

From: [Smallwood, Thomas](#)
To: [IDEM OLO Solid Waste Permits Submittals](#)
Cc: [Weinzapfel, Adam](#); [GUERRETTAZ, JOHN](#); [McCormick, Debra J](#); [Rob Duncan](#); [Buster, Justin](#); [Mickey, Jeremiah](#)
Subject: Twin Bridges Approval Request for the Abandonment of Monitoring Well G-09
Date: Tuesday, July 2, 2024 2:45:03 PM
Attachments: [Twin Bridges Approval Request for the Abandonment of Monitoring Well G-09.pdf](#)

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Mr. Weinzapfel,

Please see the attached Request for the Abandonment of Monitoring Well G-09. Please let me know if you have any questions or concerns.

Thank you,

Thomas Smallwood, Ph.D.

Engineer II, 

C: +1 317-954-0909 |

E: tsmallw5@wm.com |

WM – Twin Bridges Landfill |
124 East Twin Bridges Rd. |
Danville, IN 46122 |

Recycling is a good thing. Please recycle any printed emails.



July 2, 2024,

Mr. Adam Weinzapfel
Indiana Department of Environmental Management
Office of Land Quality, Solid Waste Permits
100 North Senate Avenue, IGCN 1101
Indianapolis, IN 46204-2251

RE: Twin Bridges Recycling and Disposal Facility (RDF)
Request for Approval to Abandon Monitoring Well G-09
SW Program ID: No. 32-02

Dear Mr. Weinzapfel,

Twin Bridges RDF (facility) is requesting approval for the abandonment of monitoring well G-09. The Solid Waste Permit Renewal, dated March 11, 2022, Condition F9 requires the permittee to retain groundwater monitoring well G-09 and G-01R as piezometers until such time the facility requests and receives written approval for the abandonment of the piezometers.

The facility needs to remove monitoring well G-09 as part of the facility improvements involving an addition of a staff parking lot to improve personal safety and access.

Monitoring well G-09 is completed with a 10-ft well screen with the bottom of the well approximately 90-ft below ground surface. The well will be abandoned by using the over-drilling abandonment procedure.

To abandon the well by over drilling, the bottom plug of the well will be knocked out and the riser will be filled with bentonite grout. The well will then be over drilled with augers to the bottom of the well, and the drill crew will attempt to remove as much of the riser and screen from the borehole as possible. The remaining annulus from the bottom of the hole will be tremie-grouted with bentonite to approximately two feet below the ground surface. A concrete plug will be installed at the top of the borehole. The procedure is consistent with Indiana Department of Natural Resources (IDNR) regulations and solid waste regulations 329 IAC 10 21-1(i) for permanent abandonment of wells.

Following completion of the abandonment, a report detailing the abandonment with a copy of the IDNR Well Abandonment form will be submitted to the Indiana Department of Environmental Management.

Attached to this request is a copy of the boring log for G-09 and the most recent groundwater flow map from the March 2024 semi-annual groundwater sampling event.

If you should have any questions or comments concerning this Insignificant Modification, please contact me at (317) 954-0909

Sincerely,

Twin Bridges Landfill
A Division of Waste Management of Indiana, L.L.C.

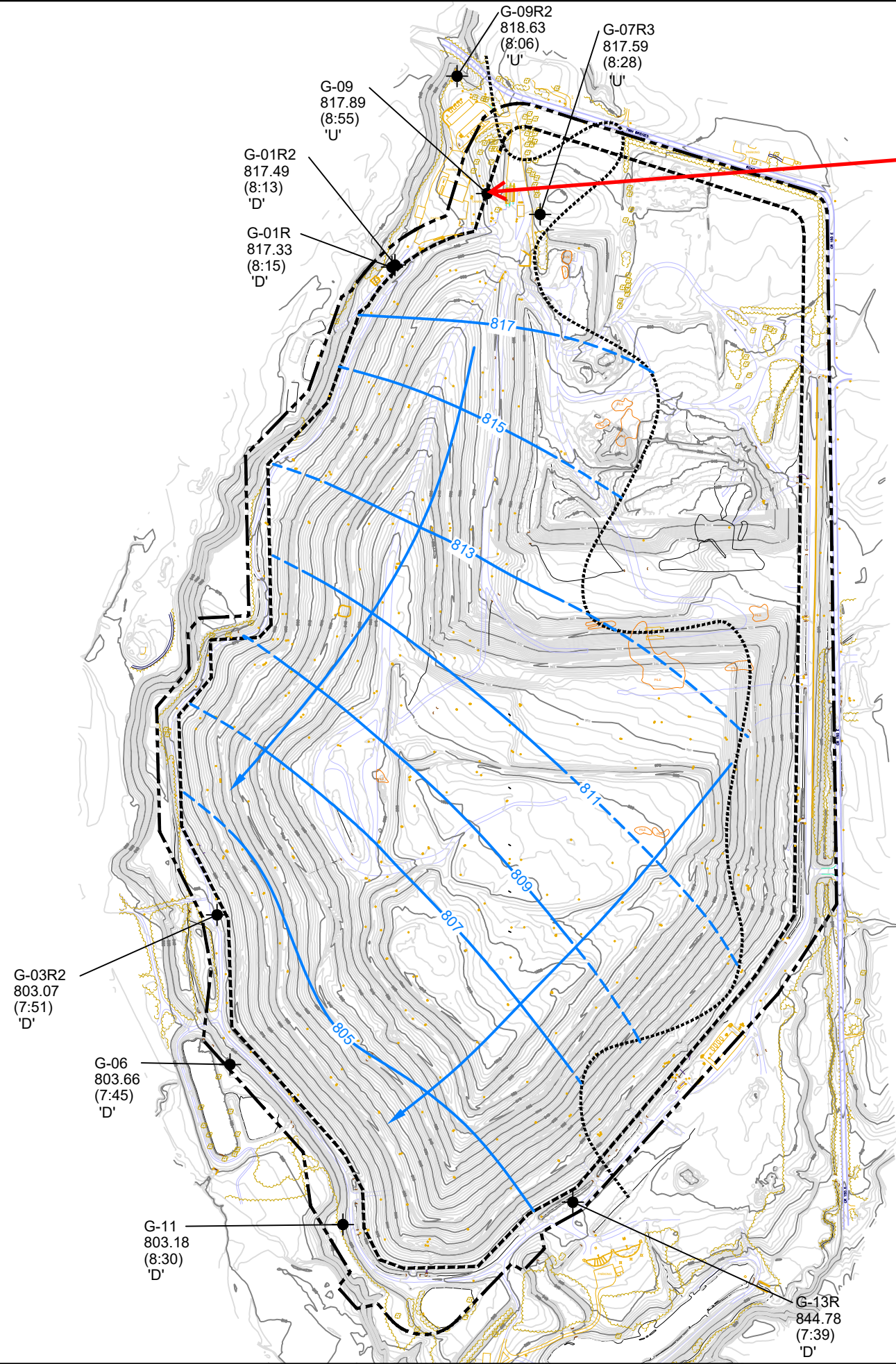
A handwritten signature in black ink, appearing to read 'Thomas Smallwood', written in a cursive style.

Thomas Smallwood, Ph.D.
Engineer II

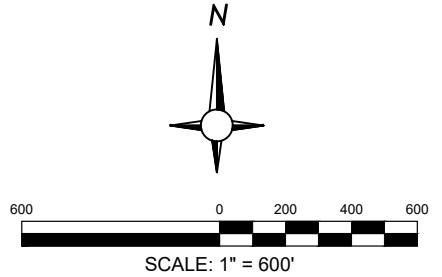
Cc: Rob Duncan (Atlas)
Justin Buster (WM)

Attachments

Attachments



Piezometer G-09



LEGEND:

- G-09 817.89 (8:55) MONITORING WELL LOCATION
- Well Identification
- Static Water Level (ft)
- Time Surveyed
- PERMITTED SOLID WASTE BOUNDARY
- APPROXIMATE FACILITY BOUNDARY
- APPROXIMATE EASTERN EXTENT OF SHALLOW AQUIFER
- 790 2015/2016 AERIAL PHOTOGRAPHY GRADES
- 807 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION

NOTES:
 ALL LOCATIONS ARE APPROXIMATE
 "U" UPGRADIENT MONITORING WELL
 "D" DOWNGRADIENT MONITORING WELL
 THE STATIC WATER LEVEL IN G-13R WAS NOT USED TO PREPARE FLOW CONTOURS.

MONITORING WELL DATA & BENCHMARK DATA

MONITORING WELL	WELL COORDINATES		GROUND SURFACE ELEVATION (ft)	MEASURING POINT ELEVATION (ft)
	NORTHING	EASTING		
G-01R	1640207.74	3116024.64	863.07	865.56
G-01R2	1640217.00	3116038.12	864.79	866.04
G-03R2	1637291.06	3115236.86	851.34	853.99
G-06	1636617.61	3115295.05	827.69	830.78
G-07R3	1640444.88	3116691.63	893.52	896.41
G-09	1640538.56	3116452.53	882.22	883.65
G-09R2	1641067.27	3116317.50	872.60	874.83
G-11	1635897.21	3115803.89	846.30	849.13
G-13R	1635997.98	3116838.74	862.95	864.70

NOTE: THE G-06 RISER WAS EXTENDED IN OCTOBER 2001.

GROUNDWATER FLOW MAP OF THE UPPER AQUIFER
 STATIC WATER LEVELS MEASURED ON MARCH 4, 2024
 TWIN BRIDGES RDF
 HENDRICKS COUNTY, INDIANA

Project Number:
170LF01612

Date:
04/11/2024

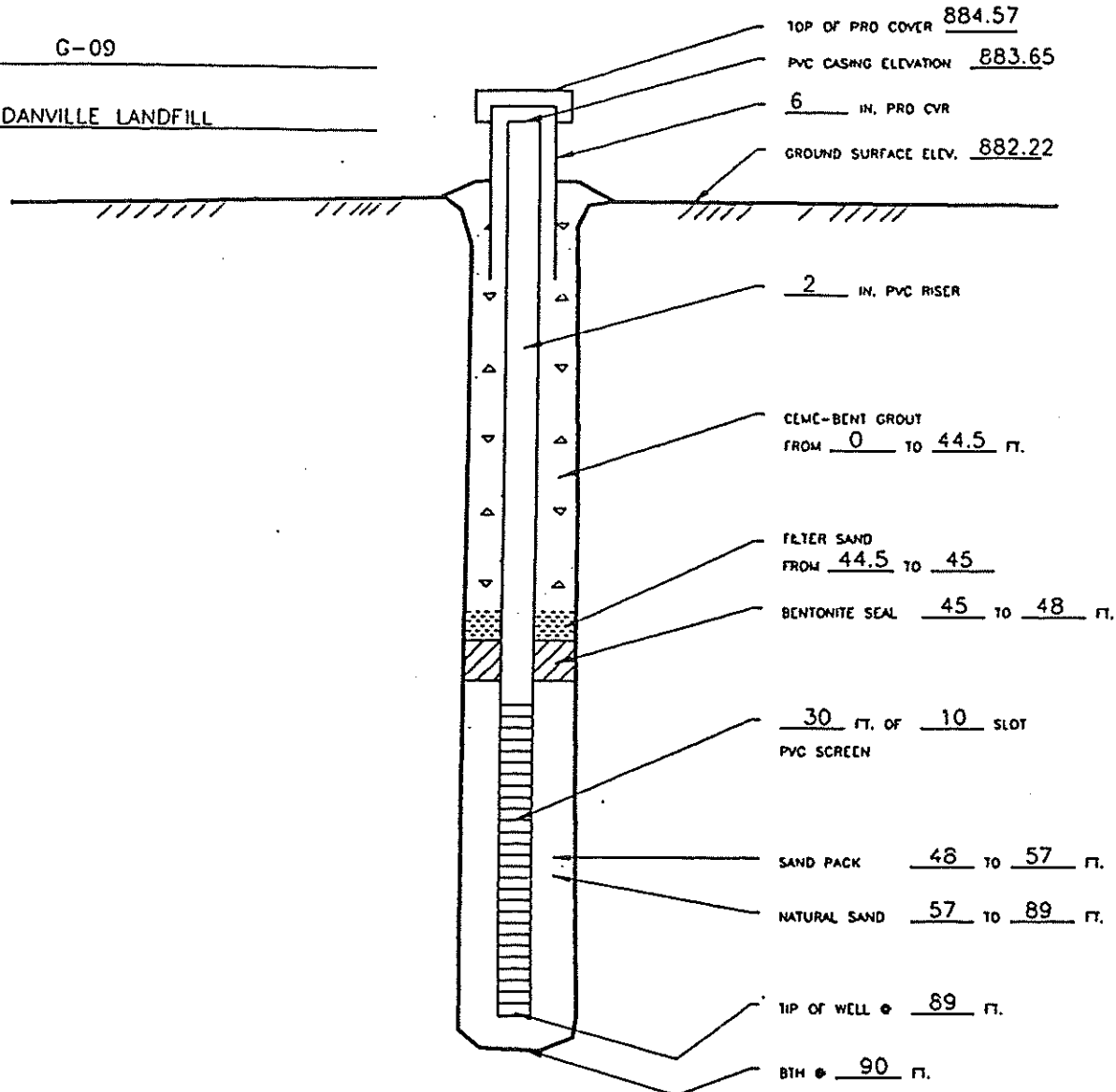
Drn. By: MS Ckd. By: SB

Scale:
AS SHOWN

Figure:
1

MONITORING WELL CONSTRUCTION FIELD DETAILS

WELL NO. G-09
 CLIENT DANVILLE LANDFILL



TOP OF PRO COVER 884.57
 PVC CASING ELEVATION 883.65
6 IN. PRO CVR
 GROUND SURFACE ELEV. 882.22
2 IN. PVC RISER
 CEMC-BENT GROUT
 FROM 0 TO 44.5 FT.
 FILTER SAND
 FROM 44.5 TO 45
 BENTONITE SEAL 45 TO 48 FT.
30 FT. OF 10 SLOT
 PVC SCREEN
 SAND PACK 48 TO 57 FT.
 NATURAL SAND 57 TO 89 FT.
 TIP OF WELL @ 89 FT.
 BTH @ 90 FT.

MATERIALS USED:

- RISER 60 FT.
- SCREEN 30 FT.
- SAND 3 BAGS
- CEMENT 7 BAGS
- BENT. PWDR. 1 BAGS
- BENT PELLETS BKTS
- ANMODIZED ALUMINUM PRO CVR 6 IN
- INNER LOCK, CAP
- PADLOCK
- TOP CAP
- GUARD POSTS
- BOTTOM PLUG 1

DATE INSTALLED	5-21-91
DATE DEVELOPED	6/2/91
METHOD OF DRILLING	3 3/8 HSA
METHOD OF DEVELOP	AIRLIFT
DURATION OF DEVELOP	4 HOURS

PROJECT NO.	21-13090
DRILLER	RAY WEST
INSPECTOR	



Client Indiana Waste Systems, Inc.
Project Name Ground Water Monitoring System Upgrade
Project Location Danville RDF

Boring # G-09
Job # 21-13090

DRILLING and SAMPLING INFORMATION

Date Started 5/20/91 Hammer Wt. 140 lbs.
Date Completed 5/20/91 Hammer Drop 30 in.
Drill Foreman R. WEST Spoon Sampler OD 2.0 in.
Boring Method HSA Rock Core Dia. - in.
Shelby Tube OD - in.

SOIL CLASSIFICATION	STRATUM DEPTH	DEPTH SCALE	SAMPLE NO.	SAMPLE TYPE	RECOVERY	GROUND WATER	BLOWS/6 INCH Four 6 inch increments	UNCONFINED COMPRESSIVE STRENGTH KG/SQ. CM	BORING AND SAMPLING NOTES
SURFACE ELEVATION 882.22'									
0.5' Topsoil									
Yellowish brown (10YR5/4) moist medium stiff SILTY CLAY (CL) with little Sand and trace organics	2.0		1	SS	100		2/3/4/4	2.5	*Boring Coordinates: 4878N, 205W Boring elevation and coordinates from site survey provided by client
Brown moist medium dense SILTY SAND (SM) with little Clay			2	SS	100		3/4/7/9	-	
Grayish brown (10YR5/2) moist medium stiff SILTY CLAY (CL) with little Sand and little Gravel	6.0		3	SS	100		7/10/10/10	-	
Yellowish brown (10YR3/6) moist stiff SILTY CLAY (CL) with little Sand and trace Gravel	8.0		4	SS	100		5/5/5/5	-	
Dark gray (10YR4/1) moist medium stiff to very stiff SILTY CLAY (CL) with little Sand and trace Gravel	10.0		5	SS	100		4/6/8/6	-	
		10	6	SS	100		3/5/8/8	>4.5	
			7	SS	100		3/4/6/6	4.0	
		15	8	SS	85		3/3/7/10	>4.5	
			9	SS	25		5/8/9/12	2.0	
			10	SS	100		3/4/6/7	3.5	
		20	11	SS	100		3/5/7/8	2.5	
			12	SS	100		3/5/7/9	4.5	
		25	13	SS	100		3/4/7/7	4.5	
			14	SS	100		3/6/9/9	4.0	
			15	SS	100		3/5/6/9	3.5	

- SAMPLER TYPE**
- SS - DRIVEN SPLIT SPOON
 - ST - PRESSED SHELBY TUBE
 - CA - CONTINUOUS FLIGHT AUGER
 - RC - ROCK CORE
 - CU - CUTTINGS
 - CT - CONTINUOUS TUBE

- ∇ AT COMPLETION - FT.
- ∇ AFTER HRS. FT.
- WATER ON RODS 59.5 FT.

- HSA - HOLLOW STEM AUGERS
- CFA - CONTINUOUS FLIGHT AUGERS
- DC - DRIVING CASING
- MD - MUD DRILLING



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SURFACE ELEVATION 882.22*									
Dark gray (10YR4/1) moist medium stiff to very stiff SILTY CLAY (CL) with little Sand and trace Gravel			16	SS	100		3/5/8/10	>4.5	
			17	SS	100		4/7/7/9	4.0	
		35	18	SS	100		4/5/8/9	3.5	
			19	SS	100		4/8/9/11	3.5	
		40	20	SS	100		4/9/12/13	>4.5	
			21	SS	100		4/7/10/15	4.5	
			22	SS	100		4/8/12/14	>4.5	
		45	23	SS	100		4/8/9/9	2.5	
			24	SS	100		3/5/8/12	>4.5	
		50.0	25	SS	100		4/11/36/42	>4.5	
-slightly moist to dry and hard below 48.0'		50	26	SS	100		7/15/23/32	-	
		54.0	27	SS	100		15/21/23/32	-	
Brown dry dense fine SAND (SP) with trace Silt and Clay		55	28	SS	100		6/14/26/24	-	
Brown dry dense fine to coarse SAND (SP) with some Gravel and little Silt		58.0	29	SS	100		13/32/44/41	-	
Gray very moist medium dense to dense fine to coarse SAND (SP) with some Silt, little Gravel and little Clay		60	30	SS	100		16/25/16/13	-	

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Date Completed: 5/20/91 Hammer Drop: 30 in.
Drill Foreman: R. WEST Spoon Sampler OD: 2.0 in.
Boring Method: HSA Rock Core Dia.: - in.
Shelby Tube OD: - in.

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SURFACE ELEVATION 882.22*									
Gray very moist medium dense to dense fine to coarse SAND (SP) with some Silt, little Gravel and little Clay			31	SS	100		12/16/16/15	-	
	64.0		32	SS	100		5/13/15/16	-	
Gray very moist medium dense fine to coarse SAND (SP) with little Silt and trace Gravel	66.0	65	33	SS	100		3/7/13/15	-	
Gray very moist dense to very dense fine to coarse SAND (SP-SM) with little Gravel and trace Silt			34	SS	100		13/17/21/66	-	
		70	35	SS	100		17/17/9/19	-	
			36	SS	100		13/17/17/21	-	
			37	SS	100		17/24/26/26	-	
		75	38	SS	100		9/18/26/33	-	
			39	SS	100		16/22/25/31	-	
			40	SS	100		18/21/23/31	-	
		80	41	SS	100		17/24/22/19	-	
			42	SS	100		15/18/27/48	-	
			43	SS	100		24/31/27/22	-	
Gray very moist very dense fine SAND (SP) with trace Silt and Gravel	86.0	85	44	SS	100		24/45/57/50@3-	-	
			45	SS	100		20/25/36/52	>4.5	
	89.2								
	90.0	90							

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SURFACE ELEVATION 882.22'									
Dark gray (10YR4/1) moist hard SILTY CLAY (CL) with little Sand and trace Gravel Bottom of Test Boring @ 90.0'									Monitoring well installed in boring upon completion. See construction diagram for details.

SAMPLER TYPE

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