-Methylphenol	10 U	10 U	47	55	10 U	10 U	10 U
3,3-Dichlorobenzidine	50 U	20 U	50 U	20 U	50 U	20 U	50 U
3,3'-Dimethylbenzidine	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acenaphthene	10 U	10 U	3.8 J	10 U	8.8 J	5.7 J	6.8 J
Acenaphthylene	10 U	10 U	13	10 U	1.5 J	10 U	10 U
Anthracene	10 U	10 U	1.1 J	10 U	2.3 J	10 U	1.2 J
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	10 U	10 U	3.2 J	10 U	4.1 J	10 U	2.3 J
Diethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	1.1 J	10 U	6.7 J	5.9 J	6.1 J
Fluorene	1.3 J	10 U	4.8 J	10 U	5.1 J	9 J	2 J
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	50 U	10 U	50 U	10 U	50 U	10 U	50 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	1 J	10 U	140	99	10 U	20	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachloroethane	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Phenanthrene	2.1 J	10 U	5.6 J	6 J	10 U	23	0.6 J
Phenol	10 U	10 U	180	110	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	3.1 J	10 U	2.9 J
Pyridine	20 U	20 U	2.8 J	20 U	20 U	20 U	20 U

Table D-14
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

	CP10	CP11	CP11	CP11	CP11	CP12	CP12
	PZM008	PZM010	PZM010	PZM040	PZM040	PZM012	PZM052
	Shallow	Shallow	Shallow	Intermediate	Intermediate	Shallow	Lower
Analyte, ug/L	Fall 2001	Fall 2001	Summer 2004	Fall 2001	Summer 2004	Fall 2001	Fall 2001
1,2,4-Trichlorobenzene	10 U	50 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	50 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	50 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	50 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	10 U	50 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	50 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	50 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	2.9 J	58	27	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	50 U	250 U	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	10 U	50 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	50 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	50 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	50 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	64	12 J	13	10 U	10 U	5.5 J	10 U
2-Methylphenol	3.7 J	25 J	17	10 U	10 U	0.9 J	10 U
2-Nitrophenol	27	50 U	10 U	10 U	10 U	1.5 J	10 U
3- & 4-Methylphenol	23	90	46	10 U	10 U	4.6 J	10 U
3,3-Dichlorobenzidine	50 U	250 U	20 U	50 U	20 U	50 U	50 U
3,3'-Dimethylbenzidine	50 U	250 U	50 U	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	250 U	50 U	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether	10 U	50 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	50 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	50 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	50 U	250 U	50 U	50 U	50 U	50 U	50 U
Acenaphthene	6.9 J	4 J	10 U	10 U	10 U	0.88 J	10 U
Acenaphthylene	35	8.5 J	10 U	10 U	10 U	10 U	10 U
Anthracene	10	50 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	4.4 J	50 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	4 J	50 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	4 J	50 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	3.5 J	50 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	4.2 J	50 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	50 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	50 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	50 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	50 U	10 U	10 U	10 U	10 U	10 U
Chrysene	4.8 J	50 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	0.84 J	50 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	35	8.6 J	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	50 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	50 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	50 U	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	50 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	23	6.2 J	10 U	10 U	10 U	10 U	10 U
Fluorene	33	6.7 J	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	50 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	50 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	50 U	250 U	10 U	50 U	10 U	50 U	50 U
Hexachloroethane	10 U	50 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	3.6 J	50 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	50 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	430	98	95	10 U	10 U	68	10 U
Nitrobenzene	10 U	50 U	10 U	10 U	10 U	10 U	10 U
Pentachloroethane	50 U	250 U	50 U	50 U	50 U	50 U	50 U
Pentachlorophenol	50 U	250 U	50 U	50 U	50 U	50 U	50 U
Phenanthrene	72	29 J	10	1.1 J	10 U	2 J	10 U
Phenol	430	290	73	10 U	6.1 J	14	10 U
Pyrene	14	50 U	10 U	10 U	10 U	10 U	10 U
Pyridine	3.4 J	11 J	20 U	20 U	20 U	20 U	20 U

Table D-14
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CP14 PZM009 Shallow Fall 2001	CP14 PZM009 Shallow Summer 2004	CP14 PZM062 Lower Fall 2001	CP14 PZM062 Lower Summer 2004	CP15 PZM020 Shallow Summer 2004	CP15 PZM042 Intermediate Summer 2004	CP15 PZM042 Intermediate Fall 2002
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	--
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	--
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	--
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	--
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	--
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	--
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	--
2,4-Dimethylphenol	3 J	10 U	10 U	10 U	42	10 U	--
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	--
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	--
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	--
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	--
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	--
2-Methylnaphthalene	1.8 J	10 U	10 U	10 U	17	10 U	--
2-Methylphenol	4 J	10 U	10 U	10 U	41	10 U	--
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	--
3- & 4-Methylphenol	7.2 J	10 U	10 U	10 U	100	10 U	--
3,3-Dichlorobenzidine	50 U	20 U	50 U	20 U	20 U	20 U	--
3,3'-Dimethylbenzidine	50 U	50 U	50 U	50 U	50 U	50 U	--
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	50 U	50 U	--
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	--
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	--
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	--
4-Nitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	--
Acenaphthene	1.2 J	10 U	10 U	10 U	10 U	10 U	--
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	10 U	--
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U	--
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	--
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	--
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	--
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U	10 U	--
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	--
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	--
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	--
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	23	10 U	32	--
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	--
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	--
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	--
Dibenzofuran	10 U	10 U	10 U	10 U	10 U	10 U	--
Diethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	--
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	--
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	--
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	--
Fluoranthene	0.94 J	10 U	10 U	10 U	10 U	10 U	--
Fluorene	10 U	10 U	10 U	10 U	5.7 J	10 U	--
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	--
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	--
Hexachlorocyclopentadiene	50 U	10 U	50 U	10 U	10 U	10 U	--
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	--
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	--
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	--
Naphthalene	34	21	10 U	10 U	140	10 U	1.0 U*
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	--
Pentachloroethane	50 U	50 U	50 U	50 U	50 U	50 U	--
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U	50 U	--
Phenanthrene	2.6 J	10 U	10 U	10 U	12	10 U	--
Phenol	14	10 U	10 U	10 U	370 D	10 U	--
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	--
Pyridine	3.6 J	20 U	20 U	20 U	20 U	20 U	--

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Table D-14
COPI List SVOCs in Groundwater from 2001 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CP16 PZM018 Shallow Summer 2004	CP16 PZM035 Intermediate Fall 2002	CP16 PZM035 Intermediate Summer 2004	CP17 PZM013 Shallow Summer 2004	CP17 PZM058 Lower Summer 2004	TS07 PPM005 Shallow Fall 2001
1,2,4-Trichlorobenzene	10 U	--	10 U	10 U	10 U	20 U
1,2-Dichlorobenzene	10 U	--	10 U	10 U	10 U	20 U
1,3-Dichlorobenzene	10 U	--	10 U	10 U	10 U	20 U
1,4-Dichlorobenzene	10 U	--	10 U	10 U	10 U	20 U
2,4,5-Trichlorophenol	10 U	--	10 U	10 U	10 U	20 U
2,4,6-Trichlorophenol	10 U	--	10 U	10 U	10 U	20 U
2,4-Dichlorophenol	10 U	--	10 U	10 U	10 U	20 U
2,4-Dimethylphenol	10 U	--	26	16	10 U	8.1 J
2,4-Dinitrophenol	50 U	--	50 U	50 U	50 U	100 U
2,4-Dinitrotoluene	10 U	--	10 U	10 U	10 U	20 U
2,6-Dinitrotoluene	10 U	--	10 U	10 U	10 U	20 U
2-Chloronaphthalene	10 U	--	10 U	10 U	10 U	20 U
2-Chlorophenol	10 U	--	10 U	10 U	10 U	20 U
2-Methylnaphthalene	10 U	--	10 U	7.3 J	10 U	8.2 J
2-Methylphenol	10 U	--	29	20	10 U	2.7 J
2-Nitrophenol	10 U	--	10 U	10 U	10 U	20 U
3- & 4-Methylphenol	5.5 J	--	42	54	10 U	17 J
3,3-Dichlorobenzidine	20 U	--	20 U	20 U	20 U	100 U
3,3'-Dimethylbenzidine	50 U	--	50 U	50 U	50 U	100 U
4,6-Dinitro-2-methylphenol	50 U	--	50 U	50 U	50 U	100 U
4-Bromophenyl phenyl ether	10 U	--	10 U	10 U	10 U	20 U
4-Chloro-3-methylphenol	10 U	--	10 U	10 U	10 U	20 U
4-Chlorophenyl phenyl ether	10 U	--	10 U	10 U	10 U	20 U
4-Nitrophenol	50 U	--	50 U	50 U	50 U	100 U
Acenaphthene	10 U	--	10 U	10 U	10 U	20 U
Acenaphthylene	10 U	--	10 U	10 U	10 U	20 U
Anthracene	10 U	--	10 U	10 U	10 U	20 U
Benzo(a)anthracene	10 U	--	10 U	10 U	10 U	20 U
Benzo(a)pyrene	10 U	--	10 U	10 U	10 U	20 U
Benzo(b)fluoranthene	10 U	--	10 U	10 U	10 U	20 U
Benzo(g,h,i)perylene	10 U	--	10 U	10 U	10 U	20 U
Benzo(k)fluoranthene	10 U	--	10 U	10 U	10 U	20 U
bis(2-Chloroethoxy)methane	10 U	--	10 U	10 U	10 U	20 U
bis(2-Chloroethyl)ether	10 U	--	10 U	10 U	10 U	20 U
bis(2-Ethylhexyl)phthalate	10 U	--	210 D	10 U	10 U	20 U
Butylbenzylphthalate	10 U	--	10 U	10 U	10 U	20 U
Chrysene	10 U	--	10 U	10 U	10 U	20 U
Dibenz(a,h)anthracene	10 U	--	10 U	10 U	10 U	20 U
Dibenzofuran	10 U	--	10 U	10 U	10 U	20 U
Diethylphthalate	10 U	--	10 U	10 U	10 U	20 U
Dimethylphthalate	10 U	--	10 U	10 U	10 U	20 U
Di-n-butylphthalate	10 U	--	10 U	10 U	10 U	20 U
Di-n-octylphthalate	10 U	--	10 U	10 U	10 U	20 U
Fluoranthene	10 U	--	10 U	10 U	10 U	20 U
Fluorene	10 U	--	10 U	10 U	10 U	20 U
Hexachlorobenzene	10 U	--	10 U	10 U	10 U	20 U
Hexachlorobutadiene	10 U	--	10 U	10 U	10 U	20 U
Hexachlorocyclopentadiene	10 U	--	10 U	10 U	10 U	100 U
Hexachloroethane	10 U	--	10 U	10 U	10 U	20 U
Indeno(1,2,3-cd)pyrene	10 U	--	10 U	10 U	10 U	20 U
Isophorone	10 U	--	10 U	10 U	10 U	20 U
Naphthalene	28	180*	58	140	10 U	100
Nitrobenzene	10 U	--	10 U	10 U	10 U	20 U
Pentachloroethane	50 U	--	50 U	50 U	50 U	100 U
Pentachlorophenol	50 U	--	50 U	50 U	50 U	100 U
Phenanthrene	10 U	--	10 U	10 U	10 U	20 U
Phenol	13	--	150	49	31	21
Pyrene	10 U	--	10 U	10 U	10 U	20 U
Pyridine	20 U	--	15 J	20 U	20 U	40 U

*For selected Fall 2002 samples, naphthalene was analyzed as a volatile compound.

Ta 15

Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CP02 PZM007 Shallow Fall 2001	CP02 PZM026 Intermediate Fall 2001	CP03 PZM008 Shallow Fall 2001	CP03 PZM008 Shallow Summer 2004	CP03 PZM025 Intermediate Fall 2001	CP03 PZM025 Intermediate Summer 2004	CP05 PZM008 Shallow Fall 2000	CP05 PZM008 Shallow Fall 2001	CP05 PZM019 Shallow Fall 2000	CP05 PZM019 Shallow Fall 2001
Antimony, total	4.8 J	4.1 U	15.5 J	2.2	4.1 U	2 U	--	4.1 U	--	4.1 U
Arsenic, total	36.4	6.2 J	116	14	2 U	13	--	2.2 J	--	3.2 J
Barium, total	12.9 J	56.5 J	1340	57	96.6 J	130	--	743	--	1110
Beryllium, total	2.3 U	0.53 U	7.2	1 U	2.1 U	1 U	--	2.7 U	--	3 U
Cadmium, total	0.63 U	0.63 U	5 J	1 U	0.63 U	1 U	--	0.63 U	--	0.63 U
Chromium, total	4.6 U	7.4 U	1390	5.8	3.9 U	6.4	--	1.4 U	--	5.1 U
Cobalt, total	14.8 J	44.8 J	80.5	1 J	7.1 J	5.8	--	0.86 U	--	1.2 J
Copper, total	23.7 J	0.77 U	1550	2.4	0.77 U	6.5	--	0.77 U	--	0.77 U
Iron, total	45 UL	28500 L	--	--	3500	--	300	--	100 U	--
Lead, total	9 U	2.8 U	1600	1.1	1.8 U	1 U	--	1.8 U	--	1.8 U
Mercury, total	0.054 UL	0.054 UL	1	0.2 U	0.054 U	0.2 U	--	0.054 U	--	0.11 J
Nickel, total	2.4 U	5.4 J	589	14	2.4 U	13	--	9.2 J	--	18.2 J
Selenium, total	756	6.4 U	16 U	4 J	3.2 U	34	--	3.2 U	--	3.2 U
Silver, total	0.84 U	4.5 U	2.7 J	5 U	0.75 U	5 U	--	0.75 U	--	0.75 U
Thallium, total	5.7 U	11.5 U	28.7 U	1 J	5.7 U	1 U	--	5.7 U	--	5.7 U
Tin, total	28.8 U	28.8 U	287	430	38.1 J	820	--	28.8 U	--	28.8 U
Vanadium, total	230	14.5 J	1290	19	6.1 J	4 J	--	12.2 J	--	9.4 J
Zinc, total	3.6 J	6.3 J	2230	10 U	1.5 U	16 U	--	1.5 U	--	1.5 U
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	137000	721000	--	--	2820000	--	2100000	--	1600000	--
Cyanide, amenable	22 J	8.6 J	140 J	--	13 J	--	--	77300 J	--	11900 J
Cyanide, available	--	--	--	--	--	--	--	--	--	--
Cyanide, total	--	--	--	--	--	--	--	--	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	1760000	1810000	--	--	1130000	--	1800000	--	20000	--
Sulfide	1000	1000	1000 U	--	1000 U	--	--	16400	--	1000 U

Table D-15
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CP05 PZM028 Lower Fall 2000	CP05 PZM028 Intermediate Fall 2001	CP05 PZM028 Intermediate Summer 2004	CP05 PZM128 Lower Summer 2004	CP06 PZM009 Shallow Fall 2001	CP06 PZM009 Shallow Summer 2004	CP07 PZM006 Shallow Fall 2000	CP07 PZM006 Shallow Fall 2001	CP07 PZM018 Shallow Fall 2000	CP07 PZM026 Intermediate Fall 2000
Antimony, total	--	4.1 U	2 U	2 U	20.6 U	2 U	--	4.1 U	--	--
Arsenic, total	--	2 U	7.8	5 U	117	25	--	12.2	--	--
Barium, total	--	224	580	200	2030	280	--	86.6 J	--	--
Beryllium, total	--	2.7 U	1 U	1 U	32.1	1 U	--	2 U	--	--
Cadmium, total	--	0.63 U	1 U	1 U	3.2 U	1 U	--	0.63 U	--	--
Chromium, total	--	1.4 U	12 U	21 U	6780	7.6	--	1.1 U	--	--
Cobalt, total	--	0.86 U	2.2	2.9	99.9	1 J	--	0.86 U	--	--
Copper, total	--	0.77 U	9.3	13	746	5.6	--	0.77 U	--	--
Iron, total	4500	--	2200	81000	1260000	--	100	--	100 U	160000
Lead, total	--	1.8 U	1.6	1.9	492	1 U	--	1.8 U	--	--
Mercury, total	--	0.054 J	0.2 U	0.2 U	1.3	0.2 U	--	0.054 U	--	--
Nickel, total	--	9 J	50	7.8	306	31	--	6.8 J	--	--
Selenium, total	--	3.2 U	29	4 J	160 U	21	--	3.2 U	--	--
Silver, total	--	0.75 U	5 U	5 U	15.9	5 U	--	0.75 U	--	--
Thallium, total	--	7.9 J	1 U	1 U	341 J	1 U	--	5.7 U	--	--
Tin, total	--	28.8 U	2300 J	59 J	144 U	820	--	28.8 U	--	--
Vanadium, total	--	8.2 J	5 U	40	10400 J	7.9	--	57.5	--	--
Zinc, total	--	1.5 U	10 U	15	2970	15 U	--	1.5 U	--	--
Alkalinity	--	--	--	--	--	--	--	--	--	--
Chloride	3600000	--	--	--	1120000	--	500000	--	2300000	1900000
Cyanide, amenable	--	35900 J	--	--	60 J	--	--	9300 J	--	--
Cyanide, available	--	--	2 U	2 U	--	--	--	--	--	--
Cyanide, total	--	--	110	1 J	--	--	--	--	--	--
Methane	--	--	--	--	--	--	--	--	--	--
Nitrate, as N	--	--	--	--	--	--	--	--	--	--
Nitrite, as N	--	--	--	--	--	--	--	--	--	--
Sulfate	33000	--	--	--	113000	--	250000	--	640000	1300000
Sulfide	--	1000 U	18000 L	1000 UL	1000 U	--	--	1000 U	--	--

Table D-15
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CP07 PZM026 Intermediate Fall 2001	CP08 PZM008 Shallow Fall 2001	CP08 PZM008 Shallow Summer 2004	CP08 PZM008 DUP Shallow Fall 2001	CP08 PZM034 Intermediate Fall 2001	CP08 PZM034 Intermediate Summer 2004	CP09 PZM010 Shallow Fall 2001	CP09 PZM010 Shallow Summer 2004	CP09 PZM047 Intermediate Fall 2001	CP09 PZM047 DUP Intermediate Fall 2001
Antimony, total	4.1 U	4.1 U	2 U	4.1 U	4.1 U	2 U	4.1 U	2 U	4.1 U	4.1 U
Arsenic, total	3.3 J	2 U	5 U	2.9 J	10.8	10	2 U	5.6	3.8 U	2.7 U
Barium, total	66.9 J	109 J	87	114 J	44.9 J	57	887	400	106 J	96.2 J
Beryllium, total	2.3 U	1.6 U	1 U	1.5 U	1.7 U	1 U	1.7 U	1 U	1.4 U	1.1 U
Cadmium, total	0.63 U	0.63 U	1 U	0.63 U	0.63 U	1 U	0.63 U	1 U	0.63 U	0.63 U
Chromium, total	2.9 U	4.5 U	14 U	1.1 U	4.7 U	11 U	1.9 J	30 J	3.3 J	6
Cobalt, total	3.7 J	0.86 U	1.3	0.86 U	0.86 U	1.2	0.86 U	2.2	2.3 J	0.86 U
Copper, total	0.77 U	0.77 U	2 U	0.77 U	0.77 U	11	0.77 U	8.7	5.8 U	0.77 U
Iron, total	--	--	100 U	--	450 UL	3500	--	100 U	7560 J	7670 J
Lead, total	1.8 U	1.8 U	1 U	1.8 U	2.3 U	1 U	3.3	24	1.8 U	1.8 U
Mercury, total	0.063 J	0.054 U	0.2 U	0.054 U	0.066 L	0.2 U	R	0.2 U	R	R
Nickel, total	2.5 J	4.3 J	20	3.1 J	9.5 J	12	34.2 J	48	2.4 U	4.5 J
Selenium, total	3.2 U	3.2 U	5 U	3.2 U	3.2 U	41	3.2 U	15	3.2 U	3.2 U
Silver, total	0.75 U	0.75 U	5 U	0.75 U	1.1 U	5 U	0.75 U	5 U	0.75 U	1.8 J
Thallium, total	6.5 J	5.7 U	1 U	5.7 U	5.7 U	5	5.7 U	0.6 J	5.7 U	5.7 U
Tin, total	28.8 U	28.8 U	1300	28.8 U	28.8 U	390	28.8 U	2300 J	28.8 U	28.8 U
Vanadium, total	3.1 J	52.4	26	57.2	140	5 U	22.4 J	5 U	58.3	52.7
Zinc, total	1.5 U	1.5 U	10 U	1.5 U	6.8 J	10 U	3.6 J	10 U	9.7 U	1.8 U
Alkalinity	--	--	390000	--	--	1400000	--	--	--	--
Chloride	--	--	97000	--	3090000	3700000	--	--	6090000	5980000
Cyanide, amenable	37 J	3100 J	--	2900 J	40 J	--	1400 J	--	3.8 U	3.1 U
Cyanide, available	--	--	2 U	--	--	2 U	--	2 U	--	--
Cyanide, total	--	--	120	--	--	1.6	--	100	--	--
Methane	--	--	2200 L	--	--	39000 K	--	--	--	--
Nitrate, as N	--	--	50 U	--	--	50 U	--	--	--	--
Nitrite, as N	--	--	22	--	--	5 U	--	--	--	--
Sulfate	--	--	660000	--	337000	40000	--	--	15000	18100
Sulfide	1000 U	1000 U	1000 UL	1000 U	1000	800 J	1000 U	5600 L	1000 U	1000 U

Table D-15
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CP09 PZM047 Lower Summer 2004	CP10 PZM008 Shallow Fall 2001	CP10 PZM008 Shallow Summer 2004	CP11 PZM010 Shallow Fall 2001	CP11 PZM010 Shallow Summer 2004	CP11 PZM040 Intermediate Fall 2001	CP11 PZM040 Intermediate Summer 2004	CP12 PZM012 Shallow Fall 2001	CP12 PZM052 Lower Fall 2001	CP14 PZM009 Shallow Fall 2001
Antimony, total	2 U	12.6	2 U	4.1 U	2 U	4.1 U	2 U	4.1 U	4.1 U	4.1 U
Arsenic, total	29	37.5	4 J	3.1 J	5 U	5.5 J	19	3 J	5 J	2.5 J
Barium, total	210	3590	1900	1460	1300 J	57 J	130 J	135 J	29.1 J	354
Beryllium, total	1 U	4.3 J	1 U	1.9 U	1 U	2.3 U	1 U	0.46 U	0.5 U	1.1 U
Cadmium, total	1 U	6.4	1 U	0.63 U	1 U	0.63 U	1 U	0.63 U	0.63 U	0.63 U
Chromium, total	10 U	1140	7.9 U	3.5 U	13 U	2.5 U	7.3 U	2.4 U	3.9 U	3.3 U
Cobalt, total	2.7	22.8 J	2.1	1.4 J	2.8	1.7 J	1.3	0.86 U	1.2 J	0.95 J
Copper, total	18	451	2	0.77 U	2.5	0.77 U	14	0.77 U	0.77 U	0.77 U
Iron, total	16000	326000	--	209	190	148	260	--	45 UL	129 L
Lead, total	0.8 J	664	0.6 J	1.8 U	1.3	1.8 U	1 U	1.8 U	1.8 U	2.6 U
Mercury, total	0.2 U	0.34 U	0.1 J	0.07 J	0.2 U	0.054 U	0.2 U	0.054 UL	0.054 UL	0.071 L
Nickel, total	13	167	42	17.7 J	49	5.4 J	18	2.9 J	4.1 J	5.3 J
Selenium, total	93	16 U	5.9	3.2 U	4 J	3.2 U	68	3.2 U	3.2 U	3.2 U
Silver, total	5 U	3.7 J	5 U	0.75 U	5 U	0.75 U	5 U	1 U	1.5 U	0.97 U
Thallium, total	4.2	28.7 U	7.4	5.7 U	1 U	10.5	1 U	5.7 U	5.7 U	5.7 U
Tin, total	310 J	184	2700	28.8 U	3000 K	28.8 U	530 K	28.8 U	28.8 U	28.8 U
Vanadium, total	7.9	1060 J	5 U	4.2 J	5 U	15.3 J	5 U	5.1 J	18.7 J	3.1 J
Zinc, total	10 U	3590	13	1.5 U	10 U	1.5 U	10 U	1.5 U	9.6 J	1.5 U
Alkalinity	--	--	--	--	250000 J	--	400000 J	--	--	--
Chloride	--	315000	--	976000	630000	4620000	6300000	--	3830000	127000
Cyanide, amenable	--	4 J	--	3800 J	--	770 J	--	170 J	17 J	820 J
Cyanide, available	2 U	--	--	--	2 U	--	2 U	--	--	--
Cyanide, total	2.2	--	--	--	180	--	1.9	--	--	--
Methane	--	--	--	--	2300	--	49000	--	--	--
Nitrate, as N	--	--	--	--	50	--	50 U	--	--	--
Nitrite, as N	--	--	--	--	1500	--	5 U	--	--	--
Sulfate	--	9300	--	8400	9800	20900	3500	--	387000	131000
Sulfide	4800 L	1000 U	--	1000 U	1000 UL	1000 U	1900 L	2900	1000	1000

Table D-15
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CP14 PZM009 Shallow Summer 2004	CP14 PZM062 Lower Fall 2001	CP14 PZM062 Lower Summer 2004	CP15 PZM020 Shallow Summer 2004	CP15 PZM042 Intermediate Summer 2004	CP16 PZM018 Shallow Summer 2004	CP16 PZM035 Intermediate Summer 2004	CP17 PZM013 Shallow Summer 2004	CP17 PZM058 Lower Summer 2004	TS07 PDM007 Shallow Fall 2000
Antimony, total	2 U	4.1 U	2 U	2 U	3.1 U	2 U	2 U	3.1 U	3.3 U	--
Arsenic, total	5 U	8.5 J	11	4 J	24	5 U	5 U	5 U	5.8	--
Barium, total	240	35 J	70	1500 J	240	160	690	170 J	160 J	--
Beryllium, total	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
Cadmium, total	1 U	0.63 U	1 U	1 U	1 U	1 U	1 U	0.8 J	1 U	--
Chromium, total	13 U	3.2 U	9.1 U	32 U	7.5 U	13 U	14 U	9.9 U	8.1 U	--
Cobalt, total	3.1	0.86 U	0.7 J	2.5	0.9 J	3.1	3.1	1.3	1.3	--
Copper, total	2 U	0.93 J	4.6	4.3	18	2 U	2 U	4.4	12	--
Iron, total	880	813 L	390	550	1500	100 U	100 U	100 U	380	600
Lead, total	1 U	2 U	1 U	2.1	1 U	1 U	1 U	34	4.6	--
Mercury, total	0.2 U	0.054 UL	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--
Nickel, total	44	2.4 U	11	47	12	51	69	25	22	--
Selenium, total	4 J	3.2 U	20	5.7	76	3 J	3 J	5 U	23	--
Silver, total	5 U	1.3 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	--
Thallium, total	1 U	5.7 U	1 U	1 U	4.6	1 U	1 U	1 U	1 U	--
Tin, total	3400 J	28.8 U	650	2700 K	200 J	3400	3400	1700 K	1600 K	--
Vanadium, total	5 U	27.5 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	--
Zinc, total	10 U	1.5 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	--
Alkalinity	--	--	--	--	--	--	--	1800000 J	300000 J	--
Chloride	--	1700000	--	--	--	--	--	190000	3000000	410000
Cyanide, amenable	--	120 J	--	--	--	--	--	--	--	--
Cyanide, available	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--
Cyanide, total	530	--	14	230	1 J	450	170	850	37	--
Methane	--	--	--	--	--	--	--	1800 J	990 J	--
Nitrate, as N	--	--	--	--	--	--	--	50	50 U	--
Nitrite, as N	--	--	--	--	--	--	--	300	3 J	--
Sulfate	--	25400	--	--	--	--	--	54000	1000 U	66000
Sulfide	2700 L	2900	2100 L	1000 U	900 L	16000 L	1800 L	900 L	800 L	--

Table D-15
Total Metals and Miscellaneous Analytes in Groundwater from 2000 through 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	TS07 PPM005 Shallow Fall 2000	TS07 PPM005 Shallow Fall 2001
Antimony, total	--	4.1 U
Arsenic, total	--	3.5 J
Barium, total	--	428
Beryllium, total	--	2.6 U
Cadmium, total	--	0.63 U
Chromium, total	--	1.1 U
Cobalt, total	--	0.86 U
Copper, total	--	0.77 U
Iron, total	100 U	--
Lead, total	--	1.8 U
Mercury, total	--	0.063 J
Nickel, total	--	2.4 U
Selenium, total	--	3.2 U
Silver, total	--	0.75 U
Thallium, total	--	5.7 U
Tin, total	--	28.8 U
Vanadium, total	--	4 J
Zinc, total	--	1.5 U
Alkalinity	--	--
Chloride	310000	--
Cyanide, amenable	--	230 J
Cyanide, available	--	--
Cyanide, total	--	--
Methane	--	--
Nitrate, as N	--	--
Nitrite, as N	--	--
Sulfate	94000	--
Sulfide	--	1000 U

Table D-16
Dissolved Metals in Groundwater, Summer 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CP03 PZM008 Shallow Summer 2004	CP03 PZM025 Intermediate Summer 2004	CP05 PZM028 Intermediate Summer 2004	CP05 PZM128 Lower Summer 2004	CP06 PZM009 Shallow Summer 2004	CP08 PZM008 Shallow Summer 2004	CP08 PZM034 Intermediate Summer 2004	CP09 PZM010 Shallow Summer 2004	CP09 PZM047 Intermediate Summer 2004	CP10 PZM008 Shallow Summer 2004
Antimony, dissolved	2	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.7 U	2 U
Arsenic, dissolved	13	13	6.4	5 U	25	5 U	14	5 J	23	4 J
Barium, dissolved	57	120	580	200	280	92	52	390	200	1900
Beryllium, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium, dissolved	5.8	5.7	6.4 U	4.1 U	5.5	15 U	9.5 U	35 K	8.2 U	8.7 U
Cobalt, dissolved	0.9 J	5.8	2	0.9 J	0.9 J	1.5	1	2.2	2.4	2.1
Copper, dissolved	2.4	5.9	7.7	2.8	5.1	2 U	11	7.6	17	2 J
Lead, dissolved	1 U	1 U	1 U	0.6 J	1.1	1 U	1 U	6.9	0.7 J	1 U
Mercury, dissolved	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel, dissolved	13	13	51	3.3	30	20	10	48	13	46
Selenium, dissolved	4 J	37	28	3 J	20	5 U	44	17	80	5.9
Silver, dissolved	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Thallium, dissolved	0.5 J	1 U	1 U	1 U	1 U	1 U	3.5	1 U	0.7 J	2.5
Tin, dissolved	410	900	2400 J	61 J	830	1400	370	2400 J	340 J	2700
Vanadium, dissolved	13 U	5 U	5 U	5 U	5 U	28	5 U	5 U	7.6	5 U
Zinc, dissolved	35	10 U	10 U	20	14 U	10 U	21	6 J	10 U	10

Table D-16
Dissolved Metals in Groundwater, Summer 2004
Release Site Characterization and Nature & Extent Investigation
Coke Point Landfill SSA
ISG Sparrows Point, Inc.

Analyte, ug/L	CP11 PZM010 Shallow Summer 2004	CP11 PZM040 Intermediate Summer 2004	CP14 PZM009 Shallow Summer 2004	CP14 PZM062 Lower Summer 2004	CP15 PZM020 Shallow Summer 2004	CP15 PZM042 Intermediate Summer 2004	CP16 PZM018 Shallow Summer 2004	CP16 PZM035 Intermediate Summer 2004	CP17 PZM013 Shallow Summer 2004	CP17 PZM058 Lower Summer 2004
Antimony, dissolved	2 U	2 U	2 U	2.4 U	2.9 U	2.4 U	2 U	2 U	2 U	2.5 U
Arsenic, dissolved	5 U	23	5 U	8.7	5 U	22	5 U	5 U	5 U	10
Barium, dissolved	1300 J	120 J	240	68	1600 J	210	170	680	180 J	200 J
Beryllium, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium, dissolved	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium, dissolved	13 U	6.6 U	13 U	6.3 U	32 U	7.8 U	14 U	14 U	12 U	8.8 U
Cobalt, dissolved	3	1.2	3	0.7 J	2.5	0.9 J	3.3	3.2	1.3	1.5
Copper, dissolved	2.6	13	2 U	4.9	6	15	2 U	2 U	2 U	6.3
Lead, dissolved	0.5 J	1 U	1 U	1 U	0.7 J	1 U	1 U	1 U	1 U	1 U
Mercury, dissolved	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel, dissolved	52	16	40	11	52	11	54	71	27	26
Selenium, dissolved	4 J	78	5 U	10	6.1	74	5 U	3 J	5 U	28
Silver, dissolved	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Thallium, dissolved	1 U	1 U	1 U	1 U	1 U	1.5	1 U	1 U	1 U	1 U
Tin, dissolved	2900 K	440 K	3600 J	610	2600 K	220 J	3500	3400	1600 K	1800 K
Vanadium, dissolved	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Zinc, dissolved	10 U	10 U	10 U	10 U	10 U	8 J	10 U	10 U	10 U	10 U